

The Raven

JOURNAL OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

Volume 78

Number 1

2007



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1. An annual meeting (usually in the spring), held in a different part of the state each year, featuring talks on ornithological subjects and field trips to nearby areas.
2. Other forays or field trips lasting a day or more and scheduled throughout the year so as to include all seasons and to cover the major physiographic regions of the state.
3. A journal, *The Raven*, published twice yearly, containing articles relevant to 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.

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Editor
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Volume 78, No. 1

Published by
THE VIRGINIA SOCIETY OF ORNITHOLOGY

2007

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ISSN 0034-0146

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COLLEGE CREEK HAWKWATCH: A TEN YEAR SUMMARY, 1997-2006

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INTRODUCTION

College Creek Hawkwatch completed its 10th consecutive year of coverage in 2006 with a total of 11,103 hawks and vultures over 577 days and an average of nearly 12 birds per hour. The hawkwatch is located on the north shore of the James River, in James City County, near Williamsburg, directly across from Hog Island Wildlife Management Area, in Surry County, which is on the south shore, approximately 3-4 kilometers away. Hawks, vultures and other birds have been documented crossing the river during late winter and spring migration here, where the mouth of College Creek empties into the James River (Taber 1997, 2000, 2001, 2002, 2002). It is the only regular late winter and spring hawkwatch in Virginia and it is a program of Coastal Virginia Wildlife Observatory. Data from the hawkwatch is gathered by the author and other volunteers and is submitted to the Hawk Migration Association of North America (HMANA). It is the most southerly of the eastern spring sites reporting to HMANA. The data from the first 10 years has been entered into the new HMANA database for the Raptor Population Index, a program with the goal of providing statistically significant data on a continent-wide scale.

Flights at College Creek are usually from mid-morning to early afternoon and there is generally a steady, daily flow throughout the season. Volunteer coverage is provided by the author and others on a daily basis, except for days with rain, snow or strong winds. The protocol for counting migrating hawks and vultures is that birds are tallied as they cross the site headed north. No hawks have been seen crossing the river southward.

Table 1 shows the season totals for each species for the first ten years of the hawkwatch.. Table 2 shows the totals of all species by month and the number of days of coverage. The coverage in June represents an attempt on four days in 2003 to search for Mississippi Kites, as they were reported frequently throughout the State in late May.

DATA AND OBSERVATIONS

Trends in bird species are difficult to assess at migration monitoring sites, unless very large numbers of migrants are seen moving past over many years, however the decline in American Kestrels does seem obvious at this site and is well-documented in recent years at many North American migration monitoring stations. Northern Harriers have been remarkably consistent during migration at the site, with a season high of 41 and a season low of 23, except for the 1998 season, when there were the

Table 1. College Creek hawkwatch totals by species, 1997-2006. Alphabetic species codes follow those used in the text.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Total
BLVU	56	33	12	18	20	71	54	22	55	117	458
TUVU	947	516	479	578	679	671	775	654	852	915	7066
OSPR	132	57	80	34	57	92	151	152	155	183	1093
MIKI	1	0	0	1	0	1	0	4	0	0	7
BAEA	74	29	53	66	38	33	122	45	81	109	650
NOHA	24	14	34	24	27	41	25	23	40	35	287
SSHA	44	15	88	32	36	47	106	48	99	79	594
COHA	7	0	16	2	9	8	17	4	41	17	121
NOGO	0	1	1	0	0	0	0	0	0	0	2
RSHA	5	6	13	7	1	3	11	5	2	6	59
BWHA	2	0	3	7	4	7	21	3	34	10	91
SWHA	0	0	0	0	1	0	0	0	0	0	1
RTHA	40	24	30	31	27	24	68	31	65	37	377
GOEA	0	1	0	2	0	0	1	0	0	0	4
AMKE	35	17	27	15	34	24	59	22	15	10	258
MERL	2	3	0	0	4	0	2	0	5	1	17
PEFA	0	1	0	0	1	1	2	0	0	4	9
UNHA*	1	4	0	0	0	1	0	0	1	2	9

Table 2. College Creek Hawkwatch totals by month; days of coverage in parentheses.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Total
Feb	64 (3)	204 (10)	0 (0)	143 (10)	52 (6)	130 (11)	47 (7)	53 (5)	141 (14)	73 (9)	907 (75)
Mar	949 (22)	460 (18)	474 (16)	244 (17)	393 (18)	390 (16)	573 (20)	414 (21)	561 (23)	730 (26)	5188 (197)
Apr	348 (18)	57 (10)	282 (16)	200 (10)	399 (20)	380 (23)	583 (21)	472 (25)	492 (27)	524 (24)	3737 (194)
May	9 (2)	0 (0)	80 (3)	230 (12)	94 (10)	124 (13)	182 (19)	74 (12)	251 (15)	198 (21)	1242 (107)
Jun	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	29 (4)	0 (0)	0 (0)	0 (0)	29 (4)
Total	1370 (45)	721 (38)	836 (35)	817 (49)	938 (54)	1024 (63)	1414 (71)	1013 (63)	1445 (79)	1525 (80)	11103 (577)

second fewest days of coverage and the lowest season total and only 14 Northern Harriers were tallied.

There have been eight days where more than 100 hawks and vultures have been counted. The highest total was 173 on 23 March 2003. The greatest diversity of hawk and vulture species on a single day has been 11 on 14 April 2003 and 27 April 2005. Data has been entered in the Hawkcount.org website for the HMANA Raptor Population Index Study.

Details and comments for species are given below; standard alphabetic codes are given in parentheses, and are also used in accompanying tables.

Black Vulture (BLVU) - recorded throughout the season, with a peak of 50 on 11 March 2006.

Turkey Vulture (TUVU) - recorded throughout the season; by far the most numerous of the hawks and vultures recorded at College Creek; with a peak of 125 on 23 March 2003.

Osprey (OSPR) - recorded throughout the season; counted very carefully to insure that only birds displaying obvious migratory behavior are tallied as several pairs usually nest within sight of the hawkwatch on duck blinds, nautical markers and in trees; birds seen fishing are not counted; Ospreys are likely undercounted due to the conservative methodology; peak count of 21 on 17 March 1999.

Mississippi Kite (MIKI) - a rare, but regular migrant with single birds recorded on 12 May 1997; 2 May 2000 and 16 April 2002, with a peak of 4 on 17 May 2004.

Bald Eagle (BAEA) - recorded throughout the season; with a wintering, summering and breeding population in the area, they are counted very carefully to insure that only birds displaying obvious migratory movements are tallied; birds seen fishing are not counted; Bald Eagles are likely undercounted due to the conservative methodology; immature birds constitute 90 %; peak count of 17 on 29 April 2000 and 23 April 2006.

Northern Harrier (NOHA) - recorded throughout the season; peak count of 9 on 20 April 2005.

Sharp-shinned Hawk (SSHA) - recorded throughout the season, peak count of 38 on 5 May 1999.

Cooper's Hawk (COHA) - recorded throughout the season; peak count of 7 on 20 April 2005

Northern Goshawk (NOGO) - one immature bird recorded on 6 March 1998 and one second-year bird recorded on 17 March 1999.

Red-shouldered Hawk (RSHA) - recorded in March and April; a local breeder and rare migrant; peak count of 4 on 6 April 1999.

Broad-winged Hawk (BWhA) - recorded in April and May; they appear at the site generally as single birds; peak count of 7 on 20 April 2005.

Swainson's Hawk (SWHA) - one dark form immature bird recorded on 22 April 2001 (Sullivan 2003, Taber 2001).

Red-tailed Hawk (RTHA) - recorded throughout the season; peak count of 9 on 20 February 2004.

Golden Eagle (GOEA) - single birds recorded on 26 March 1998; 1 May 2000; 16 May 2000 and 14 April 2003.

American Kestrel (AMKE) - recorded throughout the season; despite increasing coverage, AMKE have been clearly declining since 2003, with a 10-season low of 10 in 2006, the year with the most coverage; peak count of 24 on 23 March 2003.

Merlin (MERL) - a rare migrant recorded in late April and early May; peak count of 3 on 27 April 2005.

Peregrine Falcon (PEFA) - a rare migrant throughout the season; peak count of 4 on 9 May 2006.

The hawkwatch volunteers have documented the movements of many other species of diurnal migratory birds that regularly cross the river past the station, with Tree Swallows and Barn Swallows being the most numerous. Other species include Common Loon, Red-throated Loon, Horned Grebe, Double-crested Cormorant, Great Blue Heron, Great Egret, Glossy Ibis, Tundra Swan, Canada Goose, Mallard, Northern Pintail, Northern Shoveler, Greater Scaup, Lesser Scaup. Goldeneye, Bufflehead, Ruddy Duck, Red-breasted Merganser, Black-bellied Plover, Greater Yellowlegs, Lesser Yellowlegs, Spotted Sandpiper, Laughing Gull, Ring-billed Gull, Herring Gull, Bonaparte's Gull, Great Black-backed Gull, Royal Tern, Caspian Tern, Forster's Tern, Least Tern, Chimney Swift, Ruby-throated Hummingbird, American Crow, Fish Crow, Purple Martin, Rough-winged Swallow, Bank Swallow, Cliff Swallow, American Pipit, Red-winged Blackbird, Common Grackle, Brown-headed Cowbird and American Goldfinch. Rarities at the site have included American White Pelican, Sandhill Crane, Black-necked Stilt and Lesser Black-backed Gull. Butterflies have also been recorded regularly moving north across the river, especially on southerly winds in late April and May (Taber 2004).

ACKNOWLEDGEMENTS

Very special thanks is extended to the dedicated regular hawkwatch volunteers Tom Armour, Fred Blystone and Bill Williams. Fred also completed the data input for the HMANA Raptor Population Index Study.

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ROSS'S × SNOW GOOSE HYBRIDS ON ASSATEAGUE ISLAND, VIRGINIA

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Hybrids between Ross's Goose (*Chen rossii*) and Snow Goose (*Chen caerulescens*) are occasionally encountered on the wintering grounds from California east to the Mississippi Valley where both species are relatively common (McLandress and McLandress 1979, Trauger et al. 1971), but are poorly documented in the Atlantic flyway where Ross's Geese are rare winter residents.

On 23 November 2000, I observed a family group of white geese, composed of an adult Ross's Goose, an adult Snow Goose, and two hybrid juveniles on Assateague Island (Chincoteague National Wildlife Refuge), Accomack County, Virginia. I watched the foursome with binoculars (Zeiss 10 X 40) from a distance of 40-60 m in good light as they walked as a group through a large flock of Snow Geese toward the southeastern margin of Snow Goose Pool (1500-1510 EST), which was dry except for the barrow ditch adjacent to the levee. The adult Ross's Goose had a rounded head, short stocky neck, and diminutive dark pink bill that lacked a grin patch. The juveniles, of equal stature, were significantly taller and more gracile than the Ross's but were a head shorter than the Snow Goose, which appeared to be a typical white-morph adult. Bill proportions of the juveniles were also intermediate whereas the dorsal plumage was paler than that of nearby juvenile Snow Geese. The intermediate size and shape of the juveniles, as well as the pale plumage, suggests that they were the hybrid progeny of the accompanying adults.

On 24 November 2006, I observed a probable blue-morph Ross's × Snow Goose hybrid with a flock of 15,000+ Snow Geese near the northwestern margin of Snow Goose Pool from a distance of 50 m through a spotting scope (Swarovski HD-ATS 65, 20-60 X) under good midday sun (1240-1345 EST). Geese in this portion of the flock were alternately bathing, preening and sleeping during the observation period. The hybrid was standing in shallow water among white-morph and a few blue-morph Snow Geese. A family group of white-morph Ross's Geese (two adults and a juvenile) was sitting about 10 m behind the hybrid but in the same field of view (Zeiss, 10 X 40 binoculars). I took several photographs of the hybrid with an Olympus E-20 (5 megapixel) camera with 35-140 mm lens and a 300 mm tele-extension lens (Fig. 1). The hybrid was significantly shorter in stature than adjacent Snow Geese and had a proportionally shorter neck and rounder, less angular head.

The plumage color pattern was similar to an adult Class-6 blue-morph Snow Goose (Cooke and Cooch 1968), but the black neck plumage extended to the throat and up the back of the neck to the crown. The white facial plumage, which extended to the uppermost furrows in the neck plumage, was more extensive than that of a probable pure blue-morph Ross's Goose that I observed in the same locality on 24 November 2001 (Graves 2005). There was no evidence of ferrous staining on the hybrid's face or head. The hybrid's bill was significantly smaller than those of adjacent Snow Geese but appeared to be proportionally longer than those of Ross's Geese in the background. The hybrid's bill was dark pink, bluish-gray at the base, with a thin black stripe faintly visible along the tomium. On the following day, I studied what appeared to be the same hybrid near the southwestern margin of Snow Goose Pond from a distance of 60 m in good light (1345-1400).

It would be unwise to accord much significance to anecdotal observations of hybrid Ross's \times Snow geese on Assateague Island or elsewhere in Virginia (e.g., at Mappsville, Accomack County, 9 February 1996 [Rottenborn and Brinkley 2007]). However, the presence of such hybrids could signal significant introgression of *Chen caerulescens* genes into the gene pool of the small wintering population of *Chen rossii* on the Delmarva Peninsula. Discriminating F_1 hybrids among large flocks of Snow Geese is facilitated by their intermediate size (Buckley 1982, MacInnes et al. 1989) but identifying backcrossed hybrids (e.g., pure Ross's \times F_1 hybrid) will be considerably more difficult.

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Fig. 1. A probable adult blue-morph Ross's Goose (*Chen rossii*) X Snow Goose (*Chen caerulescens*) hybrid on Assateague Island (Chincoteague National Wildlife Refuge), Accomack County, Virginia, on 24 November 2006.

HUMMINGBIRDS IN VIRGINIA 1 NOVEMBER- 15 MARCH: POSSIBLE SITE SELECTION CRITERIA

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INTRODUCTION

Hummingbirds, especially *Selasphorus* species, have been seen in Virginia on dozens of occasions between 1 November and 15 March, sometimes for only a few seconds and sometimes throughout the entire period, especially since 1995 (Taber 2002). Several birds have even been documented as returning to the same hummingbird feeder after leaving for the breeding season (Taber 2005). This time period is from about five weeks after the normal migration end date to about five weeks before the normal migration start date for Ruby-throated Hummingbird (*Archilochus colubris*), the predominant hummingbird species in Virginia and the only one known to breed here (Rottenborn and Brinkley 2007). The dates were selected for this study to include only birds well outside of the normal migration period for Ruby-throated Hummingbirds, which is a time of greatly reduced flowering plants and insect life and is characterized by temperatures often falling below 0° C.

What criteria might cause a hummingbird to select a given site for days, weeks or even months? Intuitively, we would think that sites hosting hummingbirds in the colder season must have a reliable food and water source and a place to roost where wind chill is reduced and body heat can be retained. Birds would have to work much harder than in spring or summer to find appropriate sites at this season of reduced resources. Even though hummingbirds can induce a state of greatly reduced metabolic rate, or torpor, to conserve energy, a poor site choice could be disastrous. This study examines the characteristics of some of these sites that have hosted hummingbirds, for at least a week, during this time period, as reported by observers. The one week or more stay was arbitrarily chosen to eliminate birds that apparently did not find the characteristics of the site very suitable.

How are changing temperatures and vegetation patterns, due to global warming, affecting hummingbird migration? Does an unusually mild fall and winter cause hummingbirds to stay longer in Virginia to take advantage of insects and blooming plants? The regular occurrences seem to point to birds intentionally, not randomly, selecting sites and not just becoming "lost" during migration. Are birders now documenting previously unnoticed patterns or are patterns changing, or both? There are certainly more people feeding hummingbirds throughout the year and paying closer attention to fall and winter reports in recent years. There is

improved communication about rare birds and as a result, more observations, but answering the questions above will take much more data gathering.

OBSERVATIONS

For this study, observers of hummingbirds that fit the dates and length of stay were asked questions about the characteristics of the site, such as the presence of feeders; length of time the feeder was in the sun; amount of low, dense cover nearby; whether birds used buildings for shelter; and the availability of water, flowering plants and insects. They were also asked about the weather and were invited to supply any anecdotal or other information that might explain why a hummingbird chose a particular site. Responses came from a wide variety of Virginia locations.

Ned Brinkley's feeder in Cape Charles, VA hosted an amazing four species of hummingbirds during this time period over several years: Ruby-throated, Black-chinned (*Archilochus alexandri*), Rufous (*Selasphorus rufus*) and Allen's (*Selasphorus sasin*). He reported about the site that the hummingbird feeders were less than two meters off the ground, that blooming plants included pineapple sage (*Salvia rutilans*), lantana (*Lantana camara*) and camellia (*Camellia spp.*), where he thought that insects may have been "caught in the sappy nectar" for an easy meal. He noted "lots of flycatching of tiny insects on the wing" by all of the species, when temperatures were at least 2°-3° C and winds were still. He noted that there was thick, low vegetation, with a southern exposure, including butterfly bush (*Buddleia davidii*).

A Ruby-throated Hummingbird was present for a week in mid-November at a feeder adjacent to the Coastal Virginia Wildlife Observatory hawkwatch at Kiptopeke State Park, VA (pers. obs. and Jeff Birek and Joe Medley, personal communication). The feeder was next to the observation platform, among low, dense wax myrtle (*Myrica cerifera*) and was in the sun all day. Another feeder was 50 meters away, next to a dense stand of ligustrum (*Ligustrum spp.*) bushes and blooming abelia bushes (*Abelia x grandiflora*) surrounding two very thick eastern red cedar trees (*Juniperus virginiana*), which would have provided excellent shelter. The temperatures that week ranged from 0° to about 15° C. There was moderate rain on one day, but no major storm systems. I watched the bird leave the area in the early morning, as it flew almost straight up and joined a flock of American Robins heading south. It was not seen again.

Jim Coleman of Sterling, VA reported that a first year female Rufous Hummingbird, which was captured and banded, stayed from mid-November to early February. The feeder on the deck received about three to five hours of sun each day, filtered through trees to the west and south. There were no flowering plants, but a piece of red fabric was tied to the feeder post. There was a heated bird bath two meters from the feeder, though the bird never was observed to drink or bathe there. There were several low-to-moderate height plants around the yard. The bird was observed to fly regularly to a pine tree (*Pinus spp.*) adjacent to the deck and into the woods behind the house. The weather during the period was "highly variable from cold and snowy/rainy to moderate temperatures and sunny." There were no hard freezes or major snowfalls.

George and Rosemarie Harris of Orange County hosted a female Rufous Hummingbird from early October to late November, that was captured and banded. They report

“feeder remained outside during daylight hours. When it became cold enough to freeze, a flood light was installed about two inches from the feeder. A glass lamp globe was installed above the feeder which helped hold the heat. Worked perfectly. When it became very cold (down to 20° F), the bird would arrive at daybreak and sit on the feeder for an hour or more without moving.”

There were flowers still in bloom during the early part of November, including marigolds (*Tagetes spp.*), Mexican sunflowers (*Tithonia rotundifolia*), cardinal flowers (*Lobelia cardinalis*) and zinnias (*Zinnia spp.*). There was water in a creek in the yard and an adjacent pond. There were “numerous cedars nearby for cover.” The hosts felt that “a lot insects” were eaten as the bird was often seen gleaning, “working pine trees.”

Wendy Ealding reported that a female Rufous Hummingbird, captured and banded, spent “most of November” at a feeder in Chesterfield County, VA. The feeder was in the sun “most of the daylight hours.” There were no flowering plants nearby. There was a “lake about 200 feet from the feeder.” There was dense wax myrtle and arborvitae (*Thuja spp.*) close by the feeder.

Adam D’Onofrio, of Dinwiddie County, VA, hosted a “Rufous/ Allen’s Hummingbird” throughout November and the first half of December that wore a band, though it was not recaptured. The feeder was in the sun for about an hour each in the morning and the evening. There were no flowering plants nearby. There was water year round in a bird bath. The yard has “dense shrubs and forested areas.” The bird regularly perched in two Rhododendron (*Rhododenron spp.*) bushes just below the feeder. He thought that the bird roosted at night in a large, thick holly (*Ilex spp.*) close to the feeder. The weather was reported as generally “mild” though temperatures twice were as low as about minus 2°-3° C at night. There was often an hour or so when the bird did not appear at the feeder. The yard is in a “natural state,” leaves are not raked and no pesticides are used and he believes that there “are a lot of insects around the yard.”

Tom Armour, of James City County, VA, hosted an immature female Rufous Hummingbird, for more than three months that was captured and banded. It was regularly feeding on about 10 blooming Oregon Grape Holly (*Mahonia aquafolium*) bushes that were in the sun in the morning. Azaleas (*Rhododenron spp.*), about 1-1.5 meters high were present, which the bird often used as a perch. The bird fed on very small insects that were on the bushes. There was a bird bath with dripping water, where the bird was observed bathing in 0° C.

Puck Snidow of Midlothian, VA reported that a hummingbird, “I believe it to be a Rufous,” was present for at least all of November and December and had endured temperatures below 0° C. It appeared to be roosting in a holly.

Joe Coleman, of Loudon County, VA, hosted an adult male Rufous Hummingbird, confirmed by banding, from early November to early January. The bird also visited

two neighboring houses with feeders and “a lot of planted evergreens.” There were “almost no natural evergreens because of soil conditions.”

Fritz and Ineke Schaller, of James City County, VA, observed two immature female Rufous Hummingbirds at the same time, confirmed by banding, one of which returned the following fall, confirmed again by capture. For two more years, *Selasphorus* hummingbirds returned again, though they were not captured. Their yard was heavily landscaped, front and back, with many blooming plants, including Pineapple Sage and low, dense vegetation. Even severe weather, such as a nine inch snowfall, did not cause the birds to leave.

Bob Ake, of Norfolk, hosted an “adult female Rufous Hummingbird” in January and February and noted that the feeder was in the sun for about half the day and that there were no flowering plants around. The yard had a bird “water dripper” system but the bird was not observed using it. The “bird spent most of her time in a holly tree.” It “appeared the day of a very cold snap, with temperatures below freezing.” The bird “drank at the feeder most of the day she appeared. On later days, she visited the feeder only a few times a day, but was constantly around.” The bird also appeared to feed in the holly tree, presumably for insects.

Thelma Dalmas provided a summary of six records of Rufous Hummingbird, confirmed through banding or photographs, and six other *Selasphorus* hummingbirds and one record of Black-chinned, confirmed from banding, from nine sites in the Lynchburg area, including Lynchburg City, Amherst County, Charlotte County and Bedford County. She has visited all of the sites and noted that most flower gardens were devoid of anything blooming during late fall and winter in the area and there seemed to be “nothing in particular to attract them to these areas.” The Black-chinned, a female, began coming to a hanging pot of petunias (*Petunia spp.*) in Bedford County where there was no feeder, though the feeder was quickly put back up, and the other sites all had feeders. Five of the feeders were mostly or fully in the shade, two others only received afternoon sunlight. At several sites, feeders were brought indoors at night and replaced outside the following morning to prevent freezing in the central Virginia climate that is generally much colder than that in the southeast portion of the State. There were some clever techniques used to keep the feeders from freezing. Lights were set up around three feeders, with one that included a timing device for the light when the host left town. Despite the effort, the lamp failed, the feeder froze and broke, and the bird was not seen again. On “one very cold night in mid-February, at about 11 p.m.” a bird was observed “asleep on the perch of the feeder under the light.” Insect gleaning was observed at two sites, including aphids in the indoor habitat that was provided when the hosts allowed a female Rufous, identified through photographs by Bob Sargent, to stay in their “Florida room” for weeks, to be released in April. The Florida room bird was also treated to a protein formula recommended by the Washington Zoo. Flycatching behavior was noted at one site when the temperature was about 12° C. Birds either returned or other individuals appeared at three Lynchburg area sites, as they did at one James City County site and at Cape Charles.

For the 20 sites in this study, it appears that there are shared characteristics of hummingbird feeders and nearby dense cover, though the feeders did not need to be in the sun for long periods. Only six of the sites had blooming flowers. Many sites endured sub-freezing temperatures, though the birds remained. The amount of water in a bird bath would likely be just as useful as that in a lake to a hummingbird for drinking or bathing and the question of water availability was asked as it would seem to be an important site characteristic. However, only one observer reported seeing a hummingbird at an outside water source, though the bird in the Florida room was observed bathing in the spray of the plant "mister." Insect-catching behaviors were observed at five sites and one other site noted that many insects were available. Sapsucker wells are known to attract hummingbirds (Ehrlich 1988 and Elphick 2001) with important nutrient-rich sap and attendant insects and Yellow-bellied Sapsuckers (*Sphyrapicus varius*) occur at this season in Virginia, however, no observers reported this feeding method or site characteristic. There was strong site fidelity by those birds staying through winter and into early spring, but no matter what the appealing site characteristics they all apparently moved out of the area about the time Ruby-throated Hummingbirds were returning.

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VIRGINIA CHRISTMAS BIRD COUNTS: 2006-2007 SEASON

TETA KAIN

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In spite of one of the mildest count periods in recent memory, the total number of species found on the 2006-07 Virginia Xmas bird counts was the lowest in 12 years with a meager 206 recorded on the 47 counts submitted to the Raven for publication. After a 3-year hiatus and a run of good weather, Dismal Swamp NWR count was resurrected. The big news this year, however, is the start-up of a brand new count on Eastern Shore in an area that has not been covered previously. Named for its circle center location, Nassawadox proved to be a very important addition with several species listed that were not found on any other counts. Two other counts, The Plains and Warren, were conducted, but results were not received for inclusion in this report.

Examining overall weather conditions recorded for the last 25 years, this season appeared to be the warmest count period overall. Almost all counts enjoyed very comfortable conditions with temperatures reaching 60 degrees or more in 20 circles. No snow was reported, and only six reported light rain.

One would think these balmy conditions would entice many species to remain in the state, but as often happens, the opposite seems to be true. Several counts had lackluster results with no unusual species or numbers found. Quite a few missed very common birds found almost every year, and numbers were quite low in some areas. There seemed to be no lingering strays and the northern finches were simply non-existent in Virginia this year. A notable exception was Shenandoah NP-Luray where they chalked up three first-time records and several all-time high counts.

The rarest bird was found at Gordonsville. This was a very difficult report to judge. The observer was a lady who has been watching birds in her back yard for many years, has studied them carefully, and is very familiar with all the birds that visit her feeders, but doesn't really consider herself a "birder" in the true sense of the word. She was, however, especially alert when, the day before the Gordonsville count, she noticed a very different bird on the fringes of the yard, staying low and skulking in the undergrowth. At last, she got a brief, but very good look and saw a "reddish cap and a greenish body" and it was like no other bird she had seen before. Immediately she went for her field guide and the moment she saw the picture of the Green-tailed Towhee (*Pipilo chlorurus*), she felt very certain that was what she had seen. The bird reappeared on count day and she called compiler Don Ober. Unfortunately, the bird never reappeared and the lady's written account was scanty indeed, so brief in fact, that it will almost certainly be rejected by VARCOM.

But something in the tone and sincerity of the narration makes this editor believe the lady's identification was correct. What gives it even more credibility is the fact that a rash of Green-tails appeared in the eastern United States over several months preceding the count period. Too, just a few weeks after the count period, a Green-tailed Towhee was photographed and documented at Galax, just 240 miles southwest of Gordonsville. There have been only three other sightings of this species in Virginia, none of which was on a Christmas count.

Two other great discoveries were a female Western Tanager (*Piranga ludoviciana*) at Back Bay for the state's second Christmas count record (the first was a bird at Back Bay in 1972), and the second record of a Ruby-throated Hummingbird (*Archilochus colubris*) at Little Creek.

Photographs were obtained of a Western Kingbird (*Tyrannus verticalis*) at Mathews County. Although this species has been found 14 times in previous years, the last sighting was one at Hopewell in 2000. The first was recorded at Back Bay in 1959. There has been only one occurrence away from Eastern Shore or the western shore of Chesapeake Bay. That was an individual at Kerr Reservoir in 1991.

Three Black-legged Kittiwakes (*Rissa tridactyla*) were at Little Creek. A Prairie Warbler (*Dendroica discolor*) was at Shenandoah NP-Luray, and there were reports of four Rufous Hummingbirds (*Selasphorus rufus*) clustered near the foothills of the Blue Ridge at Lynchburg (two individuals), Rockingham County, and Northern Shenandoah Valley. This species has been recorded on counts around the state seven out of the last eleven years.

An Ash-throated Flycatcher (*Myiarchus cinerascens*) made an appearance on the Nassawadox count. This is the first record in since 1992. The first was reported at Little Creek in 1957, single birds were seen at Cape Charles in 1978, 1979, 1986, and 1992, and Wachapreague in 1987. The only record away from Eastern Shore was one at Williamsburg in 1989. For the second year in a row, a Yellow-throated Warbler (*Dendroica dominica*) appeared at Little Creek and one was spotted at Fort Belvoir. The only other count occurrence was a single bird on the Warren count in 1979. An American White Pelican (*Pelecanus erythrorhynchos*) at Fort Belvoir was a first for that count.

Other first-time finds for individual counts were: Common Yellowthroat (*Geothlypis trichas*) at Augusta County; Broad-winged Hawk (*Buteo platypterus*) and American Coot (*Fulica americana*) at Blackford; Gray Catbird (*Dumetella carolinensis*) at Breaks Interstate Park; Great Egret (*Ardea alba*) at Banister River; American Bittern (*Botaurus lentiginosus*) at Charlottesville and Walkerton; Eared Grebe (*Podiceps nigricollis*) at Cape Charles; Northern Shoveler (*Anas clypeata*) at Chesapeake Bay and Wise County; Black-crown Night-Heron (*Nycticorax nycticorax*) and Virginia Rail (*Rallus limicola*) at Central Loudoun; Snow Goose (*Chen caerulescens*) and Clay-colored Sparrow (*Spizella pallida*) at Shenandoah NP-Luray.

There were several startling high and low counts, both statewide and on individual counts. For tallies on a single count, few reports can top the 1120 Eastern Meadowlarks (*Sturnella magna*) foraging through a weedy field in the Horntown sector of the Chincoteague count. In those very birdy years of the 1970s, it was not

unusual for four or five thousand to be tallied statewide, but in the last 10 years numbers have slowly dwindled to an average of 1700. Think of how dismal this year's state total of 2192 would be without the addition of all those Chincoteague birds.

Fort Belvoir's White-throated Sparrow (*Zonotrichia albicollis*) numbers shot up to 4,065 for that count's all-time high, topping the previous record set in 2004 by almost 1500 birds. Red-throated Loons (*Gavia stellata*) continue to stream by the coast, with phenomenal numbers counted at Cape Charles, Chesapeake Bay, and Little Creek for the last five years. This year's state total of 9,915 was just 350 shy of the record set in 2003. Wachapreague, Cape Charles, and Nassawadox together totaled 1052 Willets (*Catoptrophorus semipalmatus*) to break the state record. Red Knots (*Calidris canutus*) chalked up the second highest total ever, with a staggering 192 individuals at Wachapreague. This is the second year in a row that numbers have been significantly higher, this in face of the fact that the biologists are struggling to determine why the species is dwindling.

Together, Nassawadox and Cape Charles recorded the most Whimbrels (*Numenius phaeopus*) for a total of 16, topping the old record of 15 set in 1989. Nassawadox's 246 Marbled Godwits (*Limosa fedoa*) helped set an all-time state record high of 330, more than doubling the next highest number of 119 found in 1974. Brown Pelicans (*Pelecanus occidentalis*) evidently liked the warmer temperatures as 1,031 lingered around the Bay for the second highest count ever. Again, Nassawadox made a difference with 445 American Oystercatchers (*Haematopus palliatus*) which contributed to the highest count of that species since 1988. Two other state high counts are worthy of mention: 122 Barred Owls (*Strix varia*) topped the previous 104 in 2003 and Hairy Woodpeckers (*Picoides villosus*) reached an all-time high of 582. Numbers for both of these species have been slowly increasing for the past two decades. Another unexpected high was 291 Brown-headed Nuthatches (*Sitta pusilla*), the most since 428 were counted in 1975.

On the darker side of the coin, there were some dismally low totals. It definitely was not a year for finches in the state. Only 66 Purple Finches (*Carpodacus purpureus*) were found, the lowest number since 1956 when only 21 counts were conducted. House Finch (*Carpodacus mexicanus*) numbers (2,877) were the lowest since 1977. For the last three years there has been a noticeable drop in numbers of this species. Pine Siskins (*Carduelis pinus*) dipped to only four individuals seen at Mathews County. That's the lowest number since 1964. Other species that showed a significant decrease in numbers were Canvasback (*Aythya valisineria*), Common Merganser (*Mergus merganser*), Ruffed Grouse (*Bonasa umbellus*), Semipalmated Plover (*Charadrius semipalmatus*), Western Sandpiper (*Calidris mauri*), Herring Gull (*Larus argentatus*), Eastern Towhee (*Pipilo erythrophthalmus*), American Tree Sparrow (*Spizella arborea*), Field Sparrow (*Spizella pusilla*), Rusty Blackbird (*Euphagus carolinus*), and Brown-headed Cowbird (*Molothrus ater*).

As in past years the counts in the table are arranged as follows: the five Eastern Shore counts and those around or near the Chesapeake Bay area are listed first. The rest are listed generally in an east-to-west and north-to south configuration. Counts

1 through 17 are on the Coastal Plain, 18 through 27 are on the Piedmont, and 28 through 47 are in the Mountains Valleys region of the state.

Below is a description of each count circle center, compilers' names and e-mail addresses can be found in the article entitled Christmas Count Descriptions. In addition, names of observers for the Darlington Heights, Lynchburg, Danville, Big Flat Mountain, Peaks of Otter, Roanoke, Giles County, and Bristol are listed because the results of those counts are submitted only to *The Raven* and do not appear anywhere else.

Codes used in the table:

CLD - Cloudy	PCR - Partly clear
CLR - Clear	S - South
E - East	SPF - Still water partly frozen
LGR - light rain	UNK - Unknown
MCD - Mostly cloudy	VAR - Variable
MWO - Moving water open	VARCOM - Virginia Avian Records Committee
N - North	VDY - Very dry
NEG - Negligible	W - West
NP - National Park	WMA - Wildlife Management Area
NWR - National Wildlife Refuge	WOP - Water open
PCD - Partly cloudy	

2006-2007 CHRISTMAS COUNT DESCRIPTIONS

The number appearing before each count coincides with the numbered counts in the count table. Observers are listed below for Darlington Heights, Lynchburg, Danville, Big Flat Mountain, Peaks of Otter, Roanoke, Giles County, and Bristol—counts which do not appear elsewhere.

1. CHINCOTEAGUE NATIONAL WILDLIFE REFUGE. 37°58'N 75°22'W
Center: 2 miles north of center of Chincoteague in Accomack County.
Compilers: Richard and Nancy Roberts (bandbird@verizon.net).
2. WACHAPREAGUE. 37°40'N 75°42'W
Center: Jct. of rts. 789 and 715 in Accomack County.
Compilers: Irvin and Marilyn Ailes (irvailles@intercom.net).
3. NASSAWADOX. 37°43'N 75°86'W
Center: East of Rt. 13 half way between Nassawadox and Birdsnest.
Compiler: Henry Armistead (harryarmistead@hotmail.com).
4. CAPE CHARLES. 37°12'N 75°56'W
Center: 1.5 miles southeast of Capeville Post Office in Northampton County.
Compiler: Henry Armistead (harryarmistead@hotmail.com).

5. CHESAPEAKE BAY BRIDGE-TUNNEL (CBBT). 37°05 'N 76°08 'W
Center: The northern three islands of the bridge-tunnel complex and adjacent waters out to one mile.
Compiler: Ned Brinkley (phoebetria@aol.com).
6. LITTLE CREEK. 36°51 'N 76°06 'W
Center: 3.8 miles northeast of Kempsville in Virginia Beach.
Compiler: Paul Sykes (paul_sykes@usgs.gov).
7. BACK BAY NATIONAL WILDLIFE REFUGE. 36°39 'N 76°00 'W
Center: 1.5 miles east of Back Bay.
Compiler: Paul Sykes (paul_sykes@usgs.gov).
8. NANSEMOND RIVER. 36°52 'N 76°26 'W
Center: Jct. of rts. 17 and 626 in Pughsville, Suffolk.
Compiler: Les Willis (leswillis@clwillis.com).
9. DISMAL SWAMP 36°40 'N 76°29 'W
Center: Intersections of Middle and Jericho Ditches in Dismal Swamp NWR.
Compiler: Don Schwab (vacanebrake@yahoo.com)
10. NEWPORT NEWS. 37°05 'N 76°25 'W
Center: Northern corner of Magruder & Cmdr. Shepard boulevards in Hampton.
Compiler: Hayes Williams (joycewms@inna.net).
11. MATHEWS COUNTY. 37°25 'N 76°18 'W
Center: 0.5 mile east of Beaverlett Post Office in Mathews County.
Compilers: Mary Pulley and John Bazuin, Jr. (bazuin.john@epamail.epa.gov).
12. WILLIAMSBURG. 37°17 'N 76°42 'W
Center: Colonial Williamsburg Information Center in Williamsburg.
Compiler: Bill Holcombe (biljanholc@widomaker.com).
13. HOPEWELL. 37°23 'N 77°17 'W
Center: Curles Neck in Henrico County.
Compiler: Arun Bose (arunbose@akbose.com).
14. WALKERTON. 37°46 'N 77°02 'W
Center: 1.5 miles southwest of Walkerton bridge, just west of Whitebank.
Compiler: Fred Atwood (fredatwood@yahoo.com).
15. WASHINGTONS BIRTHPLACE. 38°07 'N 76°57 'W
Center: Horners in Westmoreland County.
Compiler: William Portlock (portlock@bealenet.com).

16. BROOKE. 38°22 'N 77°20 'W
Center: At Center Road 3 miles east southeast of Brooke in Stafford County.
Compiler: David Stewart (dbstewart1@verizon.net).
17. FORT BELVOIR. 38°41 'N 77°12 'W
Center: Pohick Episcopal Church, Fort Belvoir, in eastern Fairfax County.
Compiler: Kurt Gaskill (kurtcapt87@aol.com).
18. CENTRAL LOUDOUN. 39°06 'N 77°38 'W
Center: Near jct. of rts. 704 and 769 in Loudoun County.
Compiler: Joseph Coleman (jandkcoleman@erols.com).
19. MANASSAS-BULL RUN. 38°50 'N 77°26 'W
Center: Centreville in western Fairfax County.
Compiler: Laura Stephens (info@asn.v.org).
20. CHANCELLORSVILLE. 38°16 'N 77°40 'W
Center: Chancellorsville Battlefield, 10 miles west of Fredericksburg in Spotsylvania County.
Compiler: Beverly J. Smith (catbirds@earthlink.net).
21. LAKE ANNA. 38° 05'N 77° 49'W
Center: Center of bridge over Lake Anna on rt. 208.
Compiler: Mike Boatwright (mboater@att.net).
22. GORDONSVILLE. 38°09 'N 78°12 ' W
Center: Jct. of rts.15 and 33 north of the town of Gordonsville in Orange Co.
Compiler: Donald Ober (dober@ns.gemlink.com).
23. CHARLOTTESVILLE. 38°04 'N 78°34 'W
Center: Near Ivy in Albemarle County.
Compiler: Jenny Gaden (jgaden@earthlink.net).
24. DARLINGTON HEIGHTS. 37°12 'N 78°36 'W
Center: Jct. of rts. 665 and 660 in Darlington Heights in Price Edward County.
Compiler: Carolyn Wells (cwells@kinex.net).
Participants: Sandra Breil, John Dalmas, Thelma Dalmas, Damien Fehrer, Deanna Fehrer, Jimmy Gates, Ann Ingram, Judy McCann, Sue McCullough, Kathy Menold, Peter Menold, May Shorter, Brent Slaughter, Laura Slaughter, David Spears, Randy Thrasher, Sue Thrasher, and Carolyn Wells.
25. BANISTER RIVER WILDLIFE MANAGEMENT AREAS. 36°43 'N 78°48 'W
Center: At Banister River Wildlife Management Areas in Halifax County.
Compiler: Jeffrey Blalock (jcbabirdier@gcronline.com).

26. LYNCHBURG. 37°24 'N 79°11 'W

Center: Lynchburg College in Lynchburg.

Compilers: John and Thelma Dalmas (jtdalmas@juno.com).

Participants: Michael T Battaglia, Bill Bensiek, Rexanne Bruno, John Dalmas, Thelma Dalmas, David L. Dawson, Virginia Delaney, Kathie Driscoll, Betty Epperson, Bob Epperson, Bob Eubank, Robert Ferrell, Joe Freeman, Marge Freeman, Charles Hansrote, Melva Hansrote, Mike Hayslett, Cinda Hurt, Joanne Langford, Peggy Lyons, Dick Miller, RuthAnn Miller, Phyllis Murphy, Melvin Mitchell, Louise Montague, Wyatt Murphy, JoAnn Pierce, John Powers, Scott Rankins, Mrs. Scott Rankins, Gene Sattler, Barbara Shedd, Doug Shedd, Glennys Sheppard, Macon Smith, Laura-Gray Street, John Styrsky, Randy Thrasher, Sue Thrasher, Sandra Weigand, Margaret Wenning, Judy Wiegand, Susan Wingfield, and Jo Wood.

27. DANVILLE. 36°34 'N 79°25 'W

Center: Ballou Park in Danville.

Compiler: Laura D. Meder (laura.meder@averett.edu).

Participants: Yi Jhen Chen, Edward Fisher, Patt Fisher, Mary Foster, Rebecca Foster, Marybelle Fries, Ann Garbett, Gary Grant, Albert Maurakis, Pat Maurakis, Laura Meder, Geoff Smith, C. B. Strange, Sue Wickers, and Gordon Woody.

28. CALMES NECK. 39°07 'N 77°54 'W

Center: Castlemans Ferry Bridge on rt. 7 over Shenandoah River in Clarke Co.

Compiler: Margaret Wester (margaretwester@hotmail.com).

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

Center: Jct. of Crooked Run and rt. 606 in Frederick County.

Compilers: Rob and Ann Simpson (snphotos@adelphia.net).

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

Center: Hershberger Hill near Stanley in Page County.

Compiler: Mary Willeford Bair (mary_willeford_bair@nps.gov).

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

Center: On Pasture Fence Mountain in Albemarle County.

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

Participants: Charles Stevens and Tom Wieboldt.

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

Center: Ottobine in Rockingham County.

Compiler: Chuck Aukerman (aucker@aol.com).

33. AUGUSTA COUNTY. 38°12 'N 78°59 'W
Center: Jct. of rts.780 and 781 in Augusta County.
Compiler: John Spahr (jspahr@yahoo.com).
34. WAYNESBORO. 37°59 'N 78°57 'W
Center: Sherando at Jct. of rts. 610 and 664 in Augusta County.
Compiler: Crista Cabe (ccabe@mbc.edu).
35. LEXINGTON. 37°51 'N 79°29 'W
Center: Big Spring Pond in Rockbridge County.
Compilers: Bob Paxton (rop1@columbia.edu) and GeorgeTolley (gtolley@rockbridge.net).
36. PEAKS OF OTTER. 37°27 'N 79°36 'W
Center: Peaks of Otter Visitor Center in Bedford County.
Compiler: Barry Kinzie (peckerridge@ntelos.net).
Participants: Linda Barker, Liz Cole, Mike Donahue, Eunice Hudgins, John Hudgins, Bill Hunley, Susan Kidd, Barry Kinzie, Connie Marsh, Mike Purdy, Anne Tucker, Bill Tucker, Elly Wefel, Jr., and Pam Wefel.
37. FINCASTLE. 37°31 'N 79°52 'W
Center: North of Fincastle near Jct. of rts. 220 and 679 in Botetourt County.
Compiler: Barry Kinzie (peckerridge@ntelos.net).
38. ROANOKE. 37°18 'N 79°56 'W
Center: Oakland Blvd. And Williamson Rd. in Roanoke.
Compiler: Bill Hunley (wjhunley@cox.net).
Participants: Linda Barker, Fred Cramer, Rupert Cutler, Mike Donahue, Bill Grant, Mary Hirschfield, Joyce Holt, Eunice Hudgins, John Hudgins, Bill Hunley, Katie James, Barry Kinzie, Connie Marsh, Mike Purdy, Alyce Quinn, Tim Quinn, Sue Styrn, Anne Tucker, Bill Tucker, and Liz Williams.
39. BLACKSBURG. 37°12 'N 80°28 'W
Center: Jct. Merrimac Rd. (rt. 657) & Prices Fork Rd. (rt. 685) in Montgomery Co.
Compilers: Patricia A. Polentz (polentz@va.net) and Bruce Grimes (bugpix@verizon.net).
40. GILES COUNTY. 37°19 'N 80°38 'W
Center: Pembroke in Giles County.
Compiler: Peggy Opengari (gramby@pemtel.net).
Participants: Bill Akers, David Brady, Tom Brobson, Gloria Heath, Jennings Heilig, Suzie Leslie, Bill Opengari, Peggy Opengari, Jim Phillips, Judy Phillips, Jerry Via.

41. TAZEWEELL. 37°08 'N 81°30 'W

Center: Fourway in Tazewell County.

Compiler: Sarah Cromer (scromer@netscope.net).

42. MOUNT ROGERS - WHITE TOP MOUNTAIN. 36° 39' N 81° 35' W

Center: Jct. of rts. 600 and 603.

Compiler: Allen Boynton (allenboynton@earthlink.net).

43. GLADE SPRING. 36°47 'N 81°47 'W

Center: Jct. of rts.750 and 609 in Glade Spring.

Compiler: Ron Harrington (roneharrin@aol.com).

44. BLACKFORD. 37°00 N '81°55 'W

Center: Confluence of the Clinch and Little rivers in Russell County.

Compiler: Robert Riggs (sheba@mounet.com).

45. BRISTOL. 36°35 'N 82°06 'W

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

Compiler: Richard Lewis (mountainbirds@email.com).

Participants: Rob Biller, Wallace Coffey, Carol Cross, Rack Cross, Dianne Draper, Don Holt, Andy Jones, Ron Harrington, David Kirschke, Richard Lewis, Fred Martin, Janice Martin, Larry McDaniel, Tom McNeil, Joe McGuinness, Ruddy Morales, John Moyle, Chris O'Bryan, Randy Smith, and Kim Stroud,.

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

Center: 4.5 miles NE of Haysi in Buchanan County.

Compiler: Terry Owens (terrybipvc@yahoo.com).

47. WISE COUNTY. 36°57'N 82°39 'W

Center: At Dorchester in Norton City.

Compiler: Randy Stanley (randyst@compunet.net).

Species → Counts ↓	Snow Goose (white form)	Snow Goose (blue form)	Ross's Goose	Brant	Cackling Goose	Canada Goose	Mute Swan	Tundra Swan	Wood Duck	Gadwall
1. Chincoteague	9,232	37	...	529	...	1,678	...	105	6	282
2. Wachapreague	14,810	225	...	1,748	...	3,057	...	...	3	59
3. Nassawadox	65	...	...	1,031	...	334	...	...	2	39
4. Cape Charles	9,500	62	2	1,581	...	1,880	...	64	9	354
5. Chesapeake Bay	...	...	...	14	...	...	...	...	...	...
6. Little Creek	115	...	...	24	...	467	...	...	36	156
7. Back Bay	4,861	100	...	...	...	712	...	717	4	95
8. Nansemond River	...	...	...	...	...	442	...	...	CW	2,535
9. Dismal Swamp NWR	12	...	...	...	...	...	...	12	25	...
10. Newport News	...	...	...	28	...	779	...	7	1	22
11. Mathews County	4	...	...	49	...	1,089	...	348	...	...
12. Williamsburg	...	...	...	...	...	1,739	21	58	5	39
13. Hopewell	200	2,300	4	...	2	12,270	...	1	23	98
14. Walkerton	1	...	...	...	...	9,919	...	83	10	270
15. Washingtons Birthplace	...	...	...	...	...	10,998	4	202	6	71
16. Brooke	3	...	...	...	...	1,300	54	252	...	143
17. Fort Belvoir	...	...	...	...	...	12,307	...	424	79	559
18. Central Loudoun Co.	...	...	...	...	...	5,398	...	10	10	11
19. Manassas-Bull Run	...	...	...	...	...	1,595	...	...	2	...
20. Chancellorsville	...	...	...	...	...	364	3	...	...	...
21. Lake Anna	...	...	...	...	...	746	...	...	1	...
22. Gordonsville	...	...	...	...	...	1,326	...	...	...	...
23. Charlottesville	...	...	...	...	...	1,319	1	...	...	...
24. Darlington Heights	...	...	...	...	...	253	...	...	10	...
25. Banister River WMAs	...	...	...	...	...	126	...	...	2	...
26. Lynchburg	...	...	...	...	...	1,055	...	...	3	30
27. Danville	...	...	...	...	...	274	...	...	...	...
28. Calmes Neck	...	...	...	...	...	3,120	...	10	2	4
29. N. Shenandoah Valley	...	...	...	...	1	4,357	...	...	5	36
30. Shenandoah NP- Luray	1	...	...	...	...	313	...	...	4	...
31. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...
32. Rockingham County	...	...	...	...	...	234	...	...	...	...
33. Augusta County	1	...	...	...	...	834	...	...	2	57
34. Waynesboro	...	...	1	...	2	779	...	...	2	4
35. Lexington	...	...	...	...	...	380	...	...	...	11
36. Peaks of Otter	...	...	...	...	...	...	...	...	...	...
37. Fincastle	1	...	...	...	...	266	...	1	...	17
38. Roanoke	...	...	...	...	...	164	...	...	...	9
39. Blacksburg	...	...	...	...	...	845	...	...	...	12
40. Giles County	...	...	...	...	...	57	...	...	...	9
41. Tazewell	...	...	...	...	...	324	...	...	...	...
42. Mount Rogers-Whitetop	...	...	...	...	...	8	...	...	...	...
43. Glade Spring	2	...	...	...	...	389	...	...	1	12
44. Blackford	...	...	...	...	...	33	...	...	...	...
45. Bristol	1	...	...	...	...	388	4	1	...	16
46. Breaks Interstate Park	...	...	...	...	...	...	...	...	5	...
47. Wise County	...	...	...	...	...	...	...	...	...	...
Totals	38,809	2,724	7	5,004	5	83,918	87	2,295	258	4,950

Species → Counts ↓	Eurasian Wigeon	American Wigeon	American Black Duck	black duck-mallard hybrid	Mallard	Blue-winged Teal	Northern Shoveler	Northern Pintail	American Green-winged Teal	dabbling duck, sp.
1. Chincoteague	...	611	2,007	...	783	...	651	867	243	...
2. Wachapreague	...	125	410	...	249	...	...	...	13	...
3. Nassawadox	...	6	558	...	282	...	1	53	62	...
4. Cape Charles	...	167	740	...	209	...	13	5	219	...
5. Chesapeake Bay	6	...	4	...	...	...
6. Little Creek	...	135	57	...	533	...	267	5	55	...
7. Back Bay	...	4	144	...	190	...	6	30	50	...
8. Nansemond River	...	217	35	...	68	...	2,500	5	550	...
9. Dismal Swamp NWR	3	...	3	...	...	...	1	...
10. Newport News	CW	184	56	...	802	1	6	...	33	...
11. Mathews County	4	...	189	...	...	...	...	...
12. Williamsburg	...	19	82	...	201	...	...	1	49	...
13. Hopewell	...	57	80	...	288	...	48	...	56	...
14. Walkerton	...	8	289	...	1,191	1	105	1,756	123	...
15. Washingtons Birthplace	...	9	539	...	603	...	...	5	2	...
16. Brooke	...	17	1	...	184	...	...	...	...	...
17. Fort Belvoir	...	279	1,404	...	4,014	5	85	535	643	...
18. Central Loudoun Co.	...	69	61	...	531	...	1	...	27	...
19. Manassas-Bull Run	91	...	...	...	...	...
20. Chancellorsville	1	...	32	...	...	...	...	...
21. Lake Anna	2	...	44	...	...	...	...	...
22. Gordonsville	83	...	...	...	...	...
23. Charlottesville	4	...	86	...	...	...	15	...
24. Darlington Heights	2	...	12	...	...	...	...	...
25. Banister River WMAs	...	2	...	...	223	...	...	1	20	...
26. Lynchburg	...	1	14	...	193	...	...	1	3	...
27. Danville	1	...	56	...	...	...	...	...
28. Calmes Neck	...	20	75	...	157	...	...	...	9	...
29. N. Shenandoah Valley	...	21	60	...	549	...	...	4	23	...
30. Shenandoah NP- Luray	54	...	125	...	...	...	14	...
31. Big Flat Mountain
32. Rockingham County	...	1	6	...	464	...	...	...	14	1
33. Augusta County	14	...	314	...	14	1	18	...
34. Waynesboro	9	...	176	...	...	...	10	...
35. Lexington	14	...	110	...	1	...	9	...
36. Peaks of Otter
37. Fincastle	...	2	8	...	36	...	...	...	15	...
38. Roanoke	6	...	178	...	...	...	...	...
39. Blacksburg	...	11	52	...	685	...	1	...	1	...
40. Giles County	11	...	...	1	...	...
41. Tazewell	9	...	103	...	1	...	1	...
42. Mount Rogers-Whitetop	64	...	...	...	...	...
43. Glade Spring	2	...	134	...	...	...	...	...
44. Blackford	4	...	97	...	...	...	2	...
45. Bristol	...	53	4	1	378	...	...	...	17	...
46. Breaks Interstate Park	3	...	...	...	...	...
47. Wise County	10	...	...	...	...	...
Totals	CW	2,018	6,811	1	14,740	7	3,704	3,270	2,297	1

Species → Counts ↓	Canvasback	Redhead	Ring-necked Duck	Greater Scaup	Lesser Scaup	scaup, sp.	Common Eider	Harlequin Duck	Surf Scoter	White-winged Scoter
1. Chincoteague	15	...	19	...	...	...	131	...
2. Wachapreague	43	...	...	...	227	50
3. Nassawadox	1	...	...	...	...	...	595	5
4. Cape Charles	72	...	6	...	1	...	1,419	1
5. Chesapeake Bay	53	5	...	...	156	5
6. Little Creek	64	...	51	...	...	2	906	21
7. Back Bay	1	2	1	...	...	...	55	1
8. Nansemond River	300	...	199	...	25	...	...	...	59	...
9. Dismal Swamp NWR
10. Newport News	140	...	114	...	...	...	111	10
11. Mathews County	2	63	24	...	...	...	1,330	5
12. Williamsburg	2,071	...	692	...	21	...	...	...	...	...
13. Hopewell	1	2	653	...	125	...	...	...	...	...
14. Walkerton	303	...	2	...	...	...	...	...
15. Washingtons Birthplace	1	1	2	10	539	...	...	...	381	...
16. Brooke	375	15	307	...	75	...	...	...	...	...
17. Fort Belvoir	236	33	1,396	7	26,015	2,208	...	...	1	...
18. Central Loudoun Co.	21	...	14	...	...	...	...	...
19. Manassas-Bull Run
20. Chancellorsville	124	...	21	...	...	...	...	...
21. Lake Anna	62	...	...	...	...
22. Gordonsville	40	...	...	...	...	...	...	...
23. Charlottesville	1	...	...	...	...	...	...	...
24. Darlington Heights	32	...	...	...	...	...	...	...
25. Banister River WMAs
26. Lynchburg	16	...	...	...	...	...	...	...
27. Danville
28. Calmes Neck	296	...	1	...	...	...	...	...
29. N. Shenandoah Valley	66	...	5	...	...	...	...	...
30. Shenandoah NP- Luray	1	...	...	...	...	...	...	...
31. Big Flat Mountain
32. Rockingham County
33. Augusta County	4	...	...	...	...	...	...	...
34. Waynesboro
35. Lexington	1	...	...	...	...	...	...	...
36. Peaks of Otter
37. Fincastle	1	...	36	...	...	...	...	...	...	...
38. Roanoke	6	...	16	...	2	...	...	...	...	...
39. Blacksburg	14	...	...	...	...	...
40. Giles County	2	...	...	...	...	...	...	...
41. Tazewell
42. Mount Rogers-Whitetop
43. Glade Spring
44. Blackford	2	...	...	...	...	...	...	...
45. Bristol	71	...	...	...	...	...	...	...
46. Breaks Interstate Park
47. Wise County	1	...	...	...	...	...	...	...
Totals	2,991	51	4,577	82	27,170	2,275	1	2	5,371	98

Species → Counts ↓	Black Scoter	scoter, sp.	Long-tailed Duck	Bufflehead	Common Goldeneye	Hooded Merganser	Common Merganser	Red-breasted Merganser	Ruddy Duck	duck, sp.
1. Chincoteague	50	...	15	1,740	4	190	...	147	282	...
2. Wachapreague	1	350	8	1,121	1	240	...	300	89	...
3. Nassawadox	159	6	166	464	1	188	...	146	22	...
4. Cape Charles	13	75	52	2,900	13	370	...	489	53	...
5. Chesapeake Bay	38	...	16	...	...	...	...	169	...	...
6. Little Creek	107	...	5	328	...	362	...	1,010	69	...
7. Back Bay	24	...	...	...	1	264	...	1,346	...	...
8. Nansemond River	...	...	...	119	3	16	...	18	1,411	...
9. Dismal Swamp NWR	...	...	...	...	...	24	...	...	5	40
10. Newport News	5	4	...	1,117	11	150	...	44	297	1
11. Mathews County	66	...	34	2,046	13	32	...	540	739	...
12. Williamsburg	...	...	...	136	7	280	...	8	8,643	...
13. Hopewell	...	...	...	146	...	124	14	4	30	...
14. Walkerton	...	...	...	234	3	19	11	45	320	...
15. Washingtons Birthplace	1	...	1	50	73	31	42	43	215	...
16. Brooke	...	...	...	59	6	48	2	...	207	...
17. Fort Belvoir	...	...	...	589	7	351	249	384	4,735	...
18. Central Loudoun Co.	...	...	...	10	10	40	27	...	8	...
19. Manassas-Bull Run	...	...	...	6	...	39	...	...	...	...
20. Chancellorsville	...	...	...	46	...	10	3	...	45	...
21. Lake Anna	...	...	...	35	...	8	2	...	...	...
22. Gordonsville	...	...	...	...	...	27	...	...	...	...
23. Charlottesville	...	...	...	6	...	5	...	...	...	...
24. Darlington Heights	...	...	...	...	...	58	...	...	...	...
25. Banister River WMAs	...	...	...	37	...	12	...	18	...	65
26. Lynchburg	...	...	...	5	...	17	...	...	...	...
27. Danville	...	...	...	...	...	...	...	...	...	43
28. Calmes Neck	...	...	...	...	1	14	43	...	9	...
29. N. Shenandoah Valley	...	...	...	8	9	17	3	CW	2	...
30. Shenandoah NP- Luray	...	...	...	2	...	...	...	...	2	...
31. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...
32. Rockingham County	...	...	...	...	...	2	...	...	...	...
33. Augusta County	...	...	...	...	...	...	...	...	8	...
34. Waynesboro	...	...	...	...	...	2	...	...	...	...
35. Lexington	...	...	...	...	...	27	...	...	...	...
36. Peaks of Otter	...	...	...	...	...	...	...	...	...	...
37. Fincastle	...	...	...	...	...	11	...	...	...	...
38. Roanoke	...	...	...	...	...	...	...	...	...	...
39. Blacksburg	...	...	...	118	...	49	...	...	...	...
40. Giles County	...	...	...	1	...	10	...	...	...	...
41. Tazewell	...	...	...	...	...	3	...	...	...	...
42. Mount Rogers-Whitetop	...	...	...	...	...	...	...	...	...	...
43. Glade Spring	...	...	...	3	...	10	...	...	...	...
44. Blackford	...	...	...	...	...	...	...	...	...	...
45. Bristol	...	...	...	247	...	77	...	1	1	...
46. Breaks Interstate Park	...	...	...	...	...	...	...	...	...	...
47. Wise County	...	...	...	...	...	...	...	...	...	...
Totals	464	435	297	11,573	163	3,127	396	4,712	17,192	149

Species → Counts ↓	Ruffed Grouse	Wild Turkey	Northern Bobwhite	Red-throated Loon	Common Loon	Pied-billed Grebe	Horned Grebe	Red-necked Grebe	Eared Grebe	Northern Gannet
1. Chincoteague	10	25	81	12	111	...	...	135
2. Wachapreague	...	3	19	67	73	4	15	...	...	...
3. Nassawadox	1	255	84	3	39	...	...	114
4. Cape Charles	4,649	246	53	272	...	1	3,351
5. Chesapeake Bay	1,050	20	...	...	...	...	4,000
6. Little Creek	120	32	38	...	...	...	1,342
7. Back Bay	9	3,662	550	13	1	1	...	5,253
8. Nansemond River	...	CW	...	...	1	8	3	...	...	...
9. Dismal Swamp NWR
10. Newport News	15	39	40	40	...	...	21
11. Mathews County	...	34	...	69	160	...	27	...	...	971
12. Williamsburg	2	3	7	41	7	...	...	...
13. Hopewell	...	13	1	...	2	14	...	...	...	...
14. Walkerton	...	69	22	...	...	53	...	...	...	...
15. Washingtons Birthplace	...	2	...	...	4	1	4	...	...	...
16. Brooke	...	2	...	...	...	17	...	...	...	...
17. Fort Belvoir	...	6	...	...	7	82	...	...	...	...
18. Central Loudoun Co.	...	32	...	...	...	2	...	...	...	...
19. Manassas-Bull Run
20. Chancellorsville	4	...	...	18	...	...	...	...
21. Lake Anna	...	6	...	...	36	21	23	...	...	...
22. Gordonsville	...	4	...	...	...	2	...	...	...	...
23. Charlottesville	...	1	...	...	...	8	...	...	...	...
24. Darlington Heights	...	13	27	...	...	5	1	...	...	...
25. Banister River WMAs	...	3	...	...	...	1	...	...	...	...
26. Lynchburg	...	55	2	...	...	23	...	...	...	...
27. Danville	...	30	...	...	...	...	...	...	...	...
28. Calmes Neck	...	15	...	...	1	2	...	...	...	...
29. N. Shenandoah Valley	...	49	1	...	1	6	CW	...	...	...
30. Shenandoah NP- Luray	2	3	...	...	...	3	...	...	...	...
31. Big Flat Mountain
32. Rockingham County	...	17	...	...	...	...	...	...	...	...
33. Augusta County
34. Waynesboro
35. Lexington	1	6	...	...	...	1	...	...	...	...
36. Peaks of Otter	...	24	...	...	...	...	...	...	...	...
37. Fincastle	...	10	14	...	...	...	...	...	...	...
38. Roanoke	1	9	...	...	...	...
39. Blacksburg	...	6	...	...	...	19	...	...	...	...
40. Giles County
41. Tazewell	...	1	...	...	...	14	...	...	...	...
42. Mount Rogers-Whitetop
43. Glade Spring
44. Blackford	5	3	...	...	...	17	...	...	...	...
45. Bristol	...	8	...	...	...	55	6	...	7	...
46. Breaks Interstate Park	...	1	...	...	...	4	...	...	...	...
47. Wise County	1	...	...	...	...	4	...	...	...	...
Totals	9	416	112	9,915	1,345	593	549	1	8	15,187

Species → Counts ↓	American White Pelican	Brown Pelican	Double-crested Cormorant	Great Cormorant	American Bittern	Great Blue Heron (blue form)	Great Egret	Snowy Egret	Little Blue Heron	Tricolored Heron	Green Heron	Black-crowned Night-Heron
1. Chincoteague	...	16	28	...	...	103	46	2	...	5	...	3
2. Wachapreague	120	...	...	46	1	...	...	...	...	10
3. Nassawadox	...	13	62	...	...	45	5	...	...	...	...	1
4. Cape Charles	...	119	169	27	1	61	18	...	...	3	...	12
5. Chesapeake Bay	...	47	18	45	...	...	...	...	...	...	...	...
6. Little Creek	...	564	4,469	3	...	98	105	1	...	...	...	9
7. Back Bay	...	92	294	1	...	30	6	3	4	...	...	...
8. Nansemond River	...	39	486	...	...	2	3	...	...	...	...	...
9. Dismal Swamp NWR	6	...	...	6	...	...	...	...	...	...
10. Newport News	...	74	650	...	...	91	53	...	...	...	1	2
11. Mathews County	...	57	13	...	...	55	1	...	...	...	...	1
12. Williamsburg	...	10	370	...	1	70	6	...	...	...	...	...
13. Hopewell	797	...	1	104	CW	...	...	...	1	...
14. Walkerton	6	...	1	63	...	...	...	...	...	1
15. Washingtons Birthplace	100	...	...	32	2	...	...	...	...	...
16. Brooke	8	...	...	40	...	...	...	...	...	...
17. Fort Belvoir	1	...	83	...	...	312	1	...	...	...	...	...
18. Central Loudoun Co.	32	...	...	...	...	...	1
19. Manassas-Bull Run	17	...	...	...	...	...	...
20. Chancellorsville	2	...	...	...	...	...	...
21. Lake Anna	1	...	...	14	...	...	...	...	...	...
22. Gordonsville	4	...	...	...	...	...	...
23. Charlottesville	1	21	...	...	...	...	...	...
24. Darlington Heights	5	...	...	...	...	...	...
25. Banister River WMAs	21	3	...	...	...	...	...
26. Lynchburg	18	...	...	...	...	...	...
27. Danville	5	...	...	...	...	...	...
28. Calmes Neck	30	...	...	...	...	...	...
29. N. Shenandoah Valley	CW	...	...	76	...	...	...	...	...	...
30. Shenandoah NP- Luray	17	...	...	...	...	...	7
31. Big Flat Mountain
32. Rockingham County	5	...	...	...	...	...	...
33. Augusta County	18	...	...	...	...	...	...
34. Waynesboro	11	...	...	...	...	...	...
35. Lexington	10	...	...	...	...	...	...
36. Peaks of Otter	2	...	...	...	...	...	...
37. Fincastle	7	...	...	...	...	...	...
38. Roanoke	10	...	...	...	...	...	...
39. Blacksburg	32	...	...	...	...	...	1
40. Giles County	4	...	...	...	...	...	...
41. Tazewell	5	...	...	...	...	...	...
42. Mount Rogers-Whitetop	6	...	...	...	...	...	...
43. Glade Spring	17	...	...	...	...	...	...
44. Blackford	17	...	...	...	...	...	...
45. Bristol	4	...	...	16	...	...	...	...	...	CW
46. Breaks Interstate Park	1	1	...	...	...	...	...	...
47. Wise County	1	...	...	...	...	...	...
Totals	1	1,031	7,684	76	6	1,582	250	6	4	8	2	48

Species → Counts ↓	White Ibis	Black Vulture	Turkey Vulture	Osprey	Bald Eagle	bald eagle, age	Northern Harrier	Sharp-shinned Hawk	Cooper's Hawk
1. Chincoteague	...	64	371	...	28	24a, 4i	10	1	3
2. Wachapreague	...	29	229	...	14	12a, 2i	11	2	8
3. Nassawadox	12	135	239	...	9	9u	23	9	5
4. Cape Charles	...	164	337	...	22	22u	24	6	14
5. Chesapeake Bay
6. Little Creek	...	230	145	6	8	6a, 1i, 1u	3	1	4
7. Back Bay	...	28	56	1	3	2a, 1i	17	11	4
8. Nansemond River	...	18	54	1	7	2a, 4i, 1u	1	1	2
9. Dismal Swamp NWR	...	27	84	...	4	1a, 3i	...	2	2
10. Newport News	...	8	44	5	7	3a, 4i	4	6	1
11. Mathews County	...	61	173	...	30	16a, 12i, 2u	3	2	1
12. Williamsburg	...	28	162	...	39	21a, 18i	2	2	1
13. Hopewell	...	117	159	CW	86	39a, 41i, 6u	4	7	10
14. Walkerton	...	108	378	...	47	30a, 17i	5	3	6
15. Washingtons Birthplace	...	49	150	...	136	115a, 20i, 1u	15	2	5
16. Brooke	...	105	166	...	47	21a, 26i	5	3	2
17. Fort Belvoir	...	157	190	...	111	74a, 37i	3	19	16
18. Central Loudoun Co.	...	626	460	...	12	10a, 2i	4	11	14
19. Manassas-Bull Run	...	54	173	...	2	1a, 1i	...	1	6
20. Chancellorsville	...	6	58	...	5	5a	...	1	...
21. Lake Anna	...	38	100	...	9	6a, 3i	2	1	1
22. Gordonsville	...	24	50	...	1	1a	...	2	1
23. Charlottesville	...	90	325	...	2	2u	1	7	5
24. Darlington Heights	...	15	138	...	1	1u	3	2	...
25. Banister River WMAs	...	31	180	...	5	1a, 4i	2	3	1
26. Lynchburg	...	288	524	...	CW	...	...	8	3
27. Danville	...	23	62	...	1	1a	...	2	1
28. Calmes Neck	...	93	251	...	11	3a, 8i	7	2	5
29. N. Shenandoah Valley	...	103	357	...	14	6a, 8i	8	19	17
30. Shenandoah NP- Luray	...	37	87	...	12	4a, 8i	2	7	1
31. Big Flat Mountain	2	...	...	...	...	1	...
32. Rockingham County	...	40	276	...	...	...	...	2	8
33. Augusta County	...	168	295	...	...	...	1	4	2
34. Waynesboro	...	36	251	...	...	...	2	2	2
35. Lexington	...	44	143	...	3	2a, 1i	3	2	3
36. Peaks of Otter	...	8	12	...	...	...	...	...	...
37. Fincastle	...	21	147	...	...	...	...	6	5
38. Roanoke	...	34	76	...	...	...	1	5	6
39. Blacksburg	...	381	79	...	...	...	1	6	6
40. Giles County	...	44	32	...	...	...	...	2	1
41. Tazewell	...	1	...	...	...	...	...	1	6
42. Mount Rogers-Whitetop	...	11	18	...	...	...	...	...	2
43. Glade Spring	...	40	39	...	...	...	1	1	4
44. Blackford	...	2	...	...	...	...	1	3	3
45. Bristol	...	12	37	...	1	1u	...	2	5
46. Breaks Interstate Park	...	2	5	...	...	...	...	1	3
47. Wise County	2	...	...
Totals	12	3,600	7,114	13	677	406a, 225i, 46u	171	181	195

Species → Counts ↓	<i>Accipiter, sp.</i>	Red-shouldered Hawk	Broad-winged Hawk	Red-tailed Hawk	Rough-legged Hawk	<i>Buteo, sp.</i>	hawk, sp	large hawk, sp.	Golden Eagle	golden eagle, age
1. Chincoteague	...	1	...	13	...	...	...	...	...	...
2. Wachapreague	...	2	...	16	...	...	...	...	...	...
3. Nassawadox	...	2	...	23	...	...	...	...	...	...
4. Cape Charles	...	5	...	42	...	...	...	...	...	...
5. Chesapeake Bay
6. Little Creek	...	4	...	17	...	...	...	...	...	...
7. Back Bay	...	8	...	20	...	...	...	...	...	...
8. Nansemond River	...	1	...	4	...	...	...	...	...	...
9. Dismal Swamp NWR	...	6	...	5	...	...	...	...	...	...
10. Newport News	...	5	...	19	...	...	2	...	...	...
11. Mathews County	1	7	...	17	...	...	...	...	...	...
12. Williamsburg	...	11	...	22	...	...	...	...	...	...
13. Hopewell	...	10	...	39	...	...	...	...	...	...
14. Walkerton	...	18	...	33	...	...	...	...	...	...
15. Washingtons Birthplace	...	10	...	17	...	...	...	...	...	...
16. Brooke	...	18	...	12	...	...	...	...	...	...
17. Fort Belvoir	4	76	...	69	...	...	...	...	...	...
18. Central Loudoun Co.	1	55	...	126	...	...	...	...	...	...
19. Manassas-Bull Run	4	44	...	40	...	...	...	...	...	...
20. Chancellorsville	1	1	...	5	...	...	...	2	...	...
21. Lake Anna	...	9	...	10	...	...	...	...	...	...
22. Gordonsville	...	8	...	15	...	1	...	...	...	...
23. Charlottesville	...	17	...	40	...	...	...	...	...	...
24. Darlington Heights	...	5	...	10	...	...	...	...	...	...
25. Banister River WMAs	...	8	...	17	...	...	...	...	...	...
26. Lynchburg	...	3	...	35	...	...	...	...	...	...
27. Danville	...	6	...	6	...	...	...	...	...	...
28. Calmes Neck	...	49	...	82	...	...	...	...	...	...
29. N. Shenandoah Valley	...	21	...	143	CW	...	...	...	2	1a, 1i
30. Shenandoah NP- Luray	...	11	...	41	1	...	...	...	...	...
31. Big Flat Mountain	1	...	...	...	...	...	...
32. Rockingham County	1	...	...	41	...	...	...	...	...	...
33. Augusta County	...	1	...	34	...	...	...	...	...	...
34. Waynesboro	...	7	...	35	...	...	...	...	...	...
35. Lexington	2	2	...	35	...	...	...	...	...	...
36. Peaks of Otter	...	1	...	12	...	...	...	...	...	...
37. Fincastle	...	5	...	32	...	...	...	...	...	...
38. Roanoke	20	...	...	...	...	...	...
39. Blacksburg	1	1	...	43	...	...	...	...	...	...
40. Giles County	7	...	...	...	...	...	...
41. Tazewell	...	2	...	19	1	...	...	...	1	1a
42. Mount Rogers-Whitetop	4	...	...	...	...	...	...
43. Glade Spring	26	...	...	...	...	...	...
44. Blackford	...	1	1	26	...	...	...	...	1	1a
45. Bristol	17	...	...	...	...	...	...
46. Breaks Interstate Park	...	6	...	10	...	...	...	...	...	...
47. Wise County	...	7	...	6	...	...	...	...	...	...
Totals	15	454	1	1,306	2	1	2	2	4	3a, 1i

Species → Counts ↓	American Kestrel	Merlin	Peregrine Falcon	Clapper Rail	King Rail	Virginia Rail	Sora	American Coot	Black-bellied Plover	Semipalmated Plover
1. Chincoteague	18	...	3	...	...	1	...	3	69	...
2. Wachapreague	33	1	2	8	...	...	...	...	541	...
3. Nassawadox	19	3	2	12	...	...	...	...	241	...
4. Cape Charles	25	...	6	89	1	3	...	69	254	2
5. Chesapeake Bay	...	1	1	...	...	...	...	1	...	...
6. Little Creek	4	3	...	61	...	...	...	20	1	...
7. Back Bay	21	3	...	...	15	19	5	51	...	...
8. Nansemond River	7	...	2	3	...	...	...	...	...	...
9. Dismal Swamp NWR	1	...	...	...	...	...	...	...	...	...
10. Newport News	5	...	...	9	...	...	...	54	6	...
11. Mathews County	5	1	...	2	...	...	...	...	8	...
12. Williamsburg	4	1	...	4	CW	2	...	59	...	...
13. Hopewell	22	1	3	...	...	...	...	38	...	...
14. Walkerton	11	1	...	...	...	...	...	270	...	...
15. Washingtons Birthplace	12	...	...	...	2	...	...	1	...	...
16. Brooke	1	...	...	...	...	...	...	1,800	...	...
17. Fort Belvoir	12	3	1	...	1	...	...	2,746	...	...
18. Central Loudoun Co.	24	...	...	...	...	1	...	...	...	...
19. Manassas-Bull Run	1	1	...	...	...	...	...	...	...	...
20. Chancellorsville	1	1	...	...	...	...	...	100	...	...
21. Lake Anna	3	...	...	...	...	...	...	14	...	...
22. Gordonsville	8	...	...	...	...	...	...	...	...	...
23. Charlottesville	2	...	...	...	...	...	...	...	...	...
24. Darlington Heights	23	...	...	...	...	...	...	...	...	...
25. Banister River WMAs	12	...	...	...	...	...	...	...	...	...
26. Lynchburg	8	CW	...	...	...	...	...	16	...	...
27. Danville	1	...	...	...	...	...	...	...	...	...
28. Calmes Neck	28	...	...	...	...	...	...	12	...	...
29. N. Shenandoah Valley	40	...	...	...	...	...	...	5	...	...
30. Shenandoah NP- Luray	28	...	CW	...	...	...	...	1	...	...
31. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...
32. Rockingham County	39	...	...	...	...	...	...	3	...	...
33. Augusta County	32	...	...	...	...	...	...	18	...	...
34. Waynesboro	20	...	...	...	...	...	...	...	...	...
35. Lexington	18	...	...	...	...	...	...	...	...	...
36. Peaks of Otter	...	...	...	...	...	...	...	...	...	...
37. Fincastle	18	1	...	...	...	...	...	...	...	...
38. Roanoke	2	...	...	...	...	...	...	1	...	...
39. Blacksburg	8	...	...	...	...	...	...	...	...	...
40. Giles County	3	...	...	...	...	...	...	2	...	...
41. Tazewell	8	...	...	...	...	...	...	...	...	...
42. Mount Rogers-Whitetop	7	...	...	...	...	...	...	...	...	...
43. Glade Spring	18	...	...	...	...	...	...	...	...	...
44. Blackford	20	...	...	...	...	...	...	18	...	...
45. Bristol	12	...	...	...	...	...	...	41	...	...
46. Breaks Interstate Park	2	...	...	...	...	...	...	2	...	...
47. Wise County	2	...	...	...	...	...	...	1	...	...
Totals	588	21	20	188	19	26	5	5,346	1,120	2

Species → Counts ↓	Killdeer	American Oystercatcher	American Avocet	Spotted Sandpiper	Greater Yellowlegs	Willet	Lesser Yellowlegs	Whimbrel	Marbled Godwit	Ruddy Turnstone	Red Knot	Sanderling
1. Chincoteague	2	57	...	...	51	12	5	...	4	9	...	13
2. Wachapreague	29	182	...	1	33	276	1	...	30	13	173	185
3. Nassawadox	28	445	...	1	21	293	8	13	246	17	...	132
4. Cape Charles	37	207	...	...	127	470	3	3	40	33	1	35
5. Chesapeake Bay	...	3	...	...	1	...	...	...	...	2	...	...
6. Little Creek	3	14	...	...	7	1	1	...	...	17	...	110
7. Back Bay	52	...	...	...	35	...	...	...	...	...	18	...
8. Nansemond River	21	...	3	...	...	...	...	...	...	...	...	2
9. Dismal Swamp NWR	4	...	...	...	...	...	...	...	...	...	...	...
10. Newport News	65	...	...	...	5	...	...	...	...	11	...	150
11. Mathews County	24	...	...	...	12	...	...	...	...	6	...	90
12. Williamsburg	48	...	...	...	1	...	...	...	...	...	...	...
13. Hopewell	240	...	...	...	1	...	...	...	...	...	...	...
14. Walkerton	341	...	...	...	4	...	22	...	...	...	...	...
15. Washingtons Birthplace	...	...	...	...	...	...	...	...	...	...	...	...
16. Brooke	28	...	...	...	...	...	...	...	...	...	...	...
17. Fort Belvoir	39	...	...	...	21	...	...	...	...	...	...	...
18. Central Loudoun Co.	29	...	...	...	...	...	...	...	...	...	...	...
19. Manassas-Bull Run	...	...	...	...	...	...	...	...	...	...	...	...
20. Chancellorsville	1	...	...	...	...	...	...	...	...	...	...	...
21. Lake Anna	3	...	...	...	...	...	...	...	...	...	...	...
22. Gordonsville	...	...	...	...	...	...	...	...	...	...	...	...
23. Charlottesville	4	...	...	...	...	...	...	...	...	...	...	...
24. Darlington Heights	1	...	...	...	...	...	...	...	...	...	...	...
25. Banister River WMAs	43	...	...	...	...	...	...	...	...	...	...	...
26. Lynchburg	14	...	...	...	...	...	...	...	...	...	...	...
27. Danville	4	...	...	...	...	...	...	...	...	...	...	...
28. Calmes Neck	14	...	...	...	...	...	...	...	...	...	...	...
29. N. Shenandoah Valley	19	...	...	...	...	...	...	...	...	...	...	...
30. Shenandoah NP- Luray	5	...	...	...	...	...	...	...	...	...	...	...
31. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...	...	...
32. Rockingham County	1	...	...	...	...	...	...	...	...	...	...	...
33. Augusta County	44	...	...	...	...	...	...	...	...	...	...	...
34. Waynesboro	5	...	...	...	...	...	...	...	...	...	...	...
35. Lexington	...	...	...	...	...	...	...	...	...	...	...	...
36. Peaks of Otter	...	...	...	...	...	...	...	...	...	...	...	...
37. Fincastle	1	...	...	...	...	...	...	...	...	...	...	...
38. Roanoke	17	...	...	...	...	...	...	...	...	...	...	...
39. Blacksburg	13	...	...	...	...	...	...	...	...	...	...	...
40. Giles County	2	...	...	...	...	...	...	...	...	...	...	...
41. Tazewell	12	...	...	...	...	...	...	...	...	...	...	...
42. Mount Rogers-Whitetop	36	...	...	...	...	...	...	...	...	...	...	...
43. Glade Spring	17	...	...	...	...	...	...	...	...	...	...	...
44. Blackford	4	...	...	...	...	...	...	...	...	...	...	...
45. Bristol	40	...	...	...	...	...	...	...	...	...	...	...
46. Breaks Interstate Park	...	...	...	...	...	...	...	...	...	...	...	...
47. Wise County	3	...	...	...	...	...	...	...	...	...	...	...
Totals	1,293	908	3	2	319	1,052	40	16	320	108	192	717

Species → Counts ↓	Western Sandpiper	Least Sandpiper	Purple Sandpiper	Dunlin	peep, sp.	Short-billed Dowitcher	Long-billed Dowitcher	Wilson's Snipe	American Woodcock	Laughing Gull	Bonaparte's Gull
1. Chincoteague	941	...	...	1	7	11	5	...
2. Wachapreague	1	8	...	1,675	500	8	...	...	1	...	16
3. Nassawadox	21	...	...	3,472	...	101	...	2	2	...	...
4. Cape Charles	4	1	19	4,401	...	142	...	14	41	1	311
5. Chesapeake Bay	22	...	...	...	...	...	...	18	3,100
6. Little Creek	14	93	...	...	...	...	1	183	2,984
7. Back Bay	...	1	...	...	...	5	30	64	3	1	4
8. Nansemond River	53	...	...	...	...	1	2,122	...
9. Dismal Swamp NWR	11	...	...
10. Newport News	55	...	...	...	...	1	23	334
11. Mathews County	428	...	...	...	...	4	2	180
12. Williamsburg	22	...	...	...	...	1	5	30
13. Hopewell	...	40	...	...	...	...	...	8	2	300	1
14. Walkerton	202	18	...	...
15. Washingtons Birthplace	16	4	...	...
16. Brooke	1	...	386	...
17. Fort Belvoir	6	4	3	1
18. Central Loudoun Co.	22	...	...	...
19. Manassas-Bull Run
20. Chancellorsville
21. Lake Anna	1	...	15
22. Gordonsville	8	...	...	...
23. Charlottesville	3	...	...
24. Darlington Heights	2	...	...
25. Banister River WMAs	10	6	...	31
26. Lynchburg
27. Danville
28. Calmes Neck	6	...	...	...
29. N. Shenandoah Valley	10	...	...	...
30. Shenandoah NP- Luray	17	2	...	...
31. Big Flat Mountain	1	...	...
32. Rockingham County	5	...	...	...
33. Augusta County	3	...	...	...
34. Waynesboro
35. Lexington	2	...	...	...
36. Peaks of Otter
37. Fincastle	1	...	...	...
38. Roanoke
39. Blacksburg	5	...	...	...
40. Giles County
41. Tazewell	2	...	...	...
42. Mount Rogers-Whitetop
43. Glade Spring	5	...	...	...
44. Blackford	4	...	...	...
45. Bristol	4	...	...	1
46. Breaks Interstate Park
47. Wise County
Totals	26	50	55	11,140	500	256	31	424	120	3,049	7,008

Species → Counts ↓	Ring-billed Gull	Herring Gull	Lesser Black-backed Gull	Great Black-backed Gull	Black-legged Kittiwake	gull, sp.	Forster's Tern	Royal Tern	Black Skimmer	Parasitic Jaeger
1. Chincoteague	785	579	7	131	...	...	46	...	...	...
2. Wachapreague	978	827	...	65	...	...	454	...	...	...
3. Nassawadox	535	175	...	46	...	...	1	...	...	...
4. Cape Charles	1,244	1,274	1	486	...	...	2	...	...	...
5. Chesapeake Bay	2,250	275	5	380	...	...	14	...	...	...
6. Little Creek	8,476	6,652	8	387	3	...	254	...	4	1
7. Back Bay	1,000	208	39	135	...	...	164	...	...	...
8. Nansemond River	1,462	1,771	...	53	...	...	...	...	...	...
9. Dismal Swamp NWR	1,570	150	...	...	...	...	...	...	...	...
10. Newport News	2,507	243	...	142	...	35	47	...	...	...
11. Mathews County	1,169	388	...	139	...	127	263	5	...	...
12. Williamsburg	905	63	2	55	...	...	7	...	...	...
13. Hopewell	6,850	455	...	8	...	157	...	...	...	...
14. Walkerton	247	2	...	...	...	2	...	...	...	...
15. Washingtons Birthplace	344	1	...	6	...	...	...	...	...	...
16. Brooke	3,600	68	...	16	...	...	...	...	...	...
17. Fort Belvoir	7,102	840	2	241	...	1,104	...	...	...	...
18. Central Loudoun Co.	657	42	...	...	...	...	...	...	...	...
19. Manassas-Bull Run	201	...	...	...	...	...	...	...	...	...
20. Chancellorsville	47	...	...	...	...	...	...	...	...	...
21. Lake Anna	3,574	155	...	91	...	...	...	...	...	...
22. Gordonsville	...	...	...	...	...	...	...	...	...	...
23. Charlottesville	...	...	...	...	...	...	...	...	...	...
24. Darlington Heights	3	...	...	...	...	...	...	...	...	...
25. Banister River WMAs	541	2	...	...	...	...	...	...	...	...
26. Lynchburg	284	...	...	...	...	...	...	...	...	...
27. Danville	...	...	...	...	...	...	...	...	...	...
28. Calmes Neck	...	...	...	...	...	...	...	...	...	...
29. N. Shenandoah Valley	3	...	...	...	...	...	...	...	...	...
30. Shenandoah NP- Luray	...	...	...	...	...	...	...	...	...	...
31. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...
32. Rockingham County	...	...	...	...	...	...	...	...	...	...
33. Augusta County	...	...	...	...	...	...	...	...	...	...
34. Waynesboro	...	...	...	...	...	...	...	...	...	...
35. Lexington	...	...	...	...	...	...	...	...	...	...
36. Peaks of Otter	...	...	...	...	...	...	...	...	...	...
37. Fincastle	1	...	...	...	...	...	...	...	...	...
38. Roanoke	178	...	...	...	...	...	...	...	...	...
39. Blacksburg	1,577	...	...	...	...	...	...	...	...	...
40. Giles County	8	...	...	...	...	...	...	...	...	...
41. Tazewell	...	...	...	...	...	...	...	...	...	...
42. Mount Rogers-Whitetop	...	...	...	...	...	...	...	...	...	...
43. Glade Spring	...	...	...	...	...	...	...	...	...	...
44. Blackford	...	...	...	...	...	...	...	...	...	...
45. Bristol	546	...	...	...	...	...	...	...	...	...
46. Breaks Interstate Park	...	...	...	...	...	...	...	...	...	...
47. Wise County	...	...	...	...	...	...	...	...	...	...
Totals	48,644	14,170	64	2,381	3	1,425	1,252	5	4	1

Species → Counts ↓	Rock Pigeon	Eurasian Collared-Dove	Mourning Dove	Barn Owl	Eastern Screech-Owl	Great Horned Owl	Barred Owl	Short-eared Owl	large owl, sp.	Northern Saw-whet Owl	Ruby-throated Hummingbird	Rufous Hummingbird
1. Chincoteague	373	...	296	...	29	10	...	1	...	...	...	...
2. Wachapreague	231	...	201	...	2	2	...	...	...	...	...	...
3. Nassawadox	81	...	283	...	5	3	1	...	...	...	...	...
4. Cape Charles	542	9	448	...	10	16	...	...	...	...	...	...
5. Chesapeake Bay	2	...	...	...	...	...	...	...	...	...	...	...
6. Little Creek	722	...	705	...	12	9	2	...	...	...	1	...
7. Back Bay	224	3	269	1	20	6	4	...	...	...	...	...
8. Nansemond River	45	...	68	...	...	1	1	...	...	...	...	...
9. Dismal Swamp NWR	...	...	64	...	16	4	18	...	...	...	...	...
10. Newport News	1,083	...	726	...	...	4	...	...	...	...	...	...
11. Mathews County	16	...	635	...	1	6	1	...	...	...	...	...
12. Williamsburg	89	...	151	...	6	10	2	...	...	...	...	...
13. Hopewell	102	...	644	...	2	6	7	...	...	...	...	...
14. Walkerton	43	...	565	...	2	8	7	...	...	...	...	...
15. Washingtons Birthplace	9	...	273	3	1	8	4	...	...	...	...	...
16. Brooke	22	...	280	...	...	...	1	...	...	...	...	...
17. Fort Belvoir	1,066	...	1,026	...	22	19	30	...	...	...	...	...
18. Central Loudoun Co.	387	...	414	...	2	3	13	2	...	...	...	...
19. Manassas-Bull Run	129	...	330	...	...	2	1	1	...	...	...	...
20. Chancellorsville	15	...	46	...	4	...	...	...	...	...	...	...
21. Lake Anna	18	...	195	...	2	3	1	...	...	...	...	...
22. Gordonsville	129	...	215	2	...	4	...	...	...	...	...	...
23. Charlottesville	119	...	283	...	1	7	2	...	...	...	...	...
24. Darlington Heights	77	...	486	...	1	1	2	...	...	...	...	...
25. Banister River WMAs	17	...	206	...	3	8	7	...	...	...	...	...
26. Lynchburg	123	...	208	...	14	11	1	...	...	...	...	2
27. Danville	52	...	142	...	...	...	1	...	...	...	...	...
28. Calmes Neck	496	...	955	2	17	5	9	...	...	...	...	...
29. N. Shenandoah Valley	801	...	2,113	1	22	2	2	1	...	1	...	1
30. Shenandoah NP- Luray	555	...	786	6	12	1	...	...	...	...	...	...
31. Big Flat Mountain	...	...	...	...	1	...	...	...	...	...	...	...
32. Rockingham County	630	...	410	...	2	2	...	...	...	...	...	1
33. Augusta County	275	...	529	...	1	1	1	3	...	...	...	...
34. Waynesboro	121	...	554	1	...	1	1	...	...	...	...	...
35. Lexington	230	...	239	CW	13	1	...	...	...	...	...	...
36. Peaks of Otter	...	...	...	...	4	...	...	...	...	...	...	...
37. Fincastle	194	...	290	...	7	...	...	...	...	...	...	...
38. Roanoke	930	...	244	...	2	...	...	...	...	...	...	...
39. Blacksburg	267	5	726	1	3	8	1	...	1	...	...	...
40. Giles County	20	...	34	...	4	...	...	...	...	...	...	...
41. Tazewell	176	...	273	...	...	...	...	...	...	...	...	...
42. Mount Rogers-Whitetop	46	...	277	...	...	...	...	...	...	...	...	...
43. Glade Spring	665	...	602	1	2	...	...	...	...	...	...	...
44. Blackford	32	...	287	...	5	4	...	...	...	...	...	...
45. Bristol	425	...	339	...	10	6	...	...	...	1	...	...
46. Breaks Interstate Park	68	...	88	...	...	...	2	...	...	...	...	...
47. Wise County	147	...	171	...	2	...	...	...	...	...	...	...
Totals	11,794	17	18,076	18	262	182	122	8	1	2	1	4

Species → Counts ↓	Belted Kingfisher	Red-headed Woodpecker	Red-bellied Woodpecker	Yellow-bellied Sapsucker	Downy Woodpecker	Hairy Woodpecker	Northern (Yellow-shafted) Flicker	Pileated Woodpecker	Eastern Phoebe	Ash-throated Flycatcher	Western Kingbird
1. Chincoteague	23	...	41	1	34	4	45	8	18	...	...
2. Wachapreague	20	1	23	3	17	4	41	7	15	...	...
3. Nassawadox	11	1	25	6	21	5	49	16	11	1	...
4. Cape Charles	28	1	68	17	43	14	79	12	25	...	...
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...	...
6. Little Creek	30	...	43	7	50	8	41	17	4	...	...
7. Back Bay	19	...	31	3	36	5	56	10	9	...	...
8. Nansemond River	1	...	9	...	4	2	11	2	3	...	...
9. Dismal Swamp NWR	14	...	47	12	56	40	29	38	2	...	...
10. Newport News	44	...	35	10	21	6	45	7	1	...	...
11. Mathews County	44	...	86	11	54	5	73	19	5	...	1
12. Williamsburg	26	12	75	10	31	12	56	28	6	...	...
13. Hopewell	29	11	114	30	59	13	108	32	12	...	...
14. Walkerton	21	3	71	17	64	18	175	26	28	...	...
15. Washingtons Birthplace	13	...	45	16	33	5	87	20	15	...	...
16. Brooke	33	3	86	9	68	12	55	37	4	...	...
17. Fort Belvoir	79	...	528	63	491	121	381	147	12	...	...
18. Central Loudoun Co.	26	3	170	24	167	26	112	31	3	...	...
19. Manassas-Bull Run	15	...	85	6	121	11	50	15	...	...	...
20. Chancellorsville	1	4	39	2	17	4	8	12	2	...	...
21. Lake Anna	6	4	23	2	15	1	17	10	4	...	...
22. Gordonsville	5	3	30	8	16	5	37	14	1	...	...
23. Charlottesville	28	...	148	34	137	17	91	54	21	...	...
24. Darlington Heights	12	2	28	1	28	8	19	19	6	...	...
25. Banister River WMAs	2	8	33	12	30	5	24	12	8	...	...
26. Lynchburg	23	2	79	18	86	6	28	36	9	...	...
27. Danville	1	3	33	7	19	5	18	5	...	...	...
28. Calmes Neck	35	20	197	36	210	38	87	63	2	...	...
29. N. Shenandoah Valley	99	24	166	37	196	37	93	60	1	...	...
30. Shenandoah NP- Luray	22	2	68	14	77	10	24	26	8	...	...
31. Big Flat Mountain	...	...	2	1	2	...	...	1	2	...	...
32. Rockingham County	11	8	63	4	55	9	7	11	1	...	...
33. Augusta County	16	...	51	4	44	9	21	10	4	...	...
34. Waynesboro	8	8	49	3	50	8	23	16	5	...	...
35. Lexington	23	...	45	12	61	10	35	33	12	...	...
36. Peaks of Otter	2	...	29	6	43	12	12	20	4	...	...
37. Fincastle	17	...	27	9	29	5	23	23	3	...	...
38. Roanoke	10	...	53	19	62	8	21	16	1	...	...
39. Blacksburg	30	10	89	20	132	33	33	47	26	...	...
40. Giles County	6	...	8	4	25	6	6	10	2	...	...
41. Tazewell	10	...	9	...	22	5	9	5	3	...	...
42. Mount Rogers-Whitetop	1	...	3	...	15	...	2	1	3	...	...
43. Glade Spring	13	1	27	7	31	4	19	4	9	...	...
44. Blackford	12	...	23	5	29	6	42	11	1	...	...
45. Bristol	19	...	40	9	36	10	25	15	11	...	...
46. Breaks Interstate Park	8	...	10	4	24	2	20	24	10	...	...
47. Wise County	4	...	9	5	23	8	11	5	2	...	...
Totals	900	134	2,963	528	2,884	582	2,248	1,035	334	1	1

Species → Counts ↓	Loggerhead Shrike	White-eyed Vireo	Blue-headed Vireo	Blue Jay	American Crow	Fish Crow	crow, sp.	Common Raven	Horned Lark	Tree Swallow
1. Chincoteague	...	...	...	37	320	24	...	...	9	...
2. Wachapreague	...	...	...	38	307	22	...	...	3	45
3. Nassawadox	...	...	...	35	430	4	...	...	3	...
4. Cape Charles	...	...	4	88	235	3	...	...	40	5
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...
6. Little Creek	...	...	...	125	358	255	...	...	...	...
7. Back Bay	...	1	3	41	139	19	...	...	...	29
8. Nansemond River	...	...	1	17	41	251	...	...	...	...
9. Dismal Swamp NWR	...	...	4	21	5	2	...	...	...	...
10. Newport News	...	...	...	137	270	...	...	...	...	...
11. Mathews County	...	...	...	109	440	1	3	...	...	...
12. Williamsburg	...	...	...	127	153	...	...	...	...	...
13. Hopewell	...	...	...	160	171	2	21	...	26	...
14. Walkerton	...	...	...	50	633	...	3	...	87	...
15. Washingtons Birthplace	...	...	...	84	186	...	...	...	65	...
16. Brooke	...	...	...	163	251	7	...	...	...	...
17. Fort Belvoir	...	...	...	987	2,039	1,148	432	...	...	...
18. Central Loudoun Co.	1	...	...	199	875	216	217	17	...	...
19. Manassas-Bull Run	...	...	...	183	365	46	260	...	...	...
20. Chancellorsville	...	...	...	78	141	...	...	...	...	...
21. Lake Anna	...	...	...	208	195	2	...	1	...	...
22. Gordonsville	...	...	...	121	165	...	...	...	...	...
23. Charlottesville	...	...	...	386	556	42	...	7	...	...
24. Darlington Heights	...	...	...	110	402	...	...	...	...	...
25. Banister River WMAs	...	...	...	100	260	1	...	...	...	...
26. Lynchburg	...	...	...	165	425	10	...	12	30	...
27. Danville	...	...	...	71	121	...	...	...	...	...
28. Calmes Neck	2	...	...	446	791	...	2	18	...	...
29. N. Shenandoah Valley	2	...	...	992	1,579	3	...	13	29	...
30. Shenandoah NP- Luray	...	...	...	236	1,589	109	...	43	36	...
31. Big Flat Mountain	...	...	...	2	12	...	...	...	...	...
32. Rockingham County	...	...	...	195	417	15	...	5	160	...
33. Augusta County	...	...	...	411	813	37	...	7	21	...
34. Waynesboro	...	...	...	177	329	10	...	7	64	...
35. Lexington	...	...	...	236	816	11	...	12	...	...
36. Peaks of Otter	...	...	...	52	82	...	...	12	...	...
37. Fincastle	...	...	...	322	652	...	...	3	2	...
38. Roanoke	...	...	...	169	485	...	...	1	...	...
39. Blacksburg	1	...	...	434	909	...	...	6	65	...
40. Giles County	...	...	...	42	99	...	...	3	...	...
41. Tazewell	...	...	...	77	588	...	...	10	...	...
42. Mount Rogers-Whitetop	1	...	...	21	416	...	...	4	...	...
43. Glade Spring	2	...	...	142	399	...	...	3	75	...
44. Blackford	5	...	...	94	1,045	...	...	22	...	...
45. Bristol	2	...	...	171	823	...	...	7	...	...
46. Breaks Interstate Park	1	...	...	84	116	...	...	2	12	...
47. Wise County	...	...	...	127	1,016	...	...	2	CW	...
Totals	17	1	12	8,270	22,459	2,240	938	217	727	79

Species → Counts ↓	Carolina Chickadee	Black-capped Chickadee	chickadee, sp.	Tufted Titmouse	Red-breasted Nuthatch	White-breasted Nuthatch	Brown-headed Nuthatch	Brown Creeper	Carolina Wren	House Wren
1. Chincoteague	151	...	...	51	...	...	44	6	157	1
2. Wachapreague	158	...	...	77	1	...	17	4	100	4
3. Nassawadox	127	...	...	23	1	...	35	9	158	4
4. Cape Charles	155	...	...	35	2	1	8	11	217	9
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...
6. Little Creek	231	...	...	51	...	8	64	11	105	...
7. Back Bay	150	...	...	18	2	12	21	5	88	10
8. Nansemond River	36	...	...	8	...	...	2	...	34	...
9. Dismal Swamp NWR	128	...	...	12	2	54	...	17	102	1
10. Newport News	215	...	...	96	...	14	...	16	101	1
11. Mathews County	231	...	...	86	...	21	41	5	144	...
12. Williamsburg	148	...	...	66	...	42	42	3	139	...
13. Hopewell	177	...	...	75	...	43	1	18	214	4
14. Walkerton	120	...	...	98	1	36	5	...	154	...
15. Washingtons Birthplace	68	...	...	76	2	36	...	7	147	1
16. Brooke	173	...	...	135	...	73	...	9	191	...
17. Fort Belvoir	1,476	...	...	934	...	565	...	54	1,034	...
18. Central Loudoun Co.	469	...	...	246	2	160	...	49	205	...
19. Manassas-Bull Run	354	...	...	225	1	127	...	7	163	...
20. Chancellorsville	71	...	...	57	...	34	...	5	44	...
21. Lake Anna	59	...	...	57	...	11	...	3	32	...
22. Gordonsville	62	2	...	52	...	16	...	1	28	...
23. Charlottesville	409	...	...	300	1	129	...	14	337	...
24. Darlington Heights	100	...	...	64	...	19	...	5	54	...
25. Banister River WMAs	76	...	...	49	...	10	9	8	88	...
26. Lynchburg	246	...	...	206	...	68	...	15	182	...
27. Danville	121	...	...	78	...	14	2	...	39	...
28. Calmes Neck	662	18	...	496	2	420	...	29	228	...
29. N. Shenandoah Valley	1,045	...	...	494	3	303	...	28	300	2
30. Shenandoah NP- Luray	291	1	...	176	...	119	...	16	120	...
31. Big Flat Mountain	22	...	...	8	...	7	...	5	11	...
32. Rockingham County	121	1	6	97	...	57	...	4	54	...
33. Augusta County	152	1	...	97	...	42	...	9	72	...
34. Waynesboro	170	...	...	100	...	51	...	2	67	...
35. Lexington	111	25	34	176	2	57	...	4	123	...
36. Peaks of Otter	72	1	...	49	...	47	...	1	28	...
37. Fincastle	124	2	...	88	...	38	...	1	102	1
38. Roanoke	133	1	...	114	...	78	...	6	40	...
39. Blacksburg	296	2	77	280	13	170	...	17	244	...
40. Giles County	33	2	1	23	...	15	...	4	37	...
41. Tazewell	35	...	...	50	2	29	...	...	35	...
42. Mount Rogers-Whitetop	53	4	...	19	...	17	...	...	13	...
43. Glade Spring	91	1	...	51	...	29	...	3	93	...
44. Blackford	72	...	...	41	...	25	...	1	51	...
45. Bristol	147	...	...	72	...	37	...	5	131	2
46. Breaks Interstate Park	52	10	...	38	1	56	...	...	41	...
47. Wise County	74	...	...	70	3	38	...	1	44	...
Totals	9,467	71	118	5,714	41	3,128	291	418	6,091	40

Species → Counts ↓	Winter Wren	Sedge Wren	Marsh Wren	Golden-crowned Kinglet	Ruby-crowned Kinglet	kinglet, sp.	Blue-gray Gnatcatcher	Eastern Bluebird	Hermit Thrush	American Robin	Gray Catbird
1. Chincoteague	27	3	3	37	27	...	1	131	45	498	13
2. Wachapreague	12	...	...	25	10	...	...	235	21	359	9
3. Nassawadox	14	2	2	16	11	...	...	266	22	80	6
4. Cape Charles	23	5	1	52	44	...	...	172	53	146	14
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...	...
6. Little Creek	6	...	...	29	16	...	...	19	15	1,285	...
7. Back Bay	12	15	10	14	39	...	...	86	14	326	22
8. Nansemond River	1	...	...	...	6	...	...	22	2	129	...
9. Dismal Swamp NWR	44	...	...	62	74	...	...	17	93	200	68
10. Newport News	3	...	...	22	11	...	...	64	4	174	1
11. Mathews County	10	...	...	9	26	...	...	714	14	1,523	2
12. Williamsburg	3	...	...	10	33	...	...	144	11	129	2
13. Hopewell	36	...	...	41	49	...	1	262	42	233	3
14. Walkerton	16	...	...	23	19	...	...	230	15	411	...
15. Washingtons Birthplace	9	...	...	3	26	...	...	104	33	178	4
16. Brooke	4	...	...	9	7	...	...	182	14	149	3
17. Fort Belvoir	74	...	1	134	65	...	1	487	141	4,097	3
18. Central Loudoun Co.	16	...	...	58	11	...	...	451	6	302	1
19. Manassas-Bull Run	6	...	...	13	5	...	...	155	9	143	...
20. Chancellorsville	...	...	...	8	...	...	...	95	...	45	...
21. Lake Anna	1	...	...	13	3	...	...	65	4	96	...
22. Gordonsville	2	...	...	4	2	...	...	104	3	150	1
23. Charlottesville	9	...	...	28	30	...	...	317	14	153	1
24. Darlington Heights	2	...	...	18	13	...	...	267	3	37	...
25. Banister River WMAs	7	...	...	14	31	...	...	242	14	49	...
26. Lynchburg	2	...	...	26	14	...	...	333	10	29	...
27. Danville	3	...	...	1	5	...	...	78	2	75	...
28. Calmes Neck	10	...	...	47	14	...	...	454	6	30	1
29. N. Shenandoah Valley	10	...	1	102	56	...	...	781	26	610	1
30. Shenandoah NP- Luray	10	...	...	25	20	...	...	315	18	252	...
31. Big Flat Mountain	1	...	...	3	...	...	...	12	2	...	...
32. Rockingham County	4	...	...	17	1	...	...	137	3	164	...
33. Augusta County	6	...	1	10	3	...	...	197	...	127	...
34. Waynesboro	3	...	...	5	4	...	...	125	1	3	...
35. Lexington	1	...	...	60	10	...	...	167	9	70	...
36. Peaks of Otter	2	...	...	2	1	...	...	31	1	1	...
37. Fincastle	1	...	...	15	8	...	...	171	6	45	...
38. Roanoke	4	...	...	11	9	...	...	114	1	79	...
39. Blacksburg	42	...	...	50	19	1	...	240	12	112	1
40. Giles County	6	...	...	12	...	...	...	47	1	3	...
41. Tazewell	...	...	...	2	...	...	...	51	...	13	...
42. Mount Rogers-Whitetop	1	...	...	18	...	...	...	52	1	3	...
43. Glade Spring	...	...	...	9	1	...	...	98	1	31	...
44. Blackford	4	...	...	17	...	...	...	67	4	786	...
45. Bristol	6	...	...	51	7	...	...	93	4	34	...
46. Breaks Interstate Park	7	...	...	5	2	...	...	38	4	75	1
47. Wise County	...	...	...	16	...	...	...	41	1	165	...
Totals	460	25	19	1,146	732	1	3	8,473	705	13,599	157

Species → Counts ↓	Northern Mockingbird	Brown Thrasher	European Starling	American Pipit	Cedar Waxwing	Oranged-crowned Warbler	Yellow-rumped (Myrtle) Warbler	Yellow-throated Warbler	Pine Warbler	Prairie Warbler	Palm Warbler
1. Chincoteague	42	15	1,120	103	26	...	2,422	...	13	...	7
2. Wachapreague	64	2	1,300	...	6	...	586	...	3	...	13
3. Nassawadox	57	3	725	100	2	1	1,172	...	7	...	8
4. Cape Charles	75	15	957	110	32	2	1,084	...	19	...	9
5. Chesapeake Bay	...	...	10	...	...	...	...	...	...	...	...
6. Little Creek	56	5	1,782	24	458	2	281	1	8	...	...
7. Back Bay	54	7	1,232	7	91	...	1,786	...	6	...	8
8. Nansemond River	12	2	295	...	146	...	59	...	3	...	1
9. Dismal Swamp NWR	4	4	35	...	3	1	3	...	4	...	...
10. Newport News	81	15	925	...	13	...	359	...	4	...	1
11. Mathews County	80	13	1,213	...	516	...	987	...	7	...	5
12. Williamsburg	72	7	390	...	116	...	259	...	8	...	...
13. Hopewell	73	6	558	292	343	...	55	...	2	...	7
14. Walkerton	43	8	557	21	54	1	12	...	3	...	...
15. Washingtons Birthplace	13	10	47	11	170	...	125	...	...	...	...
16. Brooke	77	2	1,900	...	78	...	38	...	1	...	...
17. Fort Belvoir	239	9	4,643	1	389	...	58	1	1	...	...
18. Central Loudoun Co.	150	2	3,618	19	66	...	27	...	...	...	...
19. Manassas-Bull Run	85	...	1,443	...	60	...	26	...	1	...	...
20. Chancellorsville	12	...	901	...	...	...	20	...	20	...	...
21. Lake Anna	20	...	379	...	8	...	5	...	1	...	...
22. Gordonsville	48	...	572	...	7	...	6	...	...	...	...
23. Charlottesville	186	...	1,364	...	41	...	32	...	1	...	...
24. Darlington Heights	58	...	479	...	18	...	5	...	...	...	...
25. Banister River WMAs	33	2	103	15	8	...	40	...	3	...	...
26. Lynchburg	142	2	588	...	63	...	9	...	...	...	...
27. Danville	31	...	213	...	86	...	...	...	...	...	...
28. Calmes Neck	172	...	12,825	...	111	...	27	...	...	...	...
29. N. Shenandoah Valley	280	...	11,685	...	400	...	153	...	2	...	1
30. Shenandoah NP- Luray	90	...	3,391	...	30	...	112	...	3	1	...
31. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...	...
32. Rockingham County	77	...	4,334	110	25	...	19	...	...	...	1
33. Augusta County	183	...	2,820	...	37	...	98	...	...	...	...
34. Waynesboro	66	...	1,093	...	CW	...	...	...	...	...	...
35. Lexington	56	CW	637	...	19	...	58	...	...	...	...
36. Peaks of Otter	3	...	...	...	...	...	...	...	...	...	...
37. Fincastle	114	...	1,115	...	...	...	6	...	1	...	...
38. Roanoke	56	...	704	...	...	...	5	...	...	...	...
39. Blacksburg	143	2	1,546	2	123	...	22	...	...	...	1
40. Giles County	10	...	151	...	...	...	1	...	...	...	...
41. Tazewell	14	1	797	...	32	...	...	...	...	...	...
42. Mount Rogers-Whitetop	6	...	317	...	...	...	...	...	...	...	...
43. Glade Spring	74	1	3,979	3	53	...	11	...	...	...	...
44. Blackford	64	...	3,879	...	1	...	135	...	...	...	...
45. Bristol	83	...	2,622	...	90	...	47	...	...	...	...
46. Breaks Interstate Park	2	3	199	...	...	...	25	...	...	...	...
47. Wise County	19	2	661	...	33	...	11	...	...	...	...
Totals	3,319	138	80,104	818	3,754	7	10,186	2	121	1	62

Species → Counts ↓	Black-and-white Warbler	Common Yellowthroat	warbler, sp.	Western Tanager	Green-tailed Towhee	Eastern Towhee	American Tree Sparrow	Chipping Sparrow	Clay-colored Sparrow	Field Sparrow	Vesper Sparrow
1. Chincoteague	...	1	...	...	...	29	...	40	...	31	3
2. Wachapreague	8	2	56	...	28	...
3. Nassawadox	1	...	...	...	...	10	...	141	...	69	...
4. Cape Charles	...	3	...	...	...	44	...	139	...	56	...
5. Chesapeake Bay
6. Little Creek	23	...	1	...	...	...
7. Back Bay	...	5	...	1	...	33	...	112	...	8	...
8. Nansemond River	15	...	...	...	...	...
9. Dismal Swamp NWR	...	2	...	...	...	32	...	...	...	5	1
10. Newport News	12	...	64	...	4	...
11. Mathews County	29	...	131	...	33	...
12. Williamsburg	...	1	...	...	...	35	...	157	...	22	...
13. Hopewell	22	...	34	...	11	...
14. Walkerton	16	...	63	...	46	...
15. Washingtons Birthplace	...	1	...	...	...	23	...	...	1	49	...
16. Brooke	16	1	13	...	46	...
17. Fort Belvoir	...	3	...	...	...	86	9	2	...	228	...
18. Central Loudoun Co.	6	5	1	...	113	...
19. Manassas-Bull Run	2	...	...	...	15	...
20. Chancellorsville	3	...	...	...	3	...
21. Lake Anna	5	...	15	...	30	...
22. Gordonsville	1	1	...	...	...	5	...
23. Charlottesville	6	...	22	...	89	...
24. Darlington Heights	9	1	...	...	16	...
25. Banister River WMAs	19	...	16	...	14	...
26. Lynchburg	16	...	6	...	30	...
27. Danville	2	1	2	...	...	...
28. Calmes Neck	2	...	1	...	39	...
29. N. Shenandoah Valley	1	9	1	...	51	...
30. Shenandoah NP- Luray	2	...	...	1	16	...
31. Big Flat Mountain
32. Rockingham County	1	...	...	...	3	...
33. Augusta County	...	1	...	...	...	3	1	...	...	22	...
34. Waynesboro	4	1	2	...	7	...
35. Lexington	20	...	...	...	41	...
36. Peaks of Otter	1	...	...	...	1	...
37. Fincastle	23	...	...	...	30	...
38. Roanoke	...	1	...	...	...	7	...	...	...	...	...
39. Blacksburg	1	...	...	50	1	1	...	33	...
40. Giles County	3	...	...	...	23	...
41. Tazewell	6	...	...	...	17	...
42. Mount Rogers-Whitetop	9	...	...	...	47	...
43. Glade Spring	16	...	...	...	30	...
44. Blackford	27	...	2	...	14	...
45. Bristol	40	...	...	...	2	...
46. Breaks Interstate Park	17	...	1	...	7	...
47. Wise County	16	...	...	...	1	...
Totals	1	18	1	1	1	750	31	1,023	2	1,335	4

Species → Counts ↓	Savannah Sparrow	Savannah (Ipswich) Sparrow	Nelson's Sharp-tailed Sparrow	Saltmarsh Sharp-tailed Sparrow	sharp-tailed sparrow, sp.	Seaside Sparrow	Fox Sparrow	Song Sparrow	Lincoln's Sparrow	Swamp Sparrow
1. Chincoteague	124	...	27	11	7	2	19	308	1	207
2. Wachapreague	1	2	...	...	...	...	5	91	...	14
3. Nassawadox	141	1	3	5	1	7	3	159	...	58
4. Cape Charles	74	5	7	...	...	1	45	358	...	83
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...
6. Little Creek	5	1	...	...	1	...	9	46	...	8
7. Back Bay	61	2	...	...	...	...	5	157	1	117
8. Nansemond River	9	...	...	...	...	...	10	53	...	10
9. Dismal Swamp NWR	19	...	...	...	...	...	6	44	...	65
10. Newport News	11	...	...	...	...	...	2	98	...	4
11. Mathews County	3	...	...	...	...	...	3	158	...	5
12. Williamsburg	20	1	...	...	...	...	...	395	...	39
13. Hopewell	167	...	...	...	...	...	4	312	...	23
14. Walkerton	8	...	...	...	...	...	1	308	...	43
15. Washingtons Birthplace	72	...	...	...	...	...	4	519	...	60
16. Brooke	1	...	...	...	...	...	1	234	...	11
17. Fort Belvoir	36	...	...	...	...	...	42	1,689	...	295
18. Central Loudoun Co.	5	...	...	...	...	...	6	300	...	45
19. Manassas-Bull Run	4	...	...	...	...	...	3	187	...	8
20. Chancellorsville	...	...	...	...	...	...	...	44	...	5
21. Lake Anna	2	...	...	...	...	...	1	57	1	12
22. Gordonsville	2	...	...	...	...	...	...	58	...	5
23. Charlottesville	8	...	...	...	...	...	2	300	...	15
24. Darlington Heights	12	...	...	...	...	...	3	63	...	3
25. Banister River WMAs	18	...	...	...	...	...	10	84	...	3
26. Lynchburg	...	...	...	...	...	...	2	74	...	...
27. Danville	...	...	...	...	...	...	...	9	...	...
28. Calmes Neck	...	...	...	...	...	...	...	271	...	18
29. N. Shenandoah Valley	10	...	...	...	...	...	2	276	...	51
30. Shenandoah NP- Luray	2	...	...	...	...	...	1	210	...	7
31. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...
32. Rockingham County	...	...	...	...	...	...	...	61	...	...
33. Augusta County	5	...	...	...	...	...	...	153	...	7
34. Waynesboro	7	...	...	...	...	...	...	121	1	4
35. Lexington	...	...	...	...	...	...	2	80	...	1
36. Peaks of Otter	...	...	...	...	...	...	...	12	...	...
37. Fincastle	...	...	...	...	...	...	1	64	...	2
38. Roanoke	...	...	...	...	...	...	...	57	...	1
39. Blacksburg	10	...	...	...	...	...	3	356	...	9
40. Giles County	...	...	...	...	...	...	1	113	...	...
41. Tazewell	...	...	...	...	...	...	...	121	...	...
42. Mount Rogers-Whitetop	...	...	...	...	...	...	...	48	...	1
43. Glade Spring	4	...	...	...	...	...	...	219	...	...
44. Blackford	2	...	...	...	...	...	4	227	...	2
45. Bristol	1	...	...	...	...	...	6	109	...	3
46. Breaks Interstate Park	...	...	...	...	...	...	1	83	...	1
47. Wise County	...	...	...	...	...	...	2	72	...	...
Totals	844	12	37	16	9	10	209	8,758	4	1,245

Species → Counts ↓	White-throated Sparrow	White-crowned Sparrow	sparrow, sp.	Dark-eyed (Slate-colored) Junco	Lapland Longspur	Snow Bunting	Northern Cardinal	Red-winged Blackbird	Eastern Meadowlark	Rusty Blackbird
1. Chincoteague	884	1	...	294	...	3	134	2,059	1,120	...
2. Wachapreague	355	...	...	300	...	...	70	2,551	50	1
3. Nassawadox	455	2	...	214	...	...	86	4,287	23	11
4. Cape Charles	450	...	...	163	...	...	200	1,614	136	1
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...
6. Little Creek	195	...	...	76	...	3	103	639	...	...
7. Back Bay	408	...	...	57	...	...	104	2,576	62	...
8. Nansemond River	70	1	...	134	...	...	31	67	2	30
9. Dismal Swamp NWR	281	...	...	98	...	...	28	9,217	2	7
10. Newport News	456	...	18	239	...	...	149	86	10	...
11. Mathews County	484	...	...	1,419	...	...	272	1,452	82	...
12. Williamsburg	411	...	...	436	...	...	146	413	32	CW
13. Hopewell	1,187	30	...	541	1	...	230	848	76	...
14. Walkerton	979	1	...	608	...	...	355	250,987	19	29
15. Washingtons Birthplace	716	65	...	452	...	...	181	1,081	83	...
16. Brooke	604	3	...	694	...	...	227	85	4	...
17. Fort Belvoir	4,065	3	...	3,105	...	...	1,574	2,272	10	4
18. Central Loudoun Co.	964	31	...	1,502	...	...	443	206	7	4
19. Manassas-Bull Run	292	70	...	662	...	...	423	6	4	...
20. Chancellorsville	74	...	...	246	...	...	43	320	...	...
21. Lake Anna	85	23	...	246	...	...	39	6	6	...
22. Gordonsville	153	14	...	289	...	...	124	566	26	...
23. Charlottesville	908	28	...	787	...	...	450	...	1	...
24. Darlington Heights	203	8	...	611	...	...	170	...	116	...
25. Banister River WMAs	150	5	...	497	...	...	104	152	61	...
26. Lynchburg	367	4	...	399	...	...	366	17	8	...
27. Danville	197	...	...	364	...	...	63	...	...	...
28. Calmes Neck	464	116	...	877	...	...	456	2	22	...
29. N. Shenandoah Valley	888	111	...	1,410	...	...	726	257	4	10
30. Shenandoah NP- Luray	214	47	...	340	...	...	212	524	33	...
31. Big Flat Mountain	13	...	...	18	...	...	7	...	...	...
32. Rockingham County	272	116	...	262	...	...	172	1	13	4
33. Augusta County	355	127	...	290	...	...	206	149	2	...
34. Waynesboro	251	77	...	346	...	...	189	3	41	1
35. Lexington	369	28	...	338	...	...	208	1	2	...
36. Peaks of Otter	20	...	...	292	...	...	30	...	...	...
37. Fincastle	118	42	...	353	...	...	192	...	41	...
38. Roanoke	195	...	...	205	...	...	168	...	2	...
39. Blacksburg	492	91	...	267	...	...	383	18	28	5
40. Giles County	60	11	...	73	...	...	74	...	1	...
41. Tazewell	37	33	...	48	...	...	64	...	...	...
42. Mount Rogers-Whitetop	28	13	...	154	...	...	39	...	...	...
43. Glade Spring	70	64	...	81	...	...	114	...	14	...
44. Blackford	100	111	...	197	...	...	97	15	28	...
45. Bristol	200	109	...	128	...	...	181	20	7	...
46. Breaks Interstate Park	105	3	...	212	...	...	82	...	...	2
47. Wise County	27	...	...	80	...	...	74	1	14	...
Totals	19,671	1,388	18	20,404	1	6	9,789	282,498	2,192	109

Species → Counts ↓	Common Grackle	Boat-tailed Grackle	Brown-headed Cowbird	blackbird, sp.	Baltimore Oriole	Purple Finch	House Finch	Pine Siskin	American Goldfinch	House Sparrow
1. Chincoteague	2,827	41	7	...	...	...	32	...	45	26
2. Wachapreague	783	408	2	1,500	...	3	35	...	34	31
3. Nassawadox	152	23	629	...	...	...	29	...	105	56
4. Cape Charles	973	150	191	...	1	...	57	...	89	72
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...
6. Little Creek	436	86	91	...	CW	...	149	...	46	57
7. Back Bay	179	157	62	...	...	2	40	...	18	33
8. Nansemond River	25	120	9	...	1	...	14	...	3	7
9. Dismal Swamp NWR	365	...	556	...	...	...	...	...	47	...
10. Newport News	652	68	3	...	...	...	102	...	151	130
11. Mathews County	10	25	23	...	...	2	166	4	139	70
12. Williamsburg	174	...	5	...	...	1	50	...	110	37
13. Hopewell	26	...	44	40	3	...	56	...	75	12
14. Walkerton	95,013	...	704	23,483	...	...	32	...	233	5
15. Washingtons Birthplace	10	...	1	...	...	1	19	...	33	4
16. Brooke	23	...	2	...	...	...	21	...	110	44
17. Fort Belvoir	32	...	50	...	2	...	264	...	979	1,068
18. Central Loudoun Co.	...	...	6	11	...	2	195	...	240	221
19. Manassas-Bull Run	...	...	1	60	...	3	42	...	204	88
20. Chancellorsville	1,101	...	...	...	...	...	33	...	35	9
21. Lake Anna	3	...	...	...	...	...	14	...	65	42
22. Gordonsville	82	...	4	...	...	9	28	...	37	12
23. Charlottesville	...	...	...	...	...	4	76	...	275	218
24. Darlington Heights	2	...	43	...	...	3	13	...	69	54
25. Banister River WMAs	24	...	9	...	...	CW	31	...	88	16
26. Lynchburg	4	...	...	...	...	2	86	...	164	103
27. Danville	...	...	...	...	...	8	41	...	12	22
28. Calmes Neck	3	...	7	...	...	2	163	...	201	423
29. N. Shenandoah Valley	CW	...	7	...	...	4	236	...	403	174
30. Shenandoah NP- Luray	7	...	1	...	...	...	68	...	114	117
31. Big Flat Mountain	...	...	...	...	...	...	...	...	...	4
32. Rockingham County	9	...	11	...	CW	...	94	...	150	195
33. Augusta County	11	...	48	...	...	...	99	...	100	275
34. Waynesboro	9	...	29	...	...	2	86	...	136	61
35. Lexington	750	...	7	...	...	6	80	...	80	37
36. Peaks of Otter	...	...	...	...	...	...	...	...	13	...
37. Fincastle	1	...	...	...	...	1	20	...	59	14
38. Roanoke	...	...	...	...	...	1	73	...	61	48
39. Blacksburg	41	...	5	6	...	1	143	...	218	79
40. Giles County	...	...	...	...	...	2	29	...	66	8
41. Tazewell	...	...	...	...	...	5	4	...	36	161
42. Mount Rogers-Whitetop	...	...	...	...	...	...	11	...	15	7
43. Glade Spring	...	...	1	...	...	...	44	...	176	132
44. Blackford	...	...	2	...	...	...	17	...	150	44
45. Bristol	1	...	CW	...	...	...	45	...	63	70
46. Breaks Interstate Park	...	...	...	...	...	...	12	...	57	14
47. Wise County	6	...	2	...	...	2	28	...	73	45
Totals	103,734	1,078	2,562	25,100	7	66	2,877	4	5,577	4,345

<div> <div>Total numbers →</div> <div>Species</div> <div>Individuals</div> <div>Hours</div> <div>Counts ↓</div> </div>	Number of species	Number of individuals	Hours on foot	Hours by car	Hours by motorized boat	Hours by non-motorized boat	Hours by golfcart	Total Party-hours
1. Chincoteague	133	37,951	38.00	36.50	3.50	...	...	78.00
2. Wachapreague	122	40,157	29.75	52.50	8.50	...	...	90.75
3. Nassawadox	133	21,614	60.00	22.00	16.00	...	3.00	101.00
4. Cape Charles	148	49,061	90.00	21.00	4.00	...	...	115.00
5. Chesapeake Bay	31	11,731	9.00	0.75	...	...	...	9.75
6. Little Creek	123	40,097	71.00	23.50	4.00	...	...	98.50
7. Back Bay	132	29,711	80.00	16.00	...	...	...	96.00
8. Nansemond River	95	16,459	15.50	5.00	...	...	...	20.50
9. Dismal Swamp NWR	76	14,078	7.25	33.75	...	...	...	41.00
10. Newport News	108	15,510	64.75	41.50	...	...	...	106.25
11. Mathews County	110	22,780	63.00	52.50	1.00	...	...	116.50
12. Williamsburg	106	20,968	44.25	36.00	...	...	...	80.25
13. Hopewell	112	33,843	65.75	44.25	2.50	...	...	112.50
14. Walkerton	101	393,207	30.50	40.50	12.75	...	...	83.75
15. Washingtons Birthplace	104	20,056	33.50	17.00	4.00	...	...	54.50
16. Brooke	89	15,589	41.00	39.00	...	...	...	80.00
17. Fort Belvoir	113	108,624	318.50	51.75	...	...	...	370.25
18. Central Loudoun Co.	93	21,478	103.00	46.50	...	...	3.00	152.50
19. Manassas-Bull Run	65	8,794	72.00	15.00	...	...	...	87.00
20. Chancellorsville	62	4,503	22.75	16.25	...	...	...	39.00
21. Lake Anna	82	7,143	10.50	13.50	...	...	...	24.00
22. Gordonsville	66	4,835	13.75	31.50	...	...	...	45.25
23. Charlottesville	74	10,452	112.25	36.50	...	5.00	...	153.75
24. Darlington Heights	71	4,364	16.00	19.00	...	...	...	35.00
25. Banister River WMAs	82	4,264	30.75	21.75	...	...	...	52.50
26. Lynchburg	77	7,490	57.00	41.00	...	...	...	98.00
27. Danville	53	2,462	32.50	7.00	...	...	...	39.50
28. Calmes Neck	84	26,419	38.50	100.00	...	...	...	138.50
29. N. Shenandoah Valley	100	33,249	62.50	108.50	...	22.00	...	193.00
30. Shenandoah NP- Luray	83	11,330	43.00	46.75	...	...	...	89.75
31. Big Flat Mountain	25	141	10.00	...	...	...	...	10.00
32. Rockingham County	69	9,792	15.25	35.75	...	...	...	51.00
33. Augusta County	76	9,854	9.50	46.50	...	...	...	56.00
34. Waynesboro	72	5,859	14.00	37.75	...	...	...	51.75
35. Lexington	72	6,286	38.00	11.75	...	...	...	49.75
36. Peaks of Otter	38	945	11.00	12.00	...	...	...	23.00
37. Fincastle	72	5,068	19.00	26.00	...	...	...	45.00
38. Roanoke	61	4,936	23.50	37.00	...	...	...	60.50
39. Blacksburg	88	12,470	88.75	30.25	...	...	...	119.00
40. Giles County	58	1,275	15.50	7.50	...	...	...	23.00
41. Tazewell	54	3,294	7.00	41.00	...	...	...	48.00
42. Mount Rogers-Whitetop	44	1,822	3.50	19.50	...	...	...	23.00
43. Glade Spring	66	8,221	17.00	38.00	...	...	...	55.00
44. Blackford	68	8,073	10.00	39.00	...	...	...	49.00
45. Bristol	81	8,439	23.00	24.00	...	...	...	47.00
46. Breaks Interstate Park	61	1,677	28.00	12.00	...	...	...	40.00
47. Wise County	55	3,192	16.00	34.25	...	...	...	50.25
Totals	206	1,124,664	2,025.25	1,489.00	56.25	27.00	6.00	3,603.50

Total numbers: → Miles Observers Field Parties Counts ↓	Miles on foot	Miles by car	Miles by motorized boat	Miles by non-motorized boat	Miles by golfcart	Total Party-miles	Number of Field Observers	Minimum number of parties	Maximum number of parties
1. Chincoteague	23.50	176.00	5.00	...	...	204.50	28	11	11
2. Wachapreague	25.00	253.00	20.00	...	...	298.00	17	12	15
3. Nassawadox	40.00	146.00	80.00	9.00	...	275.00	21	8	11
4. Cape Charles	60.00	246.00	20.00	...	...	326.00	27	10	13
5. Chesapeake Bay	2.00	5.00	...	...	...	7.00	2	1	2
6. Little Creek	50.00	319.00	4.00	...	...	373.00	33	11	14
7. Back Bay	49.00	235.00	...	...	...	284.00	20	9	12
8. Nansemond River	22.50	32.50	...	...	...	55.00	6	5	5
9. Dismal Swamp NWR	5.00	117.00	...	...	...	122.00	10	6	6
10. Newport News	36.00	362.00	...	...	...	398.00	38	13	13
11. Mathews County	50.50	386.50	1.00	...	...	438.00	45	15	15
12. Williamsburg	26.50	306.00	...	...	...	332.50	28	9	9
13. Hopewell	49.50	202.50	7.50	...	...	259.50	41	14	14
14. Walkerton	30.00	247.50	27.00	...	...	304.50	29	6	10
15. Washingtons Birthplace	20.50	120.00	42.00	...	...	182.50	11	8	10
16. Brooke	29.00	213.00	...	...	...	242.00	25	10	11
17. Fort Belvoir	231.50	279.00	...	...	...	510.50	162	60	61
18. Central Loudoun Co.	97.75	513.50	...	...	7.00	618.25	75	15	26
19. Manassas-Bull Run	75.00	132.00	...	...	...	207.00	59	10	20
20. Chancellorsville	17.00	146.50	...	...	...	163.50	8	5	5
21. Lake Anna	6.00	225.00	...	...	...	231.00	9	3	3
22. Gordonsville	16.50	280.00	...	...	...	296.50	9	5	5
23. Charlottesville	94.00	271.00	...	4.00	...	369.00	50	20	21
24. Darlington Heights	14.50	260.00	...	...	...	274.50	17	4	4
25. Banister River WMAs	22.00	236.50	...	...	...	258.50	11	7	7
26. Lynchburg	53.00	363.00	...	...	...	416.00	44	16	16
27. Danville	12.00	173.50	...	...	...	185.50	15	9	9
28. Calmes Neck	54.50	570.00	...	...	...	624.50	48	14	24
29. N. Shenandoah Valley	74.00	987.00	...	26.00	...	1,087.00	70	23	23
30. Shenandoah NP- Luray	43.50	301.00	...	...	...	344.50	36	11	11
31. Big Flat Mountain	10.00	...	...	...	...	10.00	2	1	1
32. Rockingham County	14.00	408.00	...	...	...	422.00	29	2	10
33. Augusta County	7.50	396.00	...	...	...	403.50	17	6	7
34. Waynesboro	10.75	366.00	...	...	...	376.75	24	9	10
35. Lexington	30.75	126.00	...	...	...	156.75	24	12	12
36. Peaks of Otter	10.00	48.00	...	...	...	58.00	14	6	6
37. Fincastle	12.00	147.00	...	...	...	159.00	22	11	11
38. Roanoke	26.00	149.00	...	...	...	175.00	10	10	10
39. Blacksburg	73.00	286.50	...	...	...	359.50	35	17	18
40. Giles County	14.00	83.50	...	...	...	97.50	11	5	5
41. Tazewell	11.00	378.00	...	...	...	389.00	11	6	6
42. Mount Rogers-Whitetop	3.50	196.00	...	...	...	199.50	9	1	4
43. Glade Spring	9.00	386.00	...	...	...	395.00	16	6	6
44. Blackford	18.00	448.00	...	...	...	466.00	15	7	7
45. Bristol	13.00	467.00	...	...	...	480.00	20	6	6
46. Breaks Interstate Park	20.00	149.00	...	...	...	169.00	16	8	13
47. Wise County	14.00	279.00	...	...	...	293.00	15	8	8
Totals	1,626.7	12,418.00	206.50	39.00	7.00	14,297.25	1,284	471	546
	5								

Total numbers: → At Feeders Owling data Dates Times Temperatures Counts ↓	Number of Feeder Observers	Hours at feeders	Hours Owling	Miles Owling	Date	Times (a.m.)	Times (p.m.)	Low temperatures	High temperatures
1. Chincoteague	...	...	2.50	6.25	12-29	0530	1730	40	60
2. Wachapreague	1	0.50	...	...	12-15	0700	1630	35	45
3. Nassawadox	...	...	1.00	3.00	12-17	0530	1730	35	60
4. Cape Charles	...	...	3.00	10.00	12-30	0500	1730	38	55
5. Chesapeake Bay	...	...	...	...	12-26	0700	1645	55	63
6. Little Creek	...	...	6.00	18.00	12-31	0500	1730	46	52
7. Back Bay	...	...	3.50	17.00	12-29	0500	1615	34	58
8. Nansemond River	1	1.00	...	...	1-1	0700	1600	60	69
9. Dismal Swamp NWR	...	...	3.00	3.00	12-18	0330	1730	60	70
10. Newport News	...	...	1.00	0.50	12-16	0600	1700	41	57
11. Mathews County	...	...	4.25	15.00	12-31	0415	1730	34	55
12. Williamsburg	...	...	2.00	2.00	12-17	0400	1600	42	62
13. Hopewell	1	3.00	3.00	14.00	12-17	0430	1730	48	70
14. Walkerton	...	...	2.25	13.00	12-31	0500	1745	33	57
15. Washingtons Birthplace	...	...	2.75	10.00	12-16	0530	1730	34	52
16. Brooke	...	...	...	...	12-14	0630	1700	41	62
17. Fort Belvoir	6	12.75	28.50	48.50	12-31	0400	1900	36	56
18. Central Loudoun Co.	...	...	10.75	49.00	12-27	0445	2300	32	47
19. Manassas-Bull Run	1	1.00	...	...	12-16	0700	1700	36	55
20. Chancellorsville	...	...	2.00	18.50	12-30	0445	500	35	55
21. Lake Anna	...	...	1.00	7.00	12-31	0545	1645	38	50
22. Gordonsville	2	2.50	3.75	27.50	12-17	0700	1700	30	58
23. Charlottesville	...	...	...	...	12-17	0630	1845	31	68
24. Darlington Heights	1	3.00	2.00	23.50	1-7	0700	1700	37	55
25. Banister River WMAs	...	...	1.75	8.00	12-17	0645	1730	30	70
26. Lynchburg	1	6.00	5.00	18.00	12-16	0600	1700	37	62
27. Danville	2	2.00	...	...	12-30	0800	1700	46	53
28. Calmes Neck	4	8.00	12.75	42.00	12-30	0400	1830	30	54
29. N. Shenandoah Valley	...	...	14.50	48.50	12-18	0001	2230	38	60
30. Shenandoah NP- Luray	7	22.00	4.75	19.75	12-17	0600	1745	34	68
31. Big Flat Mountain	...	...	0.25	...	12-29	0700	1745	33	56
32. Rockingham County	...	...	1.50	0.50	12-16	0530	1600	31	67
33. Augusta County	1	5.00	2.00	15.00	12-17	0515	1800	32	67
34. Waynesboro	1	1.00	1.00	16.00	12-30	0600	1700	26	62
35. Lexington	2	8.00	2.50	20.00	12-26	0500	1715	32	50
36. Peaks of Otter	...	...	1.00	5.00	12-19	0600	1500	35	55
37. Fincastle	...	...	1.00	1.00	12-17	0600	1600	32	65
38. Roanoke	1	1.00	...	...	12-16	0700	1700	37	65
39. Blacksburg	6	4.50	4.00	13.00	12-16	0001	1900	30	63
40. Giles County	...	...	2.50	25.00	12-30	0530	1915	29	43
41. Tazewell	1	5.00	...	...	12-29	0800	1730	20	56
42. Mount Rogers-Whitetop	...	...	...	...	12-31	0730	1715	41	45
43. Glade Spring	1	5.00	3.00	20.00	12-30	0600	1700	26	56
44. Blackford	...	...	8.00	35.00	12-30	0001	1800	27	49
45. Bristol	...	...	6.00	40.00	12-31	0700	1730	45	65
46. Breaks Interstate Park	4	3.00	3.00	3.00	12-16	0630	1800	25	51
47. Wise County	2	4.00	...	...	12-16	0700	1700	32	57
Totals	46	98.25	156.75	615.50	...	...	...	...	...

Field conditions: →

Wind
Ground
Water
Skies

Counts ↓

	Wind Direction	Wind Speed	Ground conditions	Water conditions	A.M. Skies	P.M. Skies
1. Chincoteague	NE	1-8	...	WOP	PCD	PCD
2. Wachapreague	S	-15	...	WOP	CLR	PCD
3. Nassawadox	S	5-0	...	WOP	PCD	PCD
4. Cape Charles	NE	0-5	...	WOP	CLR	PCD
5. Chesapeake Bay	SW	13-25	...	WOP	CLD	CLD
6. Little Creek	SW	0-20	...	WOP	CLR	CLD
7. Back Bay	SW	0-8	...	WOP	UNK	CLR
8. Nansemond River	SE	15-35	...	WOP	CLD	CLD, LGR
9. Dismal Swamp NWR	CALM	...	...	WOP	CLR	CLR
10. Newport News	NE	0-7	...	WOP	CLR	CLR
11. Mathews County	SE	5-15	...	WOP	CLD	CLD
12. Williamsburg	SW	5-7	...	WOP	PCD	PCD
13. Hopewell	SW	6-14	...	WOP	PCD	PCR
14. Walkerton	SE	0-12	...	WOP	PCR	CLD
15. Washingtons Birthplace	N	0-10	...	WOP	CLR	CLR
16. Brooke	CALM	...	...	WOP	FOG	CLR
17. Fort Belvoir	UNK	0-5	...	WOP	PCR	PCR
18. Central Loudoun Co.	NW	0-27	...	WOP	CLD	PCR
19. Manassas-Bull Run	CALM	...	...	WOP	CLR	CLR
20. Chancellorsville	UNK	...	...	WOP	FOG	PCD
21. Lake Anna	UNK	5-15	...	WOP	PCD	CLD, LGR
22. Gordonsville	CALM	...	...	WOP	CLR	CLR
23. Charlottesville	UNK	3	...	WOP	PCD	PCD
24. Darlington Heights	UNK	...	WET	WOP	MCD	CLD, LGR
25. Banister River WMAs	SW	0-10	...	WOP	CLR	PCR
26. Lynchburg	VAR	5	VDY	WOP	CLR	CLR
27. Danville	...	...	...	WOP	CLR	CLD
28. Calmes Neck	CALM	...	...	WOP	FOG	CLR
29. N. Shenandoah Valley	NW	8-10	...	WOP	PCD	PCD
30. Shenandoah NP- Luray	VAR	0-10	...	WOP	CLR	PCD
31. Big Flat Mountain	NEG	...	BARE	WOP	MCR	MCR
32. Rockingham County	CALM	0-5	...	WOP	PCD	PCR
33. Augusta County	W	0-7	...	WOP	PCD	PCD
34. Waynesboro	SW	0-8	...	WOP	CLR	CLR
35. Lexington	UNK	0-10	...	WOP	FOG, LGR	PCD
36. Peaks of Otter	CALM	...	WET	WOP	CLD	CLR
37. Fincastle	CALM	...	...	WOP	CLD	PCR
38. Roanoke	UNK	...	VDY	WOP	PCD	PCD
39. Blacksburg	W	0-9	...	WOP	CLR	CLR
40. Giles County	NW	2	VDY	WOP	CLR	CLR
41. Tazewell	SE	4-12	...	WOP	PCD	PCD
42. Mount Rogers-Whitetop	S	0-7	...	WOP	FOG, LGR	CLD, LGR
43. Glade Spring	VAR	0-5	...	SPF, MWO	CLR	PCD
44. Blackford	UNK	0-3	...	WOP	PCD	CLR
45. Bristol	UNK	5-35	...	WOP	CLD	CLD, LGR
46. Breaks Interstate Park	VAR	1-5	...	WOP	PCD	PCD
47. Wise County	UNK	0-2	...	SPF, MWO	CLR	CLR
Totals

A SUMMARY OF *IN MEMORIAM* REMEMBRANCES PUBLISHED IN THE RAVEN

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In the more than 75 year history of the Virginia Society of Ornithology, we have been fortunate to have had so many members who were willing to contribute both their time and talent to the organization. In many instances, historical records of their contributions were acknowledged within the context of “In Memoriam” articles published in *The Raven*. The first such “In Memoriam” appeared in 1939 for William Cabell Rives, noted ornithologist and Honorary Life Member of the Virginia Society of Ornithology. From 1939 through 2006, 45 “In Memoriam” articles have been published in the Raven.

This paper is a summary (in alphabetical order) of those articles and is presented to provide a brief synopsis of the contributions of the individuals to the Virginia Society of Ornithology, to make available to today’s membership information about those who have served in the past, and to assist historians in their efforts to document ornithological activities within the state. The focus of each of the following summaries is primarily on the role of that person within the Virginia Society of Ornithology. The writer’s name, as well as the volume and page number of *The Raven* issue in which the “In Memoriam” appeared, follows each entry.

It should be noted that not everyone who served the Virginia Society of Ornithology was formally recognized within the context of an “In Memoriam” acknowledgement in *The Raven*. One of the more notable omissions is that of Florence Hague, a charter member who maintained her association with the organization for more than 50 years and served as secretary from 1931 – 1953. She died in 1982, and a belated memorial article recognizing her service is being prepared for publication in *The Raven*. In addition, there are a number of members whose deaths occurred within the past five years and who will be acknowledged in future issues of *The Raven*.

CITED INDIVIDUALS

Jackson Miles Abbott - Died 3 May 1988 in Fairfax, Virginia. Served on the VSO board of directors from 1961 – 1963 and from 1985 – 1987. Conservationist and artist, he won the national Federal Duck Stamp design in 1957 with his painting of two Common Eiders. In 1989, the VSO conservation award was renamed the Jackson M. Abbott Conservation Award in his honor. He was a charter member of the Northern Virginia Chapter of the VSO (now the Northern Virginia Bird Club). Citation: Watson, Robert J. 1988. *The Raven* 59:67.

Harold H. Bailey - Charter member of the VSO. Died 23 July 1962. Wrote *The Birds of Virginia* (1913).

Citation: Murray, Joseph J. 1963. *The Raven* 34: 22.

Ralph M. Brown - Charter member of the VSO. Born at Fort Shaw, Montana in 1878, and died 30 November 1958 at the age of 80 at Tulsa, Oklahoma. He served as treasurer of the VSO in 1931. He was librarian at Virginia Tech from 1925 until his retirement in 1947.

Citation: Murray, Joseph J. 1959. *The Raven* 30: 2.

Floy Cooper Burford - Born 20 February 1906 at Hickory Flat, Mississippi and died 26 June 1991 at her home in Norfolk, Virginia. Served on the VSO board of directors from 1959 – 1960 and 1963 – 1964. She was a member of the VSO for 51 years. Frequent contributor to *The Raven*; active field observer and bird bander in the Norfolk area. She was a founding member of the Cape Henry Bird Club (now the Cape Henry Audubon Society).

Citation: Sykes, Paul W., Jr. 1991. *The Raven* 62:74-75.

Constance Simons DuPont Darden - Born 4 March 1904 at Wilmington, Delaware and died 7 February 2002 in Norfolk, Virginia. A member of the VSO for more than 50 years, she served on the VSO board of directors from 1941 – 1946, and 1958 – 1960. She was vice-president from 1947 – 1951.

Citation: Brinkley, Edward S. 2002. *The Raven* 73:57-58.

Abram Lawrence Dean - Died 26 June 1964 at Radford, Virginia. A member of the Virginia Society of Ornithology for over 30 years, he was a retired professor of poultry science at Virginia Polytechnic Institute (now Virginia Tech).

Citation: Murray, Joseph J. 1964. *The Raven* 35: 49.

Ben Bane Dulaney - Died 2 November 1967 at the age of 56 in Roanoke, Virginia. Member of the Virginia Society of Ornithology. Brother of Paul S. Dulaney, who served as VSO president from 1957 – 1959.

Citation: Murray, Joseph J. 1967. *The Raven* 38:68.

Paul Summers Dulaney - Born 29 November 1913 in Washington DC, and died 5 November 1972. He served as vice-president of the VSO from 1957 – 1959, and as president from 1960 – 1962. At the time of his death, he was a professor at the University of Virginia's School of Architecture.

Citation: Murray, Joseph J. 1973. *The Raven* 44:21.

James William Francis Eike - Born 29 September 1911 at Woodbridge, Virginia and died 8 February 1983 at his home in Clifton, Virginia. A member of the VSO for 50 years, he served on the VSO board of directors in 1947, from 1954 – 1957, 1959, and from 1973 – 1981. He served as vice-president from 1966 – 1967. He is the only person elected to non-consecutive terms of president of the VSO, from 1949 – 1951 and from 1968 – 1969. He was a charter member of the Northern Virginia Chapter of the VSO (now the Northern Virginia Bird Club). In his honor, the VSO initiated the James W. Eike Service Award in 1983 to recognize those persons who had contributed outstanding service to the organization.

Citation: Watson, Robert J. 1983. *The Raven* 54:71.

Thomas Lester Engleby - Born in 1875 in Frostburg, Maryland and died 5 April 1947 at Roanoke, Virginia. He served as treasurer of the VSO from 1940 – 1946. Retired as vice-president of First National Exchange Band of Roanoke in 1945. He was an avid bird bander.

Citation: English, Almon O. 1948. *The Raven* 19:38.

Almon Owen English - Charter member of the VSO; died at the age of 89 on 24 July 1989 in Roanoke, Virginia. Served on the VSO board of directors from 1931 – 1934, 1947 – 1949 and 1953 – 1955; treasurer from 1935 – 1939; and as president from 1940 – 1946. He was engaged in railroad work for most of his professional life. He moved to Roanoke (from Norfolk) in 1934 and was a founder of the Roanoke Valley Bird Club.

Citation: Middleton, Norwood C. 1989. *The Raven* 60:12-13.

Mary Dameron Dise - Charter member of the VSO. Born 14 December 1869 in Amherst County and died on 10 May 1961. She and Katherine Stuart, of Alexandria, had provided encouragement in arranging the organizational meeting of the VSO in December, 1929.

Citation: Freer, Ruskin S. 1961. *The Raven* 32:64.

Arthur H. Fast - Born 6 July 1887 at Hillsboro, Kansas and died 21 February 1976 in Arlington, Virginia. Served on the VSO board of directors from 1964 – 1966. Active bander in the Northern Virginia area.

Citation: Eike, James W. 1976. *The Raven* 47:72-73.

Ruskin Skidmore Freer - Charter member and first president of the VSO. Born on 2 April 1894 in Kenyon, Ohio and died 26 February 1984 in Lynchburg, Virginia. In November, 1929 he sent out letters to approximately 70 people inviting them to a meeting for the purpose of discussing the organization of a state-wide association dedicated to the study of birdlife in Virginia. The founding meeting of the VSO was held on 7 December 1929 at Lynchburg College, where Freer was a professor of biology. Ruskin Freer was elected president and served in that office through 1934. He also served on the VSO board of directors from 1935 – 1940, 1953 – 1955, and 1965 – 1967. He spoke at the 25th and 50th anniversary meetings of the VSO.

Citation: Dalmas, Thelma H. 2000. *The Raven* 71:105-107.

John H. Grey, Jr. - Born 19 July 1902 at Lexington, North Carolina and died 9 September 1971 at Bedford, Virginia. He served on the VSO board of directors from 1949 – 1951, 1958 – 1960, as vice-president in 1946, and as president from 1947 – 1948. He was a Presbyterian minister and had been encouraged in his ornithological interests by J. J. Murray with whom he had served as a student pastor. At the time of his death, he had been working on a revision of Murray's 1952 *Checklist of the Birds of Virginia*.

Citation: Eike, James W. and Ruskin S. Freer. 1971. *The Raven* 42: 64-65.

Joseph Edward Gould - Charter member of the VSO. Born in 1866 on St. Simons Island, Georgia and died 3 November 1945 at his home in Norfolk, Virginia. He was engaged in railroad work for most of his professional life and retired from Norfolk and Southern Railway in 1922.

Citation: English, Almon O. 1946. *The Raven* 17:15.

Jean Andrews Hacker - Died unexpectedly 17 March 1964 at the age of 44. She was the wife of Charles Hacker, who in 1964, was the vice-president of the VSO.

Citation: Smith, Mrs. Walter Post. 1964. *The Raven* 35:30.

Charles Overton Handley - Charter member of the VSO; ornithologist and author. Born 2 November 1897 at Lewisburg, West Virginia and died 10 June 1977. Served on the VSO board of directors from 1939 – 1949, as vice-president from 1929 – 1934, and as president from 1935 - 1936. At the founding meeting of the Virginia Society of Ornithology on December 7, 1929, he suggested the name of *The Raven* for the state-wide journal.

Citation: Watson, Robert J. 1978. *The Raven* 49:69-70.

Charles O. Handley, Jr. - Born in 1924 and died in 2000. His father was a charter member of the VSO. Charles Handley, Jr. submitted his first bird note to *The Raven* in 1937 and his last in 1998. He was the curator of mammals at the Smithsonian Institution for 53 years.

Citation: Johnston, David W. 2000. *The Raven* 71:108.

D. Ralph Hostetter - Born 1 February 1896 in Lancaster County, Pennsylvania and died 27 September 1978 at his home in Harrisonburg, Virginia. Served on the VSO board of directors from 1941 – 1945 and as president from 1952 - 1953. At his death, he was professor emeritus of biology at Eastern Mennonite College, having taught there from 1923 – 1966. He was a charter member of the Rockingham Bird Club.

Citation: Eike, James W. 1979. *The Raven* 50:55.

William A. Houston - Died 14 March 1974 at the age of 59. Retired colonel (Marine Corps) and active conservationist in the northern Virginia area.

Citation: Watson, Robert J. 1974. *The Raven* 45:74.

Frances Elizabeth James - Charter member of the VSO. Born 19 March 1902 at Fond du Lac, Wisconsin and died 6 September 1943 at Chatham, Virginia.

Citation: Shaw, Mrs. Frederick W. 1944. *The Raven* 15:14-15.

Ivey F. Lewis - Charter member of the VSO. Died 16 March 1964 at the age of 81. Joined the faculty of University of Virginia in 1915 as a biology professor and retired in 1953 as the dean of the school of arts and sciences.

Citation: Murray, Joseph J. 1964. *The Raven* 35:30.

John B. Lewis - Charter member of the VSO. Died 8 June 1957 at the age of 89. Served as treasurer from 1932 – 1934, vice-president from 1935 – 1936, and as president in 1937. His son, Merriam G. Lewis, followed him as president of the VSO. Avid field worker and frequent contributor to *The Raven*, he was the county agent for Brunswick, and later, Amelia County.

Citation: Akerman, Alfred. 1957. *The Raven* 28:58-59.

Merriam G. Lewis - Charter member of the VSO. Born in 1893, he was 47 at the time of his death on 5 January 1941. In collaboration with Ruskin Freer and J. J. Murray, was instrumental in organizing the founding meeting of the Virginia Society of Ornithology in 1929. Served on the VSO board of directors from 1929 through 1937 and as president from 1938 – 1939. Served as a county farm agent in Scott, Rockbridge, and Roanoke Counties. Murray writes of the untimely loss of Lewis, "This is the first break within the official group of the VSO since its organization."

Citation: Murray, Joseph J. 1941. *The Raven* 12:1-2.

William Owen Lewis - Died 4 June 1969 at the age of 42 in Charlottesville, Virginia. Served on the VSO board of directors from 1960 – 1962. He was president of the Michie Company, a large law publishing firm, that also published *The Raven*.
Citation: Stevens, Charles E. 1969. *The Raven* 40:53.

William B. McIlwaine, Jr. - Born 6 February 1885 and died 26 October 1972. Served as vice-president of the VSO from 1937 – 1945. A Presbyterian minister, he served churches in a variety of areas before returning to his “ancestral” home in Dinwiddie County. Frequent contributor to *The Raven*.
Citation: Steirly, C. C. 1973. *The Raven* 44:48-49.

H. Martyn Micklem - Charter member of the VSO. Died 21 March 1941 at his home near Shipman, Virginia. Reported migration data from observations taken near his home for 63 years.
Citation: Murray, Joseph J. 1941. *The Raven* 12:76.

W. Edwin Miller - Died 10 August 1955 at his home in Richmond, Virginia. Served as the treasurer of the VSO from 1947 – 1953. Retired as assistant vice-president from the State Planters Bank and Trust in Richmond in 1952.
Citation: Murray, Joseph J. 1956. *The Raven* 27:37.

Sydney “Mike” Mitchell - Died 7 October 1989 at his home in Newport News, Virginia. He was a bird bander and, with his wife Dorothy, was among the first to band birds at Kiptopeke on the Eastern Shore. He was one of the founders and first president of the Hampton Roads Bird Club.
Citation: Silsby, Dorothy. 1990. *The Raven* 61:47.

Myriam Putnam Moore - Born 8 September 1912 in Laurens County, South Carolina and died 15 January 2006 in Lynchburg, Virginia. A member of the VSO for 45 years, she served on the VSO board of directors from 1969 – 1972, and as treasurer from 1967 – 1968. She was Newsletter Editor from the mid 1970s through 1985 and was active in work with the local bird clubs across the state. She was the first recipient of the Myriam Putnam Moore Award, the highest service award of the VSO. Her contributions to raptor study in Virginia were recognized on a national level by the Hawk Migration Association of North America.
Citation: Dalmas, Thelma H. 2006. *The Raven* 77:54-55

Joseph James Murray - Charter member of the VSO. Born in Summerville, South Carolina in 1890 and died 9 December 1973 in Lexington, Virginia. In collaboration with Ruskin Freer and Merriam G. Lewis, was instrumental in organizing the founding meeting of the Virginia Society of Ornithology in 1929. Served as editor of *The Raven* from its initial publication (January 1930) through Volume 40, Number 2, (June 1969). By profession a Presbyterian minister, he was encouraged in his study of ornithology by his two brothers-in-law, Dr. Alexander Sprunt and Dr. Elison Smyth. A prolific writer, his 1952 work, *A Checklist of the Birds of Virginia*, was the first complete account of bird distribution in Virginia. The June 1970 issue of *The Raven* (41) features five articles describing the contributions of J. J. Murray to avian studies in the state.

Citation: Paxton, Robert O. 1974. *The Raven* 45:3-5.

Harry C. Oberholser - Died 25 December 1963 at Cleveland, Ohio. Ornithologist and official of the U. S. Fish and Wildlife Service for 46 years. Joined the VSO in 1931 and remained a member until his death.

Citation: Murray, Joseph J. 1964. *The Raven* 35:17-18.

Jack E. Perkins - Born 27 April 1924 at New Haven, Connecticut and died 4 November 1963 at Lake Arthur, Louisiana. Served on the VSO board of directors from 1949 – 1951, as vice-president from 1953 – 1954, and as president from 1954 – 1956. His professional life was spent in wildlife management and conservation work.

Citation: Anonymous. 1964. *The Raven* 35:29-30.

Frank C. Richardson - Born 6 July 1886 at Jefferson, Maine and died at Virginia Beach, on 15 February 1991 at the age of 104. Active field observer and frequent contributor to *The Raven*. He is believed to be the oldest person, at the age of 100, ever to participate on a Christmas Bird Count (Little Creek CBC, 31 December 1986). He was a founding member of the Cape Henry Bird Club (now the Cape Henry Audubon Society).

Citation: Sykes, Paul, Jr. 1991. *The Raven* 62:73-74.

William Cabell Rives - Born 10 January 1850 in Paris, France and died 18 December 1938 at his home in Washington DC. Elected an Honorary Life Member of the Virginia Society of Ornithology at the founding meeting on 7 December 1929. Began publishing ornithological papers in 1883, and compiled *A Catalogue of the Birds of the Virginias* in 1890. The memorial to Rives was delivered as a paper at the VSO Annual Meeting in Norfolk on 17 February 1939 and is the first “In Memoriam” article to appear in *The Raven*.

Citation: Murray, Joseph J. 1939. *The Raven* 10:5-8.

Wirt Robinson - Summary of presentation of memorial marker installed at West Point Military Academy in honor of Wirt Robinson, “a distinguished Virginian”.

Citation: Murray, Joseph J. 1941. *The Raven* 12:29-31.

William Franklin Rountrey - Born 22 December 1914 in Norfolk County, Virginia and died 19 May 2002 in Chesapeake, Virginia. A member of the VSO for 52 years, he served on the VSO board of directors from 1952 - 1954, as vice-president in 1955 - 1956, and as president from 1957 - 1959. While serving as president, he actively promoted passage of legislation by the Virginia General Assembly for the protection of raptors; this bill became law in 1958. He was a founding member of the Cape Henry Bird Club (now the Cape Henry Audubon Society).

Citation: Sykes, Paul, Jr. 2002. *The Raven* 73:55-56.

Elizabeth Martin Shaw - Died 18 July 1949 in Richmond, Virginia. Guest speaker at garden clubs and public schools. Active member of the Virginia Society of Ornithology.

Citation: Bell, Ada Dandridge. 1949. *The Raven* 20:45-46.

Ellison Adger Smyth, Jr. - Born 26 October 1863 at Summerton, South Carolina and died 19 August 1941 at Salem, Virginia. Elected an Honorary Life Member of the Virginia Society of Ornithology at the founding meeting on 7 December 1929. Naturalist and ornithologist; served as head of the biology department at Virginia Polytechnic Institute (now Virginia Tech) from 1891 – 1925.

Citation: Murray, Joseph J. 1941. *The Raven* 12: 75; and 1943. *The Raven* 14:12-16.

Bernard Thielen - Born 16 November 1907 and died 1 October 1967; buried at West Point, New York. Served on the VSO board of directors from 1965 – 1967.

Citation: Murray, Joseph J. 1967. *The Raven* 38:67.

Marvin Wass - Born 24 April 1922 in Worthington, Minnesota and died 5 September 1990 in Gloucester, Virginia. Active writer, conservationist, and teacher at the Virginia Institute of Marine Science at Gloucester Point.

Citation: Andrews, Jay D. 1992. *The Raven* 63:105.

Margaret Hunter Watson - Died 2 August 1974 at the age of 60. Served as treasurer of the VSO from 1969 – 1971. Established the Spring Creek Bird Club in Darlington Heights in 1967. Following her death in 1974, the club name was changed to the Margaret H. Watson Bird Club.

Citation: Moore, Myriam P. 1974. *The Raven* 45:87-88.

Frank Alexander Wetmore - Ornithologist and author; born 18 June 1886 in North Freedom, Wisconsin; died 7 December 1978 in Glen Echo, Maryland. Served on the VSO board of directors from 1960 – 1966. One of the founders of the Northern Virginia Chapter of the VSO (now the Northern Virginia Bird Club). Named a Life Fellow of the American Ornithologists Union in 1919, served as president from 1926 – 1929 and was honorary president of the AOU from 1975 until his death.

Citation: Eike, James W. 1980. *The Raven* 51:33-35.

Grace Taylor Wiltshire - Charter member of the VSO. Born 25 October 1904 and died 30 September 1992 in Lynchburg, Virginia. Served on the VSO board of directors from 1948 – 1950 and 1959 – 1961, as vice-president in 1962, and as president from 1963 – 1965 (first woman to be elected to the office of president). A member for 63 years, she spoke at both the 25th and 50th anniversary celebrations of the VSO. She taught biology at Randolph Macon Woman's College from 1928 – 1964.

Citation: Moore, Myriam P. 1993. *The Raven* 64:33.

ACKNOWLEDGEMENTS

I would like to express my thanks to Teta Kain whose electronic index of *The Raven* was most helpful in the preparation of this paper.

2006 ANNUAL REPORT OF THE VIRGINIA AVIANRECORDS COMMITTEE

SUSAN A. HEATH
VARCOM SECRETARY
George Mason University
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The 2006 Virginia Avian Records Committee (VARCOM) included Ned Brinkley (Chair), Bob Ake, Bob Anderson, Dan Cristol, Mike Stinson, Craig Tumer, David Clark, and Bob Anderson.

The following decisions were made by the Virginia Avian Records Committee during calendar year 2006. Accepted records fall into one of the following Categories, as specified in VSO bylaws:

Category 1. Any bird that has occurred in Virginia and has been accepted by VARCOM as a wild bird on the basis of an observation accompanied by a photograph, specimen, audio or video recording, or band (for bands, only in cases where proof of identification is extant and compelling).

Category 2. Sight records without physical evidence, but for which there is written documentation from one or more observers accepted by VARCOM. This Category currently includes 23 species: Garganey, Barrow's Goldeneye, Yellow-nosed Albatross, Fea's Petrel, Short-tailed Shearwater, Neotropic Cormorant, Greater Flamingo, Reddish Egret, White-tailed Kite, Western Marsh Harrier, Red-necked Stint, Eurasian Woodcock, Black Guillemot, Black-billed Magpie, Bell's Vireo, Boreal Chickadee, Sprague's Pipit, Bohemian Waxwing, Sage Thrasher, Townsend's Warbler, Spotted Towhee, Black-throated Sparrow, and Shiny Cowbird. Several of these species have reportedly been photographed in Virginia; VARCOM would very much appreciate help in locating photographs or specimens of Category 2 species. Green-tailed Towhee has now been photographed in Virginia, but VARCOM would also appreciate receiving documentation and/or photographs of twentieth-century records in the state.

Category 3. Identity accepted by VARCOM but provenance of the individual bird is uncertain. *Category 3a* shall be comprised of such species with physical evidence in Virginia. *Category 3b* shall be comprised of such species lacking physical evidence. Category 3 shall not include individuals or species deemed by VARCOM to be most likely escaped/released former captives, whether from inside Virginia or otherwise. Species for which there are no Virginia records *except* Category 3 currently include West Indian Whistling-Duck, Barnacle Goose, and European Goldfinch.

Category 4. Records that are judged to be acceptable by historical standards but that may not meet current standards of acceptance, including extinct species that once occurred in Virginia, for which there is no clear written or physical evidence. In this Category, VARCOM currently includes Trumpeter Swan, Eskimo Curlew, and Carolina Parakeet. No status or Category is given to Labrador Duck, Greater

Prairie-Chicken, Whooping Crane, Great Auk, or Ivory-billed Woodpecker, which may have occurred in Virginia in centuries past but for which no extant conclusive documentation is known.

Category 5. Species introduced into the Commonwealth of Virginia or into other parts of North America that are currently maintaining self-sustaining wild populations within Virginia. These currently include seven species: Mute Swan, Rock Pigeon, Eurasian Collared-Dove, Monk Parakeet, European Starling, House Finch, and House Sparrow.

Category 6. Species that were introduced into Virginia and that appeared for a time to be sustaining wild populations within the state but that have since been extirpated. This Category currently includes Ring-necked Pheasant and Japanese Green Pheasant.

The following codes appear in the accounts:

† = written documentation

ph. = photo

vr. = voice recording

vt. = videotape

* = specimen (i.e., labeled and preserved, not simply a dead bird)

ACCEPTED RECORDS

Sandhill Crane (*Grus canadensis*), 1 individual, Forest Lane, Stafford County, May 22, 2005, [Paul Nasca], Category 1 (†, ph.), 1st Coastal Plain.

Clay-colored Sparrow (*Spizella pallida*), 1 individual, Sattler's yard, Lynchburg, Apr 29–May 3, 2004, [Gene Sattler, Robert Ferrel, Randy Thrasher, Rexanne Bruno], Category 1 (†, ph.), 3rd Piedmont.

Red-throated Loon (*Gavia stellata*), 1 individual, Kerr Reservoir, Mecklenburg County, Feb 12, 2005, [Adam D'Onofrio], Category 2 (†), 1st Piedmont since Jan 2004 Review List.

Snowy Owl (*Bubo scandiacus*), 1 individual, Ship Shoal Island, Northampton County, Cape Charles CBC, Dec 30, 2004, [Harry Armistead], Category 2 (†), 1st Coastal Plain since Jan 2004 Review List.

Buff-breasted Sandpiper (*Tryngites subruficollis*), 1 individual, Farrar Sod Farm, Mecklenburg County, Aug 28, 2005, [Adam D'Onofrio], Category 1 (†, ph.), 2nd Piedmont.

Stilt Sandpiper (*Calidris himantopus*), 1 individual, Kerr Reservoir, Mecklenburg County, Aug 28, 2005, [Adam D'Onofrio], Category 1 (†, ph.). 1st Piedmont since the Jan 2004 Review List.

Le Conte's Sparrow (*Ammodramus leconteii*), 1 individual, Occoquan Bay National Wildlife Refuge, Oct 30, 2005, [Paula Sullivan, Larry Cartwright], Category 1 (†, ph.), 1st Coastal Plain west of the Bay.

Magnificent Frigatebird (*Fregata magnificens*), 1 individual, Eastern Shore of Virginia National Wildlife Refuge, Northampton County, Nov 9, 2005, [Sam Stuart], Category 1 (†, ph.), 1st Coastal Plain since the Jan 2004 Review List.

Cave Swallow (*Petrochelidon fulva*), 3 individuals, Kiptopeke State Park, Northampton County, Nov 10, 2005, [Sam Stuart], Category 1 (†, ph.), 7th Coastal Plain.

Clark's/Western Grebe (*Aechmophorus clarkii/occidentalis*), 1 individual, First Landing State Park, Virginia Beach, Jan 1, 2005 [Bob Anderson], Category 2

(+), 2nd Coastal Plain.

Northern Shrike (*Lanius excubitor*), 1 individual, Fisherman's Island, Northampton County, Cape Charles CBC, Dec 3, 2004 [Matt Sharp], Category 2 (+), 1st Coastal Plain.

Ash-throated Flycatcher (*Myiarchus cinerascens*), 1 individual, Kiptopeke State Park, Northampton County, Nov 19-26, 2005 [Sam Stuart, Zach Smith], Category 1 (+, ph.), 7th Coastal Plain.

Purple Gallinule (*Porphyryla martinica*), 1 individual, Chincoteague National Wildlife Refuge, Accomack County, Jun 18, 1986 [David Clark], Category 1 (+, ph.), 2nd Coastal Plain.

Purple Gallinule, (*Porphyryla martinica*), 1 individual, City of Lynchburg, Apr 25, 2001 [Rexanne Bruno], Category 2 (+), 2nd Piedmont.

Red-throated Loon (*Gavia stellata*), 1 individual, Kerr Reservoir, Mecklenburg County, Nov 27, 2005 [Adam D'Onofrio], Category 2 (+), 2nd Piedmont since the Jan 2004 Review List.

Pacific Loon (*Gavia pacifica*), 1 individual, Back Bay National Wildlife Refuge, Virginia Beach, Dec 4, 2005 [Bob Ake], Category 2 (+), 5th Coastal Plain.

Sabine's Gull (*Xema sabini*), 1 individual, Violette's Lock, Loudoun County, Sep 26, 2005 [Dave Czaplak], Category 2 (+), 3rd Piedmont.

Arctic/Pacific Loon (*Gavia pacifica/arctica*), 1 individual, Virginia Beach oceanfront at 64th Street, Little Creek CBC, Dec 31, 2004 [Bob Anderson], Category 2 (+), 3rd Coastal Plain.

Barnacle Goose (*Branta leucopsis*), 1 individual, Daleville, Boutetourt County, Fincastle CBC, Dec 17, 2004 [Katrina Knight], Category 3 (+), 3rd Mountains and Valleys.

California Gull (*Larus californicus*), 1 individual, Hunting Creek, City of Alexandria, Dec 11, 2005 [Rob Young], Category 2 (+), 9th Coastal Plain.

MacGillivray's Warbler (*Oporornis tolmiei*), 1 individual, Kiptopeke, Northampton County, Nov 8, 2005, [Jethro Runco], Category 1 (+, ph.), 1st state record.

Ash-throated Flycatcher (*Myiarchus cinerascens*), 1 individual, City of Richmond, Jan 7–Mar 6, 2006 [John and Caroline Coe, Larry Lynch], Category 1 (+, ph.), 2nd Piedmont.

Ruff (*Philomachus pugnax*), 1 individual, Chincoteague, Accomack County, Aug 4, 2005 [Stephen Davies], Category 1 (+, ph.), 1st Coastal Plain since Jan 2004 Review List.

Sandhill Crane (*Grus canadensis*), 2 individuals, North Fork Wetlands, Prince William County, Dec 18, 2005 [Craig Tumer], Category 2 (+), 5th Piedmont.

Greater White-fronted Goose (*Anser albifrons*), 6 individuals, Clear Creek Lake, Washington County, Dec 31, 2005 [Rack Cross], Category 1 (+, ph.), 5th Mountains and Valleys.

Black-whiskered Vireo (*Vireo altiloquus*), 1 individual, Little Island City Park/Back Bay banding station, Virginia Beach, May 18, 1991 [Rob Simpson], Category 1 (+, ph.), 1st state record.

Mississippi Kite (*Ictinia mississippiensis*), 1 individual, State Route 63, Dickenson County, Sep 30, 2005 [Roger Mayhorn], Category 2 (+), 8th Mountains and Valleys.

Arctic/Pacific Loon (*Gavia pacifica*), 1 individual, South Holston Lake, Washington County, Dec 4, 2005 [Rick Knight], Category 2 (+), 1st Mountains and Valleys.

- Ross's Goose** (*Chen rossii*), 3 individuals, Curles Neck Farm, Henrico County, Dec 18, 2005 [Larry Lynch], Category 1 (†, ph.), 6th Coastal Plain.
- American White Pelican** (*Pelecanus erythrorhynchos*), 1 individual, Staunton River State Park, Halifax County, Sep 18, 2005 [Jeff Blalock], Category 2 (†), 2nd Piedmont.
- Neotropic Cormorant** (*Phalacrocorax brasilianus*), 1 individual, Lowes Island Golf Club, Loudoun County, Oct 28–3 Nov 2005 [George Wheaton, John Fox, Bev Leeuwenburg], Category 2 (†), 1st state record.
- Cave Swallow** (*Petrochelidon fulva pallida*), 1 individual, Wise Point, Northampton County, Nov 23, 2005 [Jethro Runcol], Category 1 (*, †, ph.), 8th Coastal Plain.
- Western/Clark's Grebe** (*Aechmophorus occidentalis/clarkii*), 1 individual, Riverside Park, Fairfax County, Dec 4, 2005 [Carolyn Williams, Gary Filerman, George Lea, Steve Shaffer, Leslie Vandivere], Category 2 (†), 1st Coastal Plain.
- Eurasian Collared-Dove** (*Streptopelia decaocto*), 16 individuals, Belspring, Pulaski County, Dec 17, 2005 [Clyde Kessler], Category 1 (†, ph.), 1st Mountains and Valleys.
- Manx Shearwater** (*Puffinus puffinus*), 1 individual, Chesapeake Bay Bridge-Tunnel, Dec 26, 2005 [Ned Brinkley], Category 2 (†), 1st Coastal Plain since Jan 2004 Review List.
- Ross's Goose**, (*Chen rossii*), 1 individual, Clear Creek Lake, Washington County, Dec 31, 2005 [Rack Cross], Category 1 (†, ph.), 5th Mountains and Valleys.
- Swallow-tailed Kite** (*Elanoides forficatus*), 1 individual, Braddock Road and Fairfax County Parkway, Fairfax County, Apr 17, 2006 [Susan Heath], Category 2 (†), 2nd Piedmont.
- Brown-headed Nuthatch** (*Sitta pusilla*), 1 individual, Occoquan Regional Park, Fairfax County, Dec 31, 2005 [Jay Keller, Susan Heath], Category 2 (†), 1st Coastal Plain west of the Bay since Jan 2004 Review List.
- Red-cockaded Woodpecker** (*Picoides borealis*), 1 individual, Mathews County, Jan 1, 2006 [John Bazuin], Category 2 (†), 2nd Coastal Plain outside of Sussex County.
- Thick-billed Murre** (*Uria lomvia*), 1 individual, offshore, Virginia Beach, Feb 11, 2006 [Ned Brinkley], Category 1 (†, ph.), 7th state record.
- Common Murre** (*Uria aalge*), 1 individual, offshore, Virginia Beach, Feb 11, 2006 [Ned Brinkley], Category 2 (†), 2nd state record.
- Snowy Owl** (*Bubo scandiacus*), 1 individual, Dulles Airport, Loudoun County, Jan 20–Mar 17, 2006 [Justin Dysart], Category 1 (†, ph.), 1st Piedmont since Jan 2004 Review List.
- Sandhill Crane** (*Grus canadensis*), 1 individual, Blacksburg, Montgomery County, Apr 16-17, 2006 [Nicole McKeown], Category 1 (†, ph.), 9th Mountains and Valleys
- Pacific Loon** (*Gavia pacifica*), 1 individual, Kerr Reservoir, Mecklenburg County, Feb 4, 2006 [Adam D'Onofrio], Category 1 (†, ph.), 4th Piedmont.
- Cackling Goose** (*Branta hutchinsii*), 1 individual, North Fork Wetlands, Prince William County, Dec 18, 2005 [Craig Tumer], Category 2 (†), 1st Piedmont since the Jan 2004 Review List
- Arctic/Pacific Loon** (*Gavia arctica/pacifica*), 1 individual, Virginia Beach, Dec 29, 2005 [Bob Anderson], Category 2 (†), 4th Coastal Plain.

- Cave Swallow** (*Petrochelidon fulva*), 2 individuals, Craney Island, Portsmouth, Jan 2, 2006 [Paul Sykes, Audrey Whitlock], Category 1 (†, ph.), 9th Coastal Plain.
- Sandhill Crane** (*Grus canadensis*), 1 individual, Hansonville, Russell County, Feb 5, 2006 [Nancy Gilmer], Category 2 (†), 7th Mountains and Valleys.
- Sandhill Crane** (*Grus canadensis*), 2 individuals, College Creek Hawkwatch, James City County, May 10, 2006 [Bill Williams], Category 2 (†), 2nd Coastal Plain since the Jan 2004 Review List.
- White Ibis** (*Eudocimus albus*), 1 individual, Lowesville, Nelson County, Nov 18, 2005– Apr 3, 2006 [Rexanne Bruno, Randy Thrasher], Category 1 (†, ph.), 2nd Piedmont since Jan 2004 Review List.

SUBMISSIONS NOT ACCEPTED

- Barnacle Goose** (*Branta leucopsis*), 1 individual, Walnut Hills Campground, Augusta County, Jun 23–Aug 17, 2005.
- Snowy Owl** (*Bubo scandiacus*), 1 individual, Chincoteague National Wildlife Refuge, Accomack County, Chincoteague CBC, Dec 29, 2004.
- White-faced Storm-Petrel** (*Pelagodroma marina*), 1 individual, Back Bay National Wildlife Refuge, Sep 16, 2005.
- White-faced Ibis** (*Plegadis chihi*), 1 individual, Chincoteague National Wildlife Refuge, Accomack County, Apr 29, 2005.
- Clay-colored Sparrow** (*Spizella pallida*), 1 individual, yard, Lynchburg, May 1-3, 2005.
- California Gull** (*Larus californicus*), 1 individual, Hunting Creek, Fairfax, Mar 13, 2005.
- Frigatebird**, (*Fregata*), 1 individual, Kiptopeke State Park, Northampton County, Nov 16, 2005.
- Piping Plover** (*Charadrius melodus*), 1 individual, Staunton River State Park, Halifax County, Sep 4, 2005.
- California Gull** (*Larus californicus*), 1 individual, Neabsco Creek, Prince William County, Dec 28, 2005.
- Mottled Duck** (*Anas fulvigula*), 1 individual, First Landing State Park, Virginia Beach, Mar 25, 2005.
- Lark Sparrow** (*Chondestes grammacus*), 3 individuals, Virginia Tech Sheep Farm, Blacksburg, Dec 17, 2005.
- Sandhill Crane** (*Grus canadensis*), 1 individual, Augusta County, Apr 7, 2006.
- Cave Swallow** (*Petrochelidon fulva*) 1 individual, Stuarts Draft, Augusta County, Oct 25, 2005.
- Cave Swallow** (*Petrochelidon fulva*), 3 individuals, Rockfish Gap Hawkwatch, Augusta, Albemarle, and Nelson Counties, Nov 12, 2005.
- White-faced Ibis** (*Plegadis chihi*), 1 individual, Chincoteague, Accomack County, Apr 29, 2006.
- Bewick's Wren** (*Thryomanes bewickii*), 1 individual, Cockpit Road, Prince William County, May 7, 2006.
- Black-capped Petrel** (*Pterodroma hasitata*), up to 4 individuals, pelagic waters, Northampton County, Apr 23, 2006.
- Gray Kingbird** (*Tyrannus dominicensis*), 1 individual, Arlington County, May 26, 2006.

Mottled Duck (*Anas fulvigula*), 1 individual, Chincoteague, Accomack County, May 27, 2006.

Clay-colored Sparrow (*Spizella pallida*), 1 individual, Sky Meadows, Fauquier County, May 6, 2006.

SUBMISSIONS IN REVIEW

Ross's Goose (*Chen rossii*), 1 individual, Oxbow Park, Russell/Wise Counties, Jan 30–Feb 7, 2006.

Blue-winged Warbler (*Vermivora pinus*), 1 individual, Ridgeview Park, Waynesboro, Feb 18, 2006.

Ross's Goose (*Chen rossii*), 1 individual, Edmunds Park, Halifax County, Mar 28–20, 2006.

White-faced Ibis (*Plegadis chihi*), 4 individuals, Huntley Meadows, Fairfax County, 17–22 Apr 2006.

Mississippi Kite (*Ictinia mississippiensis*), 1 individual, Back Road, Shenandoah County, 14 May 2006.

Black-bellied Whistling-Duck (*Dendrocygna autumnalis*), 15 individuals, private farm, Virginia Beach, Jun 9–10, 2006

Black-bellied Whistling-Duck (*Dendrocygna autumnalis*), 7 individuals, Back Bay National Wildlife Refuge, Virginia Beach, Jul 21–23, 2006.

Glossy Ibis (*Plegadis falcinellus*), 1 individual, Rockingham County, Jul 26–Aug 12, 2006.

Wood Stork (*Mycteria americana*), 2 individuals, Old Quarter Farm, New Kent County, Jul 8–24, 2006.

White Ibis (*Eudocimus albus*), 1 individual, Blackjack wetlands, Culpeper County, Aug 2, 2006.

Bewick's Wren (*Thryomanes bewickii*), 1 individual, Roseland, Nelson County, Aug 30, 2006.

Sooty Tern (*Sterna fuscata*), 1 individual (found dead), Alexandria, Sep 3, 2006.

Bridled Tern (*Sterna anaethetus*), 87 individuals, various locations, Northampton County, Sep 1–2, 2006.

Sooty Tern (*Sterna fuscata*), 21 individuals, Chesapeake Bay Bridge-Tunnel island 4, Northampton County, Sep 2, 2006.

Sabine's Gull (*Xema sabini*), 1 individual, Chesapeake Bay Bridge-Tunnel island 4, Northampton County, Sep 2, 2006.

Leach's Storm-Petrel (*Oceanodroma leucorhoa*), 71 individuals, Chesapeake Bay Bridge-Tunnel island 4, Northampton County, Sep 2, 2006.

Black-chinned Hummingbird (*Archilochus alexandri*), 2 individuals on different dates, Cape Charles, Northampton County, Nov 28–Dec 15, 2004 and 9–11 Dec, 2006.

Allen's Hummingbird (*Selasphorus sasin*), 1 individual, Cape Charles, Northampton County, Oct 25–Dec 30, 2005.

Brown Noddy (*Anous stolidus*), 2 individuals, Chesapeake Bay Bridge-Tunnel island 4, Northampton County, Sep 2, 2006.

Bulwer's Petrel (*Bulweria bulweri*), 1 individual, Chesapeake Bay Bridge-Tunnel island 4, Northampton County, Sep 2, 2006.

ERRATA

For Dalmas, Thelma. 2006. A history of the Virginia Society of Ornithology. The Raven 77(2): 37-47.

The appendices mentioned in the text were inadvertently omitted. These sections are reproduced in their entirety below.

APPENDIX 1

CHARTER MEMBERS OF THE VSO

Ruskin Freer (1944) in "A History of the Virginia Society of Ornithology" states, "By April 1930, we had 42 charter members, whose names are in the Appendix at the end of this paper." Actually, only the names of 40 members are listed. The two names inadvertently omitted from the 1944 paper are included in this list.

Harold H. Bailey	Miami, FL
William H. Ball	Washington D.C.
N. R. Barger	Charlottesville
Mrs. R. W. Bobbitt	Keysville
Paul W. Bowman	Charlottesville
Ralph M. Brown	Blacksburg
Mrs. C. L. Burgess	Lynchburg
Robert P. Carroll	Lexington
William P. Caton	Accotink
A. B. Claytor	Lynchburg
Katherine P. Claytor	Bedford
Aristide Croonenberghs	Lynnhaven
Bertha Daniel	Naruna
W. M. Davidson	Silver Spring, Maryland
Mrs. Joseph Dise	Glen Rock, Pennsylvania
Almon O. English	Norfolk
J. Bowie Fernyhough	Richmond
Ruskin S. Freer	Lynchburg
Joseph E. Gould	Norfolk
Florence S. Hague	Sweet Briar
J. I. Hamaker	Lynchburg
Charles O. Handley	Ashland
Lena B. Henderson	Lynchburg
Mrs. B. W. Hubbard	Williamsburg
Mrs. A. O. James	Richmond
George W. Jeffers	Farmville
Mrs. C. M. Kilby	Lynchburg
I. F. Lewis	Charlottesville

John B. Lewis	Amelia
Merriam G. Lewis	Lexington
H. M. Micklem	Shipman
E. H. Moore	Lynchburg
Mrs. N. H. Moore	Lynchburg
Joseph J. Murray	Lexington
Mrs. R. L. Overstreet	Bellevue
T. Gilbert Pearson	New York, New York
Mary L. Percy	Lynchburg
W. A. Plecker	Richmond
Bernice Rives	New York, New York
Grace H. Taylor	Lynchburg
Mrs. W. E. Ward	Lynchburg
Carlo Zeimet	Vienna

APPENDIX 2

OFFICERS AND DIRECTORS OF THE VSO

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 Executive Committee: Merriam G. Lewis

1930

President: Ruskin S. Freer, Vice-president: Chas. O. Handley Sr.,
 Secretary-Treasurer: Lena B. Henderson, Editor-*Raven*: J.J. Murray
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1931

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APPENDIX 3 LOCAL CHAPTERS OF THE VSO

Audubon Society of Northern Virginia	Annandale
Augusta Bird Club	Staunton
Back Bay Birding Club	Virginia Beach
Bristol Bird Club	Bristol
Buchanan County Bird Club	Grundy
Cape Henry Audubon Society	Norfolk
Clinch Valley Bird Club	Tazewell
Eastern Shore Bird Club	Chincoteague
Fredericksburg Bird Club	Fredericksburg
Hampton Roads Bird Club	Newport News
Lynchburg Bird Club	Lynchburg
Margaret H. Watson Bird Club	Farmville
Monticello Bird Club	Charlottesville
New River Valley Bird Club	Blacksburg
Northern Neck of Virginia Audubon Society	Kilmarnock
Northern Virginia Bird Club	Arlington
Richmond Audubon Society	Richmond
Roanoke Valley Bird Club	Roanoke
Rockbridge Bird Club	Lexington
Rockingham Bird Club	Harrisonburg
Russell County Bird Club	Lebanon
Virginia Beach Audubon Society	Virginia Beach
Virginia Bluebird Society	Fredericksburg
Williamsburg Bird Club	Williamsburg

APPENDIX 4 ANNUAL MEETINGS OF THE VSO

1. Richmond	13 – 14 February 1931
2. Charlottesville	13 February 1932
3. Norfolk	20 – 21 January 1933
4. Alexandria	9 – 10 March 1934
5. Roanoke	26 – 27 April 1935
6. Lynchburg	21 – 22 February 1936
7. Richmond	23 – 24 April 1937
8. Lexington	29 – 30 April 1938
9. Norfolk	17 – 18 February 1939
10. Harrisonburg	10 – 11 May 1940
11. Roanoke	9 – 10 May 1941
12. Blacksburg	3 – 4 May 1946
13. Charlottesville	16 – 17 May 1947
14. Lexington	23 – 24 April 1948
15. Charlottesville	20 – 21 May 1949
16. Harrisonburg	5 – 6 May 1950
17. Danville	27 – 28 April 1951

18. Williamsburg	15 – 16 February 1952
19. Arlington	8 – 9 May 1953
20. Lynchburg	23 – 24 April 1954
21. Norfolk	28 – 30 April 1955
22. Salem	27 – 28 April 1956
23. Wachapreague	3 – 4 May 1957
24. Blacksburg	2 – 3 May 1958
25. Williamsburg	6 – 7 February 1959
26. Bridgewater	29 – 30 April 1960
27. Abingdon	8 – 10 June 1961
28. Newport News	27 – 28 April 1962
29. Lexington	10 – 11 May 1963
30. Arlington	1 – 2 May 1964
31. Mountain Lake	21 – 22 May 1965
32. Norfolk	18 – 19 February 1966
33. Richmond	28 – 29 April 1967
34. Charlottesville	10 May 1968
35. Williamsburg	1 – 4 May 1969
36. Natural Bridge	8 – 10 May 1970
37. Staunton	7 – 9 May 1971
38. Fredericksburg	21 – 23 April 1972
39. Mountain Lake	1 – 3 June 1973
40. Virginia Beach	10 – 12 May 1974
41. Salem	9 – 11 May 1975
42. Abingdon	7 – 9 May 1976
43. Harrisonburg	13 – 15 May 1977
44. Williamsburg	19 – 21 May 1978
45. Lynchburg	18 – 20 May 1979
46. Arlington	16 – 18 May 1980
47. Mountain Lake	29 – 31 May 1981
48. Virginia Beach	7 – 9 May 1982
49. Roanoke	20 – 22 May 1983
50. Hampton	4 – 6 May 1984
51. Staunton	10 – 12 May 1985
52. Farmville	23 – 25 May 1986
53. Williamsburg	5 – 7 June 1987
54. McLean	6 – 8 June 1988
55. Mountain Lake	12 – 14 May 1989
56. Richmond	4 – 6 May 1990
57. Charlottesville	3 – 5 May 1991
58. Virginia Beach	24 – 26 April 1992
59. Norton	14 – 16 May 1993
60. Harrisonburg	13 – 15 May 1994
61. Williamsburg	4 – 7 May 1995
62. Roanoke	17 – 19 May 1996
63. Whitestone	2 – 4 May 1997

64. Mountain Lake	15 – 17 May 1998
65. Fairfax	7 – 9 May 1999
66. Staunton	12 – 14 May 2000
67. Chincoteague	4 – 6 May 2001
68. Richmond	26 – 28 April 2002
69. Charlottesville	2 – 4 May 2003
70. Lynchburg	30 April – 2 May 2004
71. Norfolk	6 – 8 May 2005
72. Breaks	5 – 7 May 2006

APPENDIX 5

RECIPIENTS OF THE JACKSON M. ABBOTT CONSERVATION AWARD

- 1973 - The U. S. Coast Guard for its preservation of Osprey nests on navigational aids.
- 1974 - Persons responsible for recent legislation strengthening the protection of birds of prey in Virginia.
- 1975 - Philip Shelton for his efforts to persuade the Commonwealth of Virginia to institute effective strip-mining controls.
- 1976 - North Carolina Governor and Legislature for its efforts to protect the New River against a pump-storage hydroelectric project.
- 1977 - Dennis Holland for his efforts to maintain the integrity of the National Wildlife Refuge system.
- 1978 - The Virginia Chapter of the Nature Conservancy for its work in preserving the barrier islands of the Virginia Eastern Shore.
- 1979 - Mitchell A. Byrd for his work on endangered species in Virginia.
- 1980 - Jackson M. Abbott for his work on conservation of the Bald Eagle.
- 1981 - Citizens for Southwest Virginia for their effort to insure that development of the Mount Rogers Recreation area would not impact the natural beauty of the area.
- 1982 - Walter E. Feurer for his work at the Cheatham Annex and his efforts in environmental protection.
- 1983 - Margaret O'Bryan for her efforts on behalf of the non-game tax bill.
- 1984 - John Fulton for his work at Kerr Reservoir to improve wildlife habitat.
- 1985 - Sylvia Ann Brugh for her opposition to the Burke's Dam Project and efforts leading to Scenic River designation for that section of the river.
- 1986 - Susan B. Haines for her work to protect the Bald Eagle population at Mason Neck.
- 1987 - Henry Bashore for his enthusiasm, leadership, and efforts to establish conservation awareness on the Northern Neck.
- 1988 - Ed Risley for his active participation on committees to preserve Assateague, Dyke Marsh, Mason Neck, and Huntley Meadows.
- 1989 - Norma Hoffman and Citizens Alliance to Save Huntley Meadows for significant contributions to preserve habitat and promote public awareness.
- 1990 - Gary Fraser and Karen Mayne of the USFWS for their efforts to protect Bald Eagle habitat along the James River.
- 1991 - Ken Howard for his many efforts to preserve Huntley Meadows Park
- 1992 - no award given
- 1993 - Porter Kier for his work in habitat protection on the Northern Neck.
- 1994 - AMOCO Corporation Yorktown Refinery for their local conservation efforts.
- 1995 - Barry Kinzie for his work with habitat preservation at Woodpecker Ridge.

- 1996 - Craney Island Dredge Materials Management Facility for its work in promoting shorebird habitat and protecting sensitive nesting areas.
- 1997 - Virginia Department of Transportation Pine Chapel Unit which manages the Hampton Roads Bridge Tunnel for cooperating to protect nesting habitat for Black Skimmers and Common Terns.
- 1998 - Chesapeake Bay Bridge Tunnel Commission for their cooperation in facilitating access for bird study.
- 1999 - James W. Waggener for his work in helping to establish the Occoquan Refuge.
- 2000 - Robert Bloxom, delegate from the Eastern Shore, for his work in promoting conservation.
- 2001 - no award given
- 2002 - Non-Game Division of the Virginia Department of Game and Inland Fisheries for work in promoting conservation and public awareness of birds
- 2003 - Kiptopeke State Park for their work in preservation of habitat and cooperation in bird studies.
- 2004 - Virginia Coastal Reserve for coordinating with Wallops Island in the use of radar equipment set up on the Eastern Shore to monitor bird migration.
- 2005 - no award given
- 2006 - no award given

APPENDIX 6

RECIPIENTS OF THE EIKE SERVICE AWARD

(an asterisk follows the name of those people
who received the awards at the 1984 meeting)

Jackson Abbott	Clair Mellinger
Robert Ake	Dorothy Mitchell*
J. William Akers	Myriam Moore*
John Bazuin	Bill Opengari
Ruth Beck	Jackie Parton
Mitchell Byrd	Richard Peake
Thelma Dalmas*	Sue Ridd
John Dalmas	Alan Schreck
Anton Decker	Frederic Scott*
John Dillard	Dot Silsby
Linda Fields	Walter Smith
Charlotte Friend	Peggy Spiegel
Charles Hacker	Sue Thrasher
David Hughes	Jerry Via
Enoch Johnson	Robert J. Watson*
Teta Kain	Bill Williams
YuLee Larner	Grace Wiltshire
Larry Lynch	Jo Wood
John Mehner	

APPENDIX 7
VSO BREEDING BIRD FORAYS

Location	Dates	Participants	Species	Raven Vol.
1. Mt. Rogers - Abingdon	6-9 Jun 1966	28	117	37(4)
2. Lower Shenandoah Valley	7-11 Jun 1967	17	112	38(4)
3. Northern Neck	22-26 May 1968	18	165	39(3)
4. Northern Neck	11-15 Jun 1969	20	119	40(3)
5. Peaks of Otter	10-14 Jun 1970	25	100	42(2)
6. Tazewell - Burkes Garden	14-18 Jun 1972	50	119	44(2)
7. Mt. Rogers - Chilhowie	18-23 Jun 1975	50	131	46(4)
8. Highland Co.	17-22 Jun 1975	32	129	49(3)
9. Rocky Knob	15-20 Jun 1976	21	99	50(1)
10. Kerr Reservoir	7-12 Jun 1977	27	122	50(3)
11. Loudoun Co.	10-18 Jun 1978	30	120	51(3)
12. Craig Co.	12-17 Jun 1979	19	112	52(1)
13. Mt. Rogers - Chilhowie	10-15 Jun 1980	29	132	53(1)
14. Accomack Co.	2-7 Jun 1981	23	166	54(1)
15. Bath Co.	8-13 Jun 1982	45	129	54(3)
16. Giles Co.	7-12 Jun 1983	42	122	55
17. Breaks Interstate Park	12-17 Jun 1984	44	108	57
18. Highland Co.	11-16 Jun 1985	52	132	56
19. Tazewell - Burke's Garden	17-21 Jun 1986	32	126	58
20. Mt. Rogers - Chilhowie	12-17 Jun 1990	results not published		
21. Greensville Co.	4-9 Jun 1991	23	103	63(1)
22. Lee Co.	16-21 Jun 1992	28	115	64(1)
23. Tappahannock	1-6 Jun 1993	26	133	65(1)
24. Frederick/Clarke Co.	7-12 Jun 1994	21	122	66(1)
25. Patrick/Henry Co.	6-11 Jun 1995	20	121	67(1)
26. Madison Co.	4-9 June 1996	31	137	68(1)
27. Galax	10-15 Jun 1997	13	117	70(2)
28. Halifax Co.	2-7 Jun 1998	13	101	70(1)
29. Northampton Co.	2-6 Jun 1999	9	145	71(1, 2)
	20-23 Jun 1999	8		
30. Great Dismal Swamp	4-9 Jun 2000	10	80	72(1)
31. Fauquier Co.	4-10 Jun 2001	results not published		
32. Selected Golf Courses	1-15 Jun 2002	119	118	73(2)
33. Bath/Highland Cos.	7-15 Jun 2003	65	136	74(2)
34. Northern Neck	5-13 Jun 2004	20	132	75(2)
35. Russell/Wise Cos.	4-12 Jun 2005	11	114	76(2)
36. Saw Whet Owl	15 Apr-6 Jun 2006	18	1	77(2)

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Hampton Roads Bird Club
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Richmond Audubon Society
Roanoke Valley Bird Club
Rockbridge Bird Club
Rockingham Bird Club
Russell County Bird Club
Virginia Beach Audubon Society
Virginia Bluebird Society
Williamsburg Bird Club

INFORMATION FOR CONTRIBUTORS

The Raven, the official journal of the Virginia Society of Ornithology (VSO), functions to publish original contributions and review articles in ornithology, not published elsewhere, mostly relating to Virginia birdlife. Manuscripts should be sent to the editor, Paul R. Cabe, Biology Department, Washington & Lee University, Lexington, VA 24450 (cabep@wlu.edu).

Most manuscripts published in *The Raven* concern the distribution, abundance, and migration of birds in Virginia. Manuscripts on other ornithological topics, including Virginia-based historical reviews, bibliographical reviews, life history, and behavioral observations are also welcomed. In addition, the journal serves to publish the official proceedings of the VSO and other formal items pertaining to all aspects of the Society's activities. *The Raven* may also publish articles pertaining to the activities of various public and private organizations engaged in biological and conservation work in Virginia. *The Raven* is a peer-reviewed journal; all feature articles and short communications are reviewed before acceptance for publication.

Format of *The Raven* generally follows guidelines set by the Council for Biology Editors as outlined in the CBE style manual, 6th edition, 1994 (Council of Biology Editors, Inc., 11250 Roger Bacon Dr., Reston, VA 20190). Recent volumes of *The Raven* should be inspected for style. Vernacular and scientific names of birds should be those published in the Seventh Edition of the A.O.U. Check-list of North American Birds and subsequent supplements. All measurements should be reported in metric units.

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The Raven

JOURNAL OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

Volume 78

Number 2

2007



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

Activities undertaken by the Society include the following:

1. An annual meeting (usually in the spring), held in a different part of the state each year, featuring talks on ornithological subjects and field trips to nearby areas.
2. Other forays or field trips lasting a day or more and scheduled throughout the year so as to include all seasons and to cover the major physiographic regions of the state.
3. A journal, *The Raven*, published twice yearly, containing articles relevant to 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 additions, 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.

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The Raven

JOURNAL OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

Editor
Paul R. Cabe



Volume 78, No. 2

Published by
THE VIRGINIA SOCIETY OF ORNITHOLOGY

2007

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ISSN 0034-0146

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FORAGING ECOLOGY OF BLACKPOLL WARBLERS DURING SPRING MIGRATION

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ABSTRACT

Since successful migration is a prerequisite for future breeding, choices about stopover areas, as well as decisions made within stopover areas have profound fitness consequences for migrants. Individuals must locate areas where they are able to achieve a net energy gain in order to accumulate the energy needed to make advances toward breeding areas. We observed Blackpoll Warblers (*Dendroica striata*) during spring migration to evaluate 1) time budgets, 2) foraging tactics, 3) prey use, and 4) energy budgets in coastal Virginia. Foraging activity accounted for the largest (55.7%) portion of overall time budgets. Leaf gleaning was the dominant foraging tactic observed, representing nearly 55% of all maneuvers. The majority of prey items identified were small (<5 mm) caterpillars. However, less common prey such as moths accounted for a surprisingly high proportion of estimated energy intake. On average, birds captured a prey item every 28.1 s. Birds ingested an estimated 6.25 g of prey (dry weight) per day. This biomass is equivalent to 113.1 kJ/d of metabolizable energy. These migrants exceeded their estimated metabolic energy requirements by a factor of 2 suggesting that coastal Virginia represents an "energy source" for Blackpoll Warblers during spring migration.

INTRODUCTION

The vast majority of nearctic-neotropical migratory birds are physically incapable of carrying enough energy to complete non-stop flights between breeding and winter areas (Nisbet et al. 1963, Berthold 1975, Dawson et al. 1983, Pettersson and Hasselquist 1985). To overcome this problem, migrants make periodic stops en route to replenish energy reserves. Once in stopover areas, migrants encounter unfamiliar landscapes and uncertain conditions. Individuals that are able to successfully negotiate these conditions presumably increase their probability of successfully completing migration. Since successful migration is a prerequisite for future breeding, choices about stopover areas, as well as decisions made within stopover areas, have profound fitness consequences for migrants.

In recent years there has been an upswell in both theoretical (e.g. Alerstam and Lindstrom 1990, Weber et al. 1998, Simons et al. 2000) and empirical (e.g. Yong and Moore 1997, Parrish 1997) investigations of stopover ecology. Two areas of research that have received considerable attention have been the duration of residency within

stopover areas (e.g. Morris et al. 1996, Schaub and Jennie 2001) and associated mass changes (e.g. Moore and Kerlinger 1987, Winker et al. 1992, Dunn 2001). Both of these lines of investigation have direct implications to the quality of stopover areas along migration pathways. Such studies have focused on the analysis of recapture data collected from migration banding stations. Although these studies provide a good indication of the energetic outcome of bird-habitat interactions, they provide little insight into just how individuals interact with stopover habitats to extract needed resources. Here we provide data on the foraging ecology and energy return of Blackpoll Warblers (*Dendroica striata*) during spring stopover in coastal Virginia.

METHODS

We established nine spot-mapping grids in coastal Virginia including three replicate grids within the outer Coastal Plain (approximately 76.14° long. 36.84° lat.), the middle Coastal Plain (approximately 76.71° long. 37.27° lat.), and the inner Coastal Plain (approximately 77.44° long. 37.54° lat.). Spot-mapping grids were established between 1 April and 9 April, 2000. Grids were rectangular, 30-ha plots measuring 385 m by 800 m. Forest sites were chosen for study based on stand age and canopy composition. All sites contained hardwood-dominated overstories that were 40-80 yrs old. Common canopy species included various oaks (*Quercus* spp.), hickories (*Carya* spp.), red maple (*Acer rubrum*), American beech (*Fagus grandifolia*), and tulip poplar (*Liriodendron tulipifera*).

We observed individual Blackpoll Warblers to quantify time budgets. Observers walked slowly through study areas until an individual was encountered. It should be noted that the majority of birds encountered within study areas were males. We followed focal birds for a period of 2 min and observed using 7X35 binoculars. After the 2-min period elapsed, observers moved on to seek new individuals. All observations were recorded in real time on a micro-cassette recorder and later transcribed using a stopwatch. Behaviors were classified into four categories: (1) foraging, (2) inactive, (3) singing, and (4) chasing. Birds were considered to be foraging if they were actively searching through vegetation or pursuing prey. Birds that were simply perched and not engaged in other activities were classified as inactive. Individuals that were aggressively pursuing other birds were classified as chasing. Behavioral observations were made between 1 May and 3 June, 2000. Peak passage period in coastal Virginia is mid-May with 90% of occurrences between 5 and 30 May (Watts and Weber, unpub. Data). Observations were made in the morning between sunrise and 11:30am.

In addition to time budgets, we collected information describing foraging tactic, foraging success, prey type, prey size, and handling time. Foraging tactics considered here include leaf gleaning, branch gleaning, picking/probing, hawking, and hovering (terminology used here follows Robinson and Holmes 1982). A bird was considered to be successful performing a specific foraging tactic if it captured a single prey item. All prey items observed fell into four taxonomic categories including adult Dipterans, adult Lepidopterans, larval Lepidopterans, and Arachnids. Prey size was estimated in intervals of ½ bill length (approximately 5

mm). Handling time was considered to be the time interval between prey capture and prey ingestion or escape.

We used published relationships to convert observed prey intake to energy gain. We first calculated the dry weight for individual prey items using relational equations derived in Sample et al. 1993. These relationships allow for the estimation of dry weight based on insect size according to the equation $\log(y) = b + a \log(x)$ where y = weight (gm) and x = body length (mm). Separate equations were used for each of the prey taxa observed. Dry weights for all prey items consumed during each 2-min observation period were then summed to yield a total intake weight per period. Total dry weights were then converted to metabolizable energy using published relationships for passerines. Nagy (1987) estimated that 18.0 kJ of metabolizable energy are contained in 1 gm dry weight of insects for a passerine bird. This value is more appropriate than the pre-ingestion energy content of prey because it represents actual energy gain. Energetic estimates for 2-min observation periods were expanded to a daily rate based on the average day length (853 min) during the study period. This approach assumes that migrant Blackpoll Warblers are foraging at a constant rate throughout the day.

A field metabolic rate (FMR) was calculated and used to estimate the energetic requirements of a Blackpoll Warbler during migration. FMR was calculated using an equation relating body weight and FMR for a small passerine (Nagy 1987). The equation $\log(y) = 0.949 + 0.749 \log(x)$ where y = FMR and x = body weight was used. A weight of 12.6 g was used for an average Blackpoll Warbler (Dunning 1993).

RESULTS

On average, foraging activity accounted for the largest portion (55.7%) of the overall time budget followed by inactive perching (20.5%) and singing (17.5%) ($N=176$). Chasing (3.4%) and prey handling (2.8%) accounted for the balance of the observation time. Other activities observed included overt aggression and preening.

The composition of time budgets varied considerably between individuals. Only 50 individuals (28.4%) exhibited all 5 activities during the 2-min observation period. However, the majority of individuals (78.4%) engaged in at least 4 activities while under observation. None of the birds spent the entire observation period engaged in a single activity. Chasing was the least common behavior observed (51.1% of individuals observed) followed by prey handling (73.3%), inactive perching (88.6%), and singing (92.6%). Foraging was the most widespread activity with nearly 100% of individuals spending at least some portion of their time searching for food. According to time spent, foraging was the dominant activity in 76.7% of all time budgets.

Migrant Blackpoll Warblers used 5 primary foraging tactics during stopover in Virginia. Leaf gleaning was the most commonly used tactic representing the largest portion of both bouts observed and time spent (Table 1). Blackpolls physically searched through large numbers of leaves in search of prey. Leaf gleaning was followed in importance by branch gleaning, probing/picking, hawking, and hover

gleaning. Aerial pursuit of prey was not a dominant foraging tactic and did not occur over long distances. Hover gleaning was typically used to extract prey from leaves that were not reachable from branches.

Over the course of the study period, 121 Blackpoll Warblers were observed to take 382 prey items. Common prey items included caterpillars (56.5%), adult dipterans (36.6%), moths (6.5%), and arachnids (0.3%). The distribution of prey sizes was highly skewed with items less than ½ bill length representing a large majority (Figure 1). Most of these small prey were larval Lepidopterans and adult Dipterans. The largest prey items taken were adult Lepidopterans. Blackpolls seemed to have difficulty catching and handling larger prey items. Average handling time for 0-5mm length prey was <1.0 sec, while prey of 16-20mm length had an average handling time > 10.0 sec. From the limited observations, larger prey also appeared to be more likely to escape.

There was a general relationship between prey taxa and foraging tactic (Table 2). Most of the caterpillars were taken by gleaning while searching at close range through leaves and twigs. Adult moths were taken opportunistically by hawking as they flew near a foraging Blackpoll. Dipterans were taken using all foraging tactics. A large portion of these were taken using repeated flights into swarms near the canopy surface. Others were taken directly from the substrate surface.

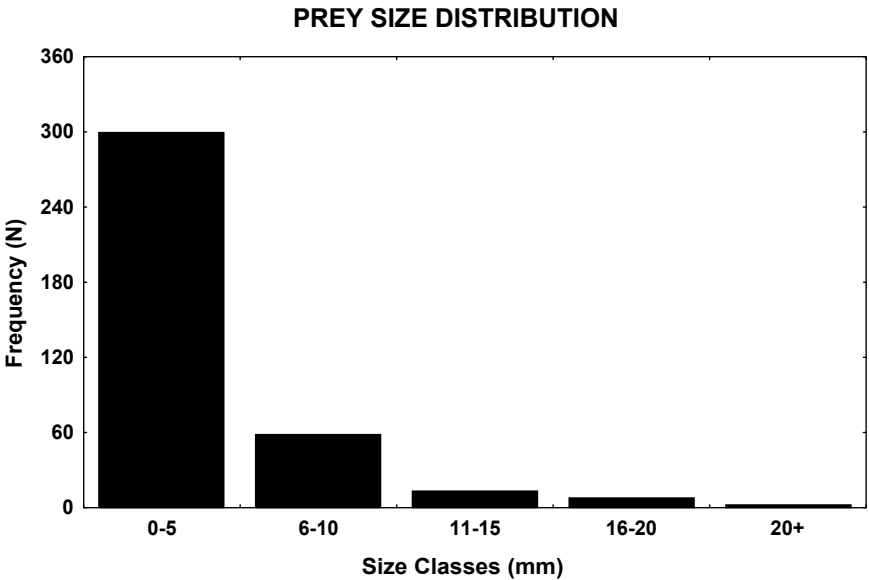


Figure 1. Frequency distribution of size classes of arthropod prey (N=382) taken by Blackpoll Warblers during migratory stopover on the coastal plain of Virginia.

Table 1. Relative frequency and time spent for different foraging tactics by migrant Blackpoll Warblers in coastal Virginia.

Foraging Tactic	Foraging Bouts (N)	Foraging Bouts (% of total)	Foraging Time (sec)	Foraging Time (% of total)
Leaf Gleaning	485	38.0	5,890	54.9
Branch Gleaning	387	30.3	3,035	28.3
Picking/Probing	230	18.0	1,213	11.3
Hawking	114	8.9	365	3.4
Hovering	61	4.8	224	2.1
Total	1,277		10,727	

Table 2. Foraging tactics and taxa of prey items used by migrant Blackpoll Warblers in coastal Virginia. Values indicate number of prey items taken.

Foraging Tactics	Lepidopteran		Dipteran	Arachnid
	Larvae	Adult		
Leaf Gleaning	144	0	32	0
Branch Gleaning	32	0	16	0
Picking/Probing	38	0	11	1
Hawking	0	25	63	0
Hovering	2	0	18	0
Total	216	25	140	1

Table 3. Foraging rates as a function of foraging tactics for migrant Blackpoll Warblers in coastal Virginia. Energy refers to estimated metabolizable energy.

Foraging Tactic	Prey Items (N)	Capture Rate (Items/h)	Intake Rate (kJ/h)
Leaf Gleaning	176	59.1	6.36
Branch Gleaning	48	16.1	0.34
Picking/Probing	49	16.4	0.61
Hawking	88	29.5	6.26
Hovering	20	6.7	0.40
Total	382	128.2	13.97

The relationship between foraging tactic and prey taxa leads to an unexpected pattern in prey capture rate and energy intake rate (Table 3). Although leaf gleaning, branch gleaning, and picking / probing were the dominant foraging tactics (collectively representing 86.3% of foraging bouts and 94.5% of time spent foraging), they did not provide the highest intake rates. By comparison, hawking provided the highest intake rate. The difference in return rate reflects the fact that hawking is a tactic directed to prey that has been detected whereas gleaning and probing, as used here, represent exploratory foraging tactics. The differences also reflect a disparity in prey size. Most of the large prey items were captured by hawking.

Migrant Blackpoll Warblers exceeded their estimated metabolic energy requirements by nearly a factor of 2. Blackpolls ingested an average of 1.47×10^{-2} g of prey (dry weight) per 2-min observation period or 6.25 g per day. This prey biomass is equivalent to 113.1 kJ/d. Estimated Field Metabolic Rate for a 12.6 g Blackpoll Warbler is 59.3 kJ/d.

DISCUSSION

The observations of migrant Blackpoll Warblers presented here are consistent with the notion that this species depends on surface gleaning to obtain food. Gleaning accounted for a large portion of foraging bouts, total foraging time, and prey captures. This pattern is consistent with observations within other migration stopover areas (Morse 1979, Graber and Graber 1983, Latta and Brown 1999), as well as on breeding (Morse 1979) and winter (Sick 1971) grounds. Migrants in coastal Virginia captured most prey from the surface of leaves and branches using near-perch maneuvers. Blackpolls also used more active foraging tactics such as gleaning from surfaces while hovering or hawking. These tactics are also described as minor foraging behaviors in other studies. Latta and Brown (1999) describe these tactics as representing less than 10% of foraging maneuvers during fall migration in the Dominican Republic. Morse (1979) describes these tactics as being more common during migration in Maryland compared to on the breeding grounds of New Hampshire.

Although active foraging tactics represented a minor portion of the foraging bouts and time spent foraging, they accounted for a dominant portion of the estimated energy intake. Hawking and hover gleaning were very rewarding in terms of both capture rate and energy intake rate. This success was partly due to the fact that these expensive foraging tactics were often directed toward large, valuable prey items. The fact that these tactics make a significant contribution to the overall energy budget has not been acknowledged elsewhere within stopover areas.

Blackpoll Warblers in coastal Virginia took a large number of small (<5mm) prey items. The majority of these prey items were caterpillars. This finding is consistent with previous studies elsewhere that have examined prey use during migration (e.g. Morse 1979, Graber and Graber 1983, Latta and Brown 1999). A large number of these caterpillars were gleaned from newly emerged leaf clusters, a pattern also consistent with previous investigations conducted during spring migration.

Graber and Graber (1983) estimated that migrant Blackpoll Warblers achieved a daily energy intake of 322 kJ in central Illinois. They suggest that caterpillar density was so high in this location that Blackpolls may have been approaching the upper limit to foraging rate. They speculate that the intermittent rest periods observed were needed to digest prey. Estimated energy intake rate for coastal Virginia was 113.1 kJ/d. Although this value is much lower than that reported for Illinois, it is dramatically higher than the estimated Field Metabolic Rate of 59.3 kJ/d for this species. Blackpolls foraging in Virginia captured a prey item every 28.1 s on average. This capture rate is comparable to the Dominican Republic where migrant Blackpolls captured a prey item every 21.4 s (Latta and Brown 1999).

The technique used here to estimate foraging rate includes some implicit assumptions. We first assume that sample observation periods give a reasonable representation of how Blackpoll Warblers spent their time during stopover. Although it is impossible to fully assess this assumption, the relatively large number of individuals sampled provides some level of confidence to the average time budgets presented. The remarkable degree of agreement between time budgets presented here and those calculated for Blackpolls within other stopover areas also provides some confidence in their general values. Blackpolls in coastal Virginia spent an average of 55.7% of their time foraging. This value is remarkably consistent with migrant Blackpolls in Illinois that spent 54.0% of their time foraging (Graber and Graber 1983) and Blackpolls observed in New Hampshire that spent 49% of their time foraging (Morse 1979).

In order to calculate daily energy intake rates, an additional assumption was made that Blackpoll Warblers were foraging at a consistent average rate throughout the daylight hours. A mid-day depression in foraging activity has been well documented for a number of warbler species (e.g. Hutto 1981). The timing of foraging samples, in this study, was restricted to the morning hours. If migrant Blackpoll Warblers in coastal Virginia reduce foraging activity during any portion of the day, the net result of this assumption is an overestimate of daily intake rate. Graber and Graber (1983) suggested that migrant Blackpolls in Illinois exhibited a 3-hour lull in foraging activity in the middle of the day. Such a foraging lull in this study would result in a 20% reduction in daily energy intake. Although this reduction would reduce the magnitude of the estimated energy surplus achieved by migrant Blackpolls in coastal Virginia, it would not influence the direction of the energy budget. The coastal plain of Virginia appears to be a source of energy for male Blackpoll Warblers during spring migration. Even considering a possible overestimate in energy intake, individuals more than offset their metabolic costs.

ACKNOWLEDGEMENTS

We would like to acknowledge D. Cersale, K. Jenkins, R. Held, and A. Kaye for their assistance in the field. We would also like to thank the Maymont Foundation, the City of Richmond Parks Department, and numerous landowners who provided access to their property. Financial support for this project came from The Center for Conservation Biology at The College of William & Mary, The Eastern Bird Banding Association, The Virginia Society for Ornithology, and The College of William & Mary's student research grant fund. D. Cristol, S. Ware, and M. Wilson made helpful comments on an earlier draft of this manuscript.

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BIRDS OF THE KIPTOPEKE CHALLENGE, 1995-2006

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INTRODUCTION

The Kiptopeke Challenge began in 1995 as an annual late summer/early fall bird survey on Virginia's Eastern Shore and team birding competition fund-raising event for Coastal Virginia Wildlife Observatory (originally Kiptopeke Environmental Station, Research and Education Laboratory, or K.E.ST.R.E.L.). The original name of the event, "The Super Bowl of Birding," an obvious derivative of the well-known New Jersey "World Series of Birding," was changed in 1998. The entire coastal plain was included for the 2004 event. Unlike similar surveys held in the spring, there are few easily "staked-out" territorial birds or singing birds that can be identified by voice only and many are in their more cryptic post-breeding or juvenile plumage, hence, the "challenge."

The dates for the event have ranged from 12 September to 1 October. During the first three years, the dates were a week long "window," but since 1998 it has been set as a single day. As of 1999, it has been set for the Saturday closest to the autumnal equinox. This time was chosen to maximize diversity, because for this area of the Atlantic coast it is a time when many migratory bird species that breed in the area can still be found, just as many Neo-tropical and temperate migrants from farther north are passing through. Coordinators for the event, besides the author were Edward Brinkley in 1998, who was responsible for the name change, Kurt Gaskill from 2003-2005 and a committee in 2006. The rules basically follow "big day" guidelines established by the American Birding Association, which require teams to stay together and which require at least two observers to document a species. The thorough coverage by the teams of experienced birders across the limited area throughout the 24-hour count day insures that an accurate snapshot of the bird migration will be obtained.

OBSERVATIONS

The total number of species observed by all teams has ranged from 103 (in 1995) to 183 (in 2005), with an average of 157 per year. The total number of species recorded for the event over all years is 234. The number of teams participating in the event has ranged from two in 1995 to 12 in 2004. The two highest single-team totals are 159 in 2006 and 145 in 1996. The 1995 event was only run for a six-hour period.

The weather has played a major role in only two of the events. In 2003, it was delayed for a week due to Hurricane Isabel and in 2004 the remnants of Hurricane

Ivan caused very windy and rainy conditions.

There have been 96 species of the most common birds which have been recorded every year of the event or missed just once (Appendix). Shorebirds have been very well represented at this season with an impressive 36 species recorded. Bitterns, herons, egrets and ibises have totalled 12 species. "Traill's Flycatcher" has been used by teams to designate the difficult-to-separate Alder Flycatcher (*Empidonax alnorum*) and Willow Flycatcher (*Empidonax trailii*).

Some species that have been found only once or twice are northern birds migrating south a little earlier than usual, such as Northern Gannet (*Morus bassanus*), Hooded Merganser (*Lophodytes cucullatus*), Red-breasted Merganser (*Mergus serrator*), Black Scoter (*Melanitta nigra*), Ring-necked Duck (*Aythya collaris*), Ruddy Duck (*Oxyura jamaicensis*), Brown Creeper (*Certhia americana*), Sedge Wren (*Cistothorus platensis*), Yellow-bellied Sapsucker (*Sphyrapicus varius*), Yellow-rumped Warbler (*Dendroica coronata*), American Pipit (*Anthus rubescens*), Swamp Sparrow (*Melospiza georgiana*) and Dark-eyed Junco (*Junco hyemalis*). Two common species found only twice, Wood Thrush (*Hylocichla mustelina*) and Orchard Oriole (*Icterus spurius*), are birds that have usually migrated south by mid-September. Least Tern (*Sternula antillarum*), found only once, is common along the coast in summer, but vacates the area usually by early September. Some uncommon species found only once or twice are Common Snipe (*Gallinago gallinago*), Piping Plover (*Charadrius melodus*), Wilson's Phalarope (*Phalaropus tricolor*), Barn Owl (*Tyto alba*), Black-billed Cuckoo (*Coccyzus erythrophthalmus*), Prothonotary Warbler (*Prothonotaria citrea*), Kentucky Warbler (*Oporornis formosus*), Grasshopper Sparrow (*Ammodramus savannaarum*), Lark Sparrow (*Chondestes grammacus*) and Dickcissel (*Spiza americana*).

A number of species considered rare have been found during the Kiptopeke Challenge. Among the rarities found only once are Eared Grebe (*Podiceps nigricollis*) near Oyster in 1996; Curlew Sandpiper (*Calidris ferruginea*) at Chicoteague in 1996; Golden-winged Warbler (*Vermivora chrysoptera*) in 1996; Mourning Warbler (*Oporornis philadelphia*) in 1996; Harlequin Duck (*Histrionicus histrionicus*) at the Chesapeake Bay Bridge-tunnel in 1998; Olive-sided Flycatcher (*Contopus cooperi*) at the Custis Tomb area in 2002; Long-tailed Jaeger (*Stercorarius longicaudus*) at Craney Island, Portsmouth in 2004; Black-necked Stilt (*Himantopus mexicanus*) at Chincoteague in 2006 and Black Rail (*Laterallus jamaicensis*) at Eastern Shore of Virginia National Wildlife Refuge in 2006.

Two rare species reported for the event have not been accepted by the Virginia Avian Records Committee of the Virginia Society of Ornithology; these were Ivory Gull (*Pagophila eburnea*) in 1998 and Lesser Sand-Plover (*Charadrius mongolus*), also known as Mongolian Plover, in 2001. There are no previous records for these species in Virginia. Both species were seen by three experienced observers over a period of several minutes and at ranges as close as 50 meters. Extensive notes were taken and a sketch of the Ivory Gull was made. There were no photographs of either.

Red-breasted Nuthatch (*Sitta canadensis*), a regular irruptive species, usually on a two-year cycle in Virginia, has been recorded during the event only during the odd-numbered years, with the exception of 2003 when Hurricane Isabel devastated

much of the habitat and greatly disrupted migration. The three nuthatch species, Red-breasted, White-breasted (*Sitta carolinensis*) and Brown-headed (*Sitta pusilla*), have only all been found in 1999 and 2005. White-breasted Nuthatch is very rare on the Eastern Shore.

Mute Swan (*Cygnus olor*), though present during the early years of the event, has only been found twice since 1998. This reflects a decline, seen particularly at Chincoteague National Wildlife Refuge.

Only seven species of "eastern" warblers have not yet been recorded for the event: Blue-winged (*Vermivora pinus*), Orange-crowned (*Vermivora celata*), Canada (*Wilsonia canadensis*), Cerulean (*Denroica cerulea*), Connecticut (*Oporornis agilis*), Swainson's (*Limnothylyps swainsonii*) and Louisiana Waterthrush (*Seiurus noveboracensis*). Orange-crowned Warbler migrates later in the season, while the others are seldom encountered on the Eastern Shore at any season.

Some species that are expected, due to records in the area during this time of the year, but not yet found during the event include Upland Sandpiper (*Bartramia longicauda*), Ruff (*Philomachus pugnax*), Swainson's Hawk (*Buteo swainsoni*), Western Kingbird (*Tyrannus verticalis*), Selasphorus hummingbirds, Sandhill Crane (*Grus canadensis*, observed the day after the event in 1997) and Cave Swallow (*Petrochelidon fulva*, observed the day after the event in 2004). The hurricane season peaks in September and several species of pelagic birds will certainly be added if the passage of a tropical storm system through Chesapeake Bay occurs just prior to or during the Kiptopeke Challenge.

ACKNOWLEDGEMENTS

Thanks to the many teams who have participated in the event and to the staff of Eastern Shore of Virginia National Wildlife Refuge and staff of the Chesapeake Bay Bridge-tunnel Authority for opening areas generally closed to the public.

APPENDIX

Species recorded in every Kiptopeke Challenge, after the first one, which was only conducted for 6 hours and did not cover the entire Eastern Shore.

Canada Goose
Wood Duck
Gadwall
American Black Duck
Mallard
Blue-winged Teal
Northern Shoveler
Green-winged Teal
Northern Bobwhite
Brown Pelican
Double-crested Cormorant
Great Blue Heron

Great Egret
Snowy Egret
Little Blue Heron
Tricolored Heron
Green Heron
Black-crowned Night-Heron
Yellow-crowned Night-Heron
White Ibis
Glossy Ibis
Black Vulture
Turkey Vulture
Bald Eagle

Northern Harrier	Tufted Titmouse
Sharp-shinned Hawk	Brown-headed Nuthatch
Cooper's Hawk	Carolina Wren
Red-tailed Hawk	House Wren
American Kestrel	Blue-gray Gnatcatcher
Merlin	Eastern Bluebird
Clapper Rail	American Robin
Black-bellied Plover	Gray Catbird
Semipalmated Plover	Northern Mockingbird
Killdeer	Brown Thrasher
American Oystercatcher	European Starling
Greater Yellowlegs	Northern Parula
Lesser Yellowlegs	Magnolia Warbler
Willet	Black-throated Blue Warbler
Sanderling	Pine Warbler
Least Sandpiper	Black and white Warbler
Short-billed Dowitcher	American Redstart
Laughing Gull	Common Yellowthroat
Ring-billed Gull	Eastern Towhee
Herring Gull	Northern Cardinal
Great Black-backed Gull	Indigo Bunting
Caspian Tern	Red-winged Blackbird
Royal Tern	Common Grackle
Sandwich Tern	Boat-tailed Grackle
Common Tern	Brown-headed Cowbird
Forster's Tern	Baltimore Oriole
Black Skimmer	American Goldfinch
Rock Pigeon	House Sparrow
Mourning Dove	
Eastern Screech-Owl	
Great Horned Owl	
Chimney Swift	
Belted Kingfisher	
Red-bellied Woodpecker	
Downy Woodpecker	
Northern Flicker	
Eastern Kingbird	
Red-eyed Vireo	
Blue Jay	
American Crow	
Fish Crow	
Tree Swallow	
Barn Swallow	
Carolina Chickadee	

BULWER'S PETREL (*BULWERIA BULWERII*) NEW TO VIRGINIA

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ABSTRACT

I observed a Bulwer's Petrel (*Bulweria bulwerii*) on 2 September 2006, over the Chesapeake Bay, west-northwest of the northern corner of Chesapeake Bay Bridge-Tunnel Island #4, Northampton County. The bird was clearly transported to this location by the decaying remains of Tropical Storm Ernesto, along with numerous other pelagic species here. Identification of this bird, and the larger context of North American and Caribbean records, are discussed. The record has been reviewed by the Virginia Avian Records Committee and was accepted in Category 2 as the first record of the species in the state.

OBSERVATIONS

On 2 September 2006, between 1:07 and 1:10 p.m. EDT, with clear skies, favorable lighting, and winds about 12 knots from the southwest, I observed a Bulwer's Petrel (*Bulweria bulwerii*) over the Chesapeake Bay, west-northwest of the northern corner of Chesapeake Bay Bridge-Tunnel Island #4, Northampton County. Distance to the bird, which I judged as ranging from 400 m to 2 km over the course of observation, was triangulated (estimated) from known distances: the northern corner of the island was about 335 m from where I stood; the channel markers to the northwest were 3.15 km from where I stood. Distances are from NOAA Marine Navigation chart 12222 (Cape Charles to Norfolk Harbor) and CBBT island maps.

While watching a relatively small area of the Bay that held several birds (2 Leach's Storm-Petrels [*Oceanodroma leucorhoa*], 2+ Bridled Terns [*Onychoprion anaethetus*], and a few Black Terns [*Chlidonias niger*]) about 250 m west-northwest of the northern corner of the island, using a Leica Televid 77mm spotting scope with 20-60x zoom eyepiece, I saw a mostly brown seabird pop up from behind a swell and begin flying in a west-southwesterly direction. It may have been sitting on the water's surface and have taken flight in response to the Leach's, which seemed to be investigating something in that vicinity, though they also moved on to the southwest and were in view with the larger bird for only about 1 minute. After observing the bird, I made the following notes (some abbreviations in the original notes are written out here):

"Bulwer's Petrel observed for the past 3-4 minutes. Possibly put up by Leach's Storm-Petrels in area. Mostly brown tubenose, recalling a very large storm-petrel and similar in color to adjacent Leach's. At first, when I saw it, my eye went to the rump, and for a fraction of a second, I thought 'that Leach's is dark-rumped'-but then, well within a second, I saw a

Leach's fly in from the left, and it was dwarfed by this bird: most striking was the bird's exceedingly long, dark brown tail (appeared tapered to a point throughout observation) and even more so the extraordinarily long, narrow wings, easily 30% or more longer than the Leach's but appearing maybe 50% longer, as the Leach's kept their wings in partly crooked position, while this bird often held the wings fully outstretched, very unlike so many tubenoses and accentuating their long/narrow aspect tremendously. Underwing dark brown (coverts similar shade to remiges); greater-? uppersecondary coverts show contrastingly paler than rest of wing, forming long bar on upperwing rather like carpal bar of Leach's and a similar shade of creamy brown-buff (lacking brassy tones of worn coverts of noddies, seen earlier) but longer and appearing less transverse than the storm-petrel's, more parallel to the wing edge. Head looks rather small for body; bill looks like larger, longer version of Leach's and also blackish-bird a bit distant to see the exact dimensions. Overall structure of bird is very distinctive, unlike any other tubenose and recalling a giant storm-petrel but with long, long wings and long tail; nothing like gadfly petrels, which have broader wings, less exaggerated aspect ratio, and not such a long-looking caudal projection, and rather larger heads/bills. [Feet, legs, eye color not observed.]

"Flight very distinctive but tough to describe. The bird began flying briskly to the west-southwest, a few shallow beats into the wind-recalling Leach's in similar flight attitude today but with wing outstretched and the flap coursing quickly and cleanly down the length of the wing, unlike Leach's! - and showed dorsal surface well. A few very fluid, fleet wingstrokes-to me somewhat like the whipping, smooth, rapid strokes of Sooty Shearwater in higher winds-and the bird turned right and began dynamic 'sailor' flight to the northwest, very much like a gadfly petrel or Band-rumped Storm-Petrel but with even more ease. With just 1-2 whips of the long wings, the bird caught the southwesterly wind and rode it upward, over and over, so that it appeared (watching it as it flew directly away from my vantage) to slide sideways up the left side of a 'U' with no effort at all, then back down it, but progressively farther away with each vault. It continued this lovely form of flight until I lost it in the distance. [Todd] Hass once described the locomotion of this species in this mode to me: 'like a ball of mercury zigzagging along the surface of a tilted half-pipe', most apt."

Interestingly, this was the only bird, of all the seabirds seen 2 September 2006 after/during the passage of Tropical Depression Ernesto, that flew toward the northwest (toward Cape Charles); all the rest were heading eastward (a few), southward or southwestward (many), or southeastward (some).

DISCUSSION

In the past, reports of Bulwer's Petrel have been treated with extreme skepticism, mostly because its field identification was not understood, few ornithologists or birders had seen the species in life, the species is quite boat-shy and evasive at sea, and because the first book to treat seabird identification (Harrison's *Seabirds* [1983]) included erroneous or misleading paintings of Fiji Petrel (*Pterodroma macgillivrayi*), Mascarene Petrel (*Pseudobulweria aterrima*), and Jouanin's Petrel (*Bulweria fallax*), making these species seem very similar to Bulwer's in structure. Since at least the late 1990s, large numbers of birders have gained experience with Bulwer's Petrels at seawatches and from boat excursions, and it is clear that Bulwer's has little likeness to other seabirds and that it is an easy bird to identify when seen well.

I have had many opportunities to view storm-petrels from the Chesapeake Bay Bridge-Tunnel (several hundred birds) and three opportunities to watch Trinidad / Herald Petrels (*Pterodroma* [a.] *arminjoniana*) here, of light, dark, and intermediate morphs. The Bulwer's Petrel was quite different from all of these, especially in structure but also in the quality of flight - the bird's flight was sleek, fast, with maximal forward momentum produced by minimal beating of wings. Though somewhat similar to (for instance) a small noddy (*Anous* species) in proportion (long wings, tail), the flight could not have been more different from the stiff-winged, crook-winged flight of the noddies observed 2 September - there was no chance of confusion with any tern or gull or jaeger of any sort. I have observed Bulwer's Petrel previously at sea on visits to Madeira in 2003 and 2004.

There are relatively few reports of Bulwer's Petrel in the western North Atlantic Ocean (Table 1), given that it migrates between nesting grounds in the eastern North Atlantic and wintering areas off Brazil. The Birds of North America account on Bulwer's Petrel (Megyesi and O'Daniel 1997) states: "Temporal and spatial coverage of pelagic waters off southeastern United States is lacking; no sightings exist for hurricane-driven birds in this region, because hurricane season occurs when birds are in eastern Atlantic breeding." This is incorrect as relates to the breeding season of Bulwer's Petrel in the northeastern North Atlantic, which spans April through August (Tucker and Heath 1994, Hazevoet 1994, Zino and Biscoito 1994, Hernández et al 1990, Paterson 1997). Fifteen Bulwer's Petrels were observed in Hurricane Iris 4 September 1995, just 658 nm east-southeast of St. John's, Newfoundland (Sea Swallow 45: 37), a location probably far west of the usual range. A Cape Verde-origin hurricane, especially one in late August or in September (the peak season for formation of these storms), would intercept the south-southwesterly migration of this species precisely, to judge from reports from ships in the eastern and central North Atlantic (published in the Sea Swallow, 1965-2000). More coverage of pelagic waters would likely produce more reports of the species in autumn, and indeed there are unconfirmed reports of the species 2004-2006 from cetacean survey vessels over deep water off the mid-Atlantic states; some of these reports may have merit, but none has been reviewed or formally published.

In 2007, the above record was accepted by unanimous vote by the Virginia Avian Records Committee, which places Bulwer's Petrel on the Official List of Virginia birds, in Category 2.

Table 1. Reports of Bulwer's Petrel in eastern North America and the Caribbean. (Two July records for California, 1993 and 1998, are the only other North American records.)

Date	Location	Source
01/23/1961	Soldado Rock, off Trinidad	ffrench 1963; only specimen
05/30/1965	e. of Barbados	Hutt et al. 2007
06/07/1965	e. of Barbados	Hutt et al. 2007
06/10/1965	e. of Barbados	Hutt et al. 2007
05/14/1969	w. of Key West, Florida	Taylor 1972
05/13/1970	4 nm NE of Klein Curaçao	Voous 1983
08/08/1973§	North Point, Barbados	Hutt et al. 2007
06/06/1979§	off e. North Carolina	Lee 1995
07/15/1980	off North Sydney, Nova Scotia	LeGrand et al. 1999
05/01/1984	off ne. Florida	Haney and Wainwright 1985
03/19/1987	388 nm ne. of Antigua	Sea Swallow 38: 13
07/01/1992	off e. North Carolina	Hass 1995
08/15/1993	off Chincoteague, Virginia	VARCOM archive [not accepted]
08/08/1998	off e. North Carolina	LeGrand et al. 1999; photographed
04/~25/2000	w. of Barbados	Hutt et al. 2007
04/21/2003	off Dominica	Norton et al. 2003
06/11/2003	Terre-de-Bas, Guadeloupe	Levesque and Yésou 1995
06/12/2003*	Terre-de-Bas, Guadeloupe	Levesque and Yésou 1995
07/05/2003*	Terre-de-Bas, Guadeloupe	Levesque and Yésou 1995
07/07/2004	223 nmi off Ocean City, MD	Mark Tasker (pers. comm.)
07/23/2004	91 nmi off Ocean City, MD	Mark Tasker (pers. comm.)
07/25/2004	131 nmi off Ocean City, MD	Mark Tasker (pers. comm.)
08/14/2005§	off e. North Carolina	J. B. Patteson (pers. comm.)
06/05/2006	Terre-de-Bas, Guadeloupe	A. Levesque (pers. comm.)

*These latter were not seen as well as the first but have been confirmed by a subsequent encounter in 2006, in which the bird came quite close (per A. Levesque).

§ These records are not considered "confirmed" by the observers, owing to the brevity of the encounter, but "highly probable."

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BROWN NODDIES (*ANOUS STOLIDUS*) AT THE CHESAPEAKE BAY BRIDGE-TUNNEL, VIRGINIA

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ABSTRACT

I observed two Brown Noddies (*Anous stolidus*) on 2 September 2006, over the Chesapeake Bay, west-northwest of the northern corner of Chesapeake Bay Bridge-Tunnel Island #4, Northampton County. The birds were among hundreds of seabirds transported to this location by the decaying remains of Tropical Storm Ernesto. The record has been reviewed by the Virginia Avian Records Committee and was accepted in Category 2 as the first record of the species in the state. In addition to this record, multiple Brown Noddies were reported the same day from three other locations in Virginia.

OBSERVATIONS

On 2 September 2006, I observed two Brown Noddies (*Anous stolidus*), an apparent subadult (worn Basic I plumage) and a juvenile (slightly worn juvenal plumage). In all cases, a Leica Televid 77mm spotting scope was used, fitted with an angled 20-60x zoom eyepiece and mounted on Manfrotto tripod. The first was observed between 11:44-11:47 a.m., the second at 12:10 p.m. In addition, I observed three unidentified noddies together at 11:55-11:57 a.m., a single unidentified noddy at ca. 11:59 a.m., and another at 12:40 p.m. Until 12:50 p.m., the light was behind me and skies overcast, winds southwesterly at 15 knots or so; after 12:55 p.m., skies were clear through rest of the day (until at least 5:30 p.m.), winds diminishing to 10-12 knots or so. Estimated distances from the birds were 220 m (first Brown Noddy); 300 m (second Brown Noddy); 1.4 km (three noddies); and 700-800 m (single unidentified noddies). These distances were estimated using known distances: the northern corner of the island was about 335 m from where I stood; the channel markers to the northwest were 3.15 km from where I stood. Distances were derived from NOAA Marine Navigation chart 12222 (Cape Charles to Norfolk Harbor) and CBBT island maps.

I saw the first Brown Noddy out in front of me (that is, in an area of Bay nearest my point of observation, if one were to draw a line through that point perpendicular to the long axis of the island), at a distance I reckon to be about 220 m. I first saw it through Zeiss 10x40 binoculars, then watched it through the scope for the rest of the observation. It flew to the south, never closer and thus not close enough to photograph. After seeing the bird, I wrote the following notes.

"Brown Noddy. Apparent first-summer. Sleek brown tern not much smaller wingspan-wise than adjacent Laughing Gull [*Larus atricilla*], with long,

pointed wings, tail appears long and pointed throughout observation; bill long, straight but somewhat stout, and black. Brown color recalls that of storm-petrels or young Heermann's Gull [*L. heermanni*]. Entirely uniform medium/dark brown except for 1) greater/median upperwing coverts, paler from wear, a sort of brassy-buff tone, 2) underwing, seen poorly, which seemed to have slightly paler brown underwing coverts (contrasting very little with remiges), and 3) markings of the head, including a thin, pale arc of plumage below the eye (only), setting off the dark eye from the face, and also an indistinctly pale forecrown, which lacked a distinct rear border and sort of 'petered out', faded to gray-brown at midcrown. Face pattern with under-eye arc makes bird look somehow humorless, businesslike. A boring bird plumage-wise! Structurally, though, it is elegant and distinctive: more delicate than Laughing Gull, much more substantial than the many Black Terns [*Chlidonias niger*] this morning; wings so lengthy as to look lanky, an impression reinforced by longish tail and rather long-looking head and bill - the bird seems pointed on all four ends, unlike jaegers, and the sharp carpal joint projects well forward, sometimes as far forward as the face. The outer portion of the wing ('hand') looks especially long, almost disproportionately so. Also wing action seems businesslike: wings drawn in halfway, deep, regular, somewhat stiff (that is, not especially fluid) but forceful wingbeats that seem to say: 'get me out of here now'. Flight less decisive/controlled than Long-tailed Jaeger [*Stercorarius longicaudus*] seen earlier. Flight attitude consistent throughout."

I saw the second Brown Noddy first off the northwestern corner of the island and watched it for about three minutes; it eventually flew eastward, I think, beneath the trestle north of the island. After seeing the bird, I wrote the following notes.

"Second Brown Noddy. Very similar to first, including flight action, but this bird seemed to be interested briefly in the tern flock feeding off the western side of the island, swooping down gracefully but quickly twice to investigate, flaring the tail, which showed the odd, double-lobate, notched shape typical of the genus. Good to see this spread tail, not seen on the other definite Brown Noddy. The plumage essentially the same as the other but head pattern seems even fainter, wing wear less prominent; a somewhat worn juvenile? Definitely a different individual. Saw this bird nicely with trestle in background, which seemed a bit better than Bay for dark background, thus easier to see subtler aspects of plumage, even though bird more distant."

If this bird indeed flew beneath the bridge, it was the only bird, other than Common Tern (*Sterna hirundo*), observed to do so; the rest flew around the bridge and island, except many of the Sooty Terns (*Onychoprion fuscatus*), which overflew both.

The two Brown Noddies both exhibited flight characteristics, structure, and plumage that separated them quickly and easily from the *Onychoprion* terns; 83 Bridled Terns (*O. anaethetus*) and 21 Sooty Terns were conservatively counted at this

location. In flight, they held their wings a bit closer to the body and seemed to flap "from the wrist," almost as though beating their long primaries like an instrument. The motion did not seem as effortless and aerial/acrobatic as the flight of most Sooty Terns; the birds seemed, all, to struggle more with the winds, to be less fluid and graceful, but also to be beating into the wind (like many of the Bridleds), which few of the Sooties did. The typical flight behavior I associate with noddies is more graceful and buoyant; I have not seen one in a tropical storm previously but did see several hundred on a rough sea crossing to the Dry Tortugas in spring 1983, and in looking at my slides from that trip, I noticed that certainly some of the birds seemed to be tucked in, wing-wise, and hugging the sea surface, very much like most of the noddies at the Chesapeake Bay Bridge-Tunnel. Like the Sooty Terns, the Brown Noddies at the bridge-tunnel raised the wing fairly high, such that views of the underwing coverts were fairly good. The downstroke was more rapid than the upstroke, which gave the appearance of hesitation before the downstroke-time enough to see the underwing fairly well.

The brown underwing coverts of both Brown Noddies rule out juvenile Sooty Tern (which is also a charcoal gray, not brown, above and shows neat pale fringes to upperwing covert and mantle feathers). On the closer Brown Noddy, the full under-eye arc ruled out Black Noddy (*A. tenuirostris*; which has white just under the rear quadrant here), as did its overall size and structure. On the second (also nonadult) Brown Noddy, again, the bird was too large and heavily proportioned to be a Black Noddy, too heavy-billed, and lacked the clean, white cap that nonadult Black Noddies have.

The group of three unidentified noddies were rather distant. I first saw them while scanning about a third of the way out to the red channel marker to the northwest. They flew low over the water, as many of the Black Terns were doing, but were obviously dark brown terns with longer wings, long tails, and substantial heads/bills. Their wing action was very like that of the closer Brown Noddy, but I could not make out any clear head pattern, though the light was quite good and the wind not causing the scope to shake much at all (I was in the lee of the car). I watched them fly steadily, with deep, mostly regular, purposive-looking wingbeats, to the south-southeast; I lost them among the swells. As there were Black Terns on two occasions in the same scope field, it was very easy to see that these were noddies, not Black Terns. The long, lanky but somewhat broad (relatively speaking; still a tern) wings made me somewhat confident that these were not Black Noddies, whose wings to me look rather narrow. But without seeing actual field marks, I could not be certain. I took no real notes on these birds, just a few jotted impressions, supplemented after returning home (no references consulted), around 6:30 p.m.

The first unidentified noddy I saw while on the mobile phone. In breaking off the conversation, I said, "Here's a very dark noddy with a clean white cap, with a sharp rear border; it looks narrow-winged, dark, small, and slim." These impressions lasted throughout the observation of the bird-diminutive (not a whole lot larger than a Black Tern, but clearly larger), very slender, small-headed (recalling Black Tern in that respect), slender-winged, with stiff, quick, almost jerky wing action recalling Least Tern [*Sternula antillarum*] or Black Tern more than Brown Noddy (not really

"fluttery" as some authors describe the smaller noddies, at least not in this particular flight style); the bird appeared more subject to displacement by wind gusts than the confirmed Brown Noddies. It appeared overall darker, certainly dark gray if not charcoal/black, than the Brown seen earlier but still showed a paler area in the upperwing coverts. But the bird stayed low to the water (more like the many Black Terns than the two Brown Noddies in that respect) and disappeared to the south, never veering off course and several times getting lost behind larger swells.

The later bird was essentially identical, also stayed quite low to the water, was lost to view a few times, and never came close enough to be confident of an identification beyond "noddy species." The impression of a small, very dark tern almost "led" by its snow-white forecrown or crown was consistent through the observation. I lost the bird among the swells somewhere between the island and the area south of the green channel marker to the northwest of the island. I have no way of knowing that there was no duplication between these sightings (thus, they are logged as two sightings of a single bird, rather than as two birds), but I doubt it. I suspected that these birds could have been Black Noddies, but the birds were too distant to be certain; moreover, the species has been documented only three times in North America away from the Dry Tortugas, Florida and vicinity, in all cases in coastal Texas.

I have observed Brown Noddy twice in Florida-on a pelagic excursion in the Gulf and on the nesting grounds in the Dry Tortugas-as well as off the coast of Louisiana. I have observed Black Noddy only on the Texas coast, a bird I found with Andrew Farnsworth and Marshall J. Iliff at Bolivar Flats, Texas 1 May 1998 (photograph in Field Notes 52: 408). The other Texas records of the species are from North Padre Island (22 June 1975) and St. Joseph's Island (27 July 1998), both documented by photographs. A noddy observed, but not photographed, off Hatteras Village, Dare County, North Carolina on 3 September 1977 appeared to be a Black Noddy (P. G. Dumont et al.) but was not confirmed.

DISCUSSION

Other Virginia reports of Brown Noddy during the passage of Ernesto included one at Town Point, Suffolk, two at Sunset Beach, Northampton County, and one at College Creek, James City County (Davis et al. 2007). Virginia as yet has no confirmed records of Brown Noddy, but there are two prior reports of the species from the Chesapeake Bay, from Grand View Beach, Hampton, and from Portobago Bay, Caroline County; there are just six other reports of Brown Noddy north of Florida outside the context of tropical storms (Table 1; records in tables gleaned from Audubon Field Notes, American Birds, and North American Birds). In the context of tropical storms, however, there are 27 reports of the species totaling 51 individuals, 1926-2004, between Georgia and Rhode Island (Table 2), plus 12 records (13 individuals) from the offshore zones north of Florida, 1977-2005 (Table 3).

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Table 1. Onshore reports of Brown Noddy from the East Coast away from Florida, no storm association (and no photographs or specimens). There are similar records from Alabama, Mississippi, Texas, Florida (many), and Louisiana. There are no inland records from any part of the United States-except for the three seen after Hurricane Hugo at Charlotte, NC and one at Milledgeville, GA, after Hurricane #2 of 1949.

No.	Date	Location	State	Hurricane	Specimen/Notes
3	06/16/1929	Charleston Harbor	SC	none	
3	08/09/1948	Pawley's Island	SC	none	
1	06/16/1974	Cape Lookout	NC	none	J. and J. Clark
1	11/08/1977	Fire Island Inlet	NY	none	
1 ad.	08/10/1981	Grandview, Hampton	VA	none	B. Patteson et al.
1 ¹	07/21/1981	Port Royal Sound ²	SC	none	L. Lacoss
1	06/22/1989	Cumberland Island	GA	none	corpse, not verified
1 ad.	07/24/1989	Portobago Bay ³	VA	none	W. S. Portlock, L. Latané

¹ Report referable only to *Anous* species.

² This location is near Hilton Head Island.

³ Downriver from Port Royal, Caroline County, on the Rappahannock River.

Table 2. Onshore/inshore records of storm-driven Brown Noddy from the East Coast away from Florida.

No.	Date	Location	State	Hurricane	Specimen/Notes
1	07/29/1926	Myrtle Beach	SC	Hurricane #1	first SC record; 1 shot
6+	09/19/1926	Bull's Island	SC	Hurricane #6	Moore; dead & alive
1	09/18/1928	Porcher's Bluff	SC	Hurricane #4	Chamberlain
1	08/14/1939	Isle of Palms	SC	Hurricane #2	specimen
1	08/28/1949	Milledgeville	GA	Hurricane #2	
1	08/28/1949	Charleston	SC	Hurricane #2	
1	09/08/1950	Isle of Palms	SC	Easy	1 shot
1	10/01/1950	Tybee Island	GA	Easy	dead; I. Tompkins
1	09/01/1954	Martha's Vineyard	MA	Carol	dead

3	09/12/1960	Block Island	RI	Donna	alive
1	09/ /1960	Stone Harbor, Cape May	NJ	Donna	K. Wright
1	09/09/1965	Little Cumberland Island	GA	Betsy	not landfall but earlier
2	09/05/1979	Sunset Beach	NC	David	photograph ¹
2	09/05/1979	Long Beach	NC	David	
3	09/05/1979	Wrightsville Beach	NC	David	1 specimen
10	09/05- 06/1979	eastern Bogue Banks	NC	David	3 specimens
1	09/08/1979	Cape Lookout	NC	David	1 specimen
3	09/09/1979	off Core Banks	NC	David	R. Rowlett
1	09/08/1979	Cape May Pt., Cape May	NJ	David	P. Dunne et al.
1	08/28/1988	Folly Island	SC	T. S. Chris	D. Frey
3	09/23/1989	Lake Norman	NC	Hugo	T. Piephoff
1	08/04/1995	Sapelo Island	GA	Erin	
1	08/03/2004	Emerald Isle	NC	Alex	R. Davis
1	09/early/2004	Jekyll Island Causeway	GA	Frances	
1	09/06/2004	Savannah Spoil Site	SC	Frances	S. Calver
1	09/07- 08/2004	Bluffton		SC	Frances
1	09/11- 12/2004	Bald Head Island	NC	Frances	D. Carter

¹ published photograph appears to show a subadult Black Noddy, but original image not studied

Table 3. Offshore records of Brown Noddy from north of Florida.

No.	Date	Location	State	Hurricane	Specimen/Notes
2 ¹	06/09/1977	off Oregon Inlet	NC	none	D. S. Lee
1	08/28/1979	off Cape Fear	NC	none	R. Rowlett
1	10/11/1983	75 km e. of Charleston	SC	T. S. Dean (?)	J. C. Haney
1	05/25/1991	off Oregon Inlet	NC	none	B. Patteson
1	08/30/1992	off Georgia	GA	none	
1	08/22/1993	off Georgia	GA	none	
1	08/09/2003	off Oregon Inlet	NC	none	B. Patteson
1	08/10/2003	off Oregon Inlet	NC	none	B. Patteson
1	05/28/2005	108 km se. Fort Sumter	SC	none	N. Dias
1	08/13/2005	72.5 km se. Charleston	SC	none	N. Dias
1	09/17/2005	90 km e. Tybee Is.	SC, GA	just after Ophelia	N. Dias

¹Report referable only to *Anous* species.

THE 2007 STATE PARK BREEDING BIRD FORAY

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INTRODUCTION

The 2007 Breeding Bird Foray targeted Virginia's State Park System. While previous forays have included reports from several state parks (e.g. Scott 1979, Peak 1986, Dolby and Spencer 2003), this survey was the first to focus exclusively on them. Administered by the Virginia Division of Conservation and Recreation (DCR), the State Park System opened in 1936 with six parks: Douthat, First Landing, Fairy Stone, Staunton River, Hungry Mother, and Westmoreland (DCR). The system currently comprises 34 parks averaging 2021 acres in size. The largest park is Pocahontas, while the smallest is Holliday Lake (Table 1). In addition to state parks, the DCR also administers 40 Natural Areas and several historical sites. Although Breaks Interstate Park is not part of the state park system, it was included in this foray because its mission is comparable to that of the other parks. Also, it was included in the 1985 foray, which provides an additional opportunity for historical comparison.

Geographically, the parks are spread nearly evenly across the state and are found in each physiogeographic province, from the Coastal Plain, including the Eastern Shore, to the Appalachian Plateau. Most parks feature some type of water frontage or contain a water body (Table 1), and most are primarily forested. The park with the greatest percentage of open habitat is Staunton River Battlefield (Reed Stanley, pers. comm.). Notable also is First Landing's ecological diversity. This nearly water-bound park in southeastern Virginia contains fourteen community types, including maritime forest, dune grassland, and cypress pool, eight of which are classified as rare in our state (Erik Molleen, pers. comm.). During recent years, First Landing State Park has also been the most heavily used with about 1.2 million visitors per year. The least visited state park has been False Cape, owing to its inaccessibility to motorized vehicles.

Given the DCR's extensive public land holdings (100,000 acres) and mission to "promote the stewardship and enjoyment of natural, cultural and outdoor recreational resources" (DCR), the VSO Research Committee concluded that a state park system-wide, all-species survey would provide a valuable service to both Virginia's birds and public. A simultaneous count could help the DCR to manage its breeding bird populations into the future, while providing opportunities for comparisons with past forays that covered some park properties. Furthermore, a park survey offered advantages over surveys requiring access to private lands, which can be inconsistent,

Table 1. Areas, total trail miles (includes hiking, biking, bridle, and multiple-use), water bodies and wetlands (b.f.=bay frontage; l.f.=lake frontage; o.f.=ocean frontage; r.f.=river frontage), survey effort, and total species richness for each State Park covered by the foray (-- not available/ reported). State park information provided by the Virginia Division of Conservation and Recreation.

Park Name	Area (acres)	Total trails trails (miles)	Water bodies/wetlands	Field Hrs.	# Survey Parties (individuals)	# Species
Bear Creek Lake	326	14	40ac lake	6	2(4)	48
Belle Isle	733	--	7mi r.f.; 8 wetland types	5.5	1(5)	59
Breaks Interstate	4500	15	none	13	3(3)	55
Chippokes Plantation	1683	3.5	1.75mi r.f.	13.8	3(4)	75
Claytor Lake	472	3	3mi l.f.	5	1(2)	59
Douthat	4493	40	50ac lake	10	3(5)	64
Fairy Stone	4537	--	6mi l.f.	13	1(3)	57
False Cape	4321	7.5	6mi o.f.;1188ac marsh	17	1(2)	71
First Landing	2888	19	3mi b.f.; 2 lakes, 17ac total; 6 wetland types	19.5	1(2)	65
Holliday Lake	250	7.5	150ac lake	8	1(1)	50
Hungry Mother	1881	12	108ac lake	16	4(4)	59
James River	1500	20	3mi r.f.	5	1(2)	62
Kiptopeke	536	4	0.38mi b.f.	8	1(1)	70
Lake Anna	2810	13	10mi l.f.	18.5	2(2)	56
Leesylvania	508	--	3mi r.f.	5.5	1(1)	58
Mason Neck	1814	3	r.f.*	15	1(3)	72
Natural Tunnel	850	--	none	5.5	1(1)	46
New River Trail-Shot Tower	254	--	r.f.	3.5	1(2)	40
Occoneechee	3690	12	30mi l.f.	8	1(3)	55
Pocahontas	7691	19	2 lakes, 174ac total	15	3(5)	61
Powhatan	--	--	--	13	4(4)	66
Sailor's Creek Battlefield	321	none	none	2	1(2)	36
Shenandoah River Raymond R. "Andy" Guest, Jr.	1604	13	5.6mi r.f.	17	4(4)	75
Sky Meadows	1862	12	none	70	3(5)	96
Smith Mountain Lake	1800	--	14 mi l.f.	44	1(1)	62
Staunton River	2600	--	6mi l.f.; 23 ac pond	6	1(1)	60
Staunton River Battlefield	340	none	1.5mi r.f.	4.5	2(2)	54
Twin Lakes	495	6	2 lakes,51ac total	7	2(4)	53
Westmoreland	1299	6	1.5mi r.f.	11	2(2)	69
York River	2550	25	3.5mi r.f.; 202ac brackish marsh; 84ac cypress swamp	17	--(10)	67

and road-side routes, which are often limited in scope. Such road-side surveys are often restricted to disturbed habitat peripheries that may not be representative of regional species diversity or abundance. With their extensive trail systems, state parks afford access to interior habitats of many types. The combination of their state-wide distribution, variety of habitat, and accessibility to the cores of those habitats uniquely position state parks to serve as a crucial means to achieve representative sampling of the state's breeding bird populations. The objective of this foray was to establish baseline breeding bird data for Virginia's state parks to facilitate future monitoring efforts.

METHODS

The foray was conducted June 2-10 and June 15, 2007. Seventy-seven participants spent approximately 271 hours surveying 30 state parks. Parks not included in the foray were Grayson Highland and Wilderness Road. Park areas ranged from 250 to 7,691 acres (Mean = 2021, SD 1,784; Table 1), and observation time per park averaged 10.4 hrs (SD 5.3; range=2 to 19.5; Table 1). Temperatures ranged approximately from 18 to 30 degrees C, but were consistent with typical June weather. Heavy rain brought by a tropical depression occurred nearly throughout the state on one day of the foray. Therefore, at least one participant postponed his data collection until June 15 (Lake Anna). The remaining foray days were free of precipitation. Although no standard sampling protocol was followed, survey parties were instructed to base their counts on independent territories and to avoid overlap with other survey routes.

RESULTS

A total of 158 species were detected (Table 2). The most common species were Red-eyed Vireo, Common Grackle, Tufted Titmouse, and Northern Cardinal. Only one individual was detected for 17 species (Fig. 1). While the average number of species per park was 60.7 (SD 11.6), the park with the greatest number of species was Sky Meadows at 96 (Table 1; Fig. 2). Sailor's Creek Battlefield recorded the fewest number of species. To compare survey effort levels among parks, I used an index of survey intensity based upon the number of independent survey hours per park acre. Survey intensity (hrs/ac) explained very little of the variation in species richness among parks ($R^2 = 0.05$, $\eta^2 = 0.23$, $n=29$; Fig. 3). Survey intensity was highest for Sky Meadows (0.038) and lowest for Pocahontas (0.002) owing to its large size.

Direct signs of breeding activity were reported for 80 species (Appendix I, Table 2; Appendix II, Table 2; Appendix III, Table 2). In addition to breeding signs such as active nests, food carrying by adults, and juveniles, singing by a number of other species was also detected. I did not include observations of singing males in the appendices, however, because song was inconsistently reported, and Virginia breeding records of the species heard singing are well established. All but 14 of the remaining species detected during the foray typically breed in Virginia. Some species not commonly seen in Virginia during summer included two Lesser Scaup in the Potomac River off Mason Neck, and two Red-breasted Mergansers and a single Lesser Black-backed Gull in False Cape (Appendix I). Additionally, three Yellow-rumped Warblers were

Table 2. Total counts for and the number of State Parks in which each species was reported during the foray. (*Species observed outside its typical breeding range.)

Common Name	Scientific Name	Number of Parks Reported	Total Count
Canada Goose	<i>Branta canadensis</i>	18	278
Wood Duck	<i>Aix sponsa</i>	8	56
Mallard	<i>Anas platyrhynchos</i>	14	62
Lesser Scaup*	<i>Aythya affinis</i>	1	2
Hooded Merganser	<i>Lophodytes cucullatus</i>	1	1
Red-breasted Merganser*	<i>Mergus serrator</i>	2	3
Ruffed Grouse	<i>Bonasa umbellus</i>	2	4
Wild Turkey	<i>Meleagris gallopavo</i>	12	64
Northern Bobwhite	<i>Colinus virginianus</i>	11	30
Common Loon*	<i>Gavia immer</i>	1	2
Pied-billed Grebe*	<i>Podilymbus podiceps</i>	1	1
Northern Gannet*	<i>Morus bassanus</i>	1	13
Brown Pelican	<i>Pelecanus occidentalis</i>	3	304
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	10	77
Magnificent Frigatebird*	<i>Fregata magnificens</i>	1	1
Great Blue Heron	<i>Ardea herodias</i>	24	156
Great Egret	<i>Ardea alba</i>	2	13
Snowy Egret	<i>Egretta thula</i>	1	2
Little Blue Heron	<i>Egretta caerulea</i>	1	4
Green Heron	<i>Butorides virescens</i>	15	34
Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>	1	1
Yellow-crowned Night-Heron	<i>Nyctanassa violacea</i>	1	1
Black Vulture	<i>Coragyps atratus</i>	12	35
Turkey Vulture	<i>Cathartes aura</i>	28	187
Osprey	<i>Pandion haliaetus</i>	14	131
Mississippi Kite	<i>Ictinia mississippiensis</i>	1	1
Bald Eagle	<i>Haliaeetus leucocephalus</i>	10	39
Sharp-shinned Hawk	<i>Accipiter striatus</i>	2	3
Cooper's Hawk	<i>Accipiter cooperii</i>	2	2
Red-shouldered Hawk	<i>Buteo lineatus</i>	11	16
Broad-winged Hawk	<i>Buteo platypterus</i>	3	3
Red-tailed Hawk	<i>Buteo jamaicensis</i>	14	28
American Kestrel	<i>Falco sparverius</i>	1	5
Semipalmated Plover*	<i>Charadrius semipalmatus</i>	1	5
Killdeer	<i>Charadrius vociferous</i>	9	29
Spotted Sandpiper	<i>Actitis macularia</i>	4	6
Greater Yellowlegs*	<i>Tringa melanoleuca</i>	2	2
Ruddy Turnstone*	<i>Arenaria interpres</i>	1	1
Sanderling*	<i>Calidris alba</i>	1	1

Table 2. (cont.)

Common Name	Scientific Name	Number of Parks Reported	Total Count
American Woodcock	<i>Scolopax minor</i>	1	1
Laughing Gull	<i>Larus atricilla</i>	5	209
Ring-billed Gull	<i>Larus delawarensis</i>	4	12
Herring Gull	<i>Larus argentatus</i>	3	167
Lesser Black-backed Gull*	<i>Larus fuscus</i>	1	1
Great Black-backed Gull	<i>Larus marinus</i>	3	51
Least Tern	<i>Sterna antillarum</i>	1	1
Gull-billed Tern	<i>Sterna nilotica</i>	1	1
Caspian Tern*	<i>Sterna caspia</i>	1	6
Common Tern	<i>Sterna hirundo</i>	2	201
Forster's Tern	<i>Sterna forsteri</i>	3	31
Royal Tern	<i>Sterna maxima</i>	4	59
Sandwich Tern	<i>Sterna sandwicensis</i>	1	1
Black Skimmer	<i>Rynchops niger</i>	1	1
Rock Pigeon	<i>Columba livia</i>	5	127
Mourning Dove	<i>Zenaida macroura</i>	30	286
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	26	207
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	1	4
Eastern Screech-Owl	<i>Megascops asio</i>	5	11
Great Horned Owl	<i>Bubo virginianus</i>	3	4
Barred Owl	<i>Strix varia</i>	9	13
Common Nighthawk	<i>Chordeiles minor</i>	2	3
Chuck-will's-widow	<i>Caprimulgus carolinensis</i>	5	11
Whip-poor-will	<i>Caprimulgus vociferus</i>	4	7
Chimney Swift	<i>Chaetura pelagica</i>	14	48
Ruby-throated Hummingbird	<i>Archilochus colubris</i>	25	64
Belted Kingfisher	<i>Ceryle alcyon</i>	15	34
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	7	41
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	28	274
Downy Woodpecker	<i>Picoides pubescens</i>	30	153
Hairy Woodpecker	<i>Picoides villosus</i>	15	39
Northern Flicker	<i>Colaptes auratus</i>	23	81
Pileated Woodpecker	<i>Dryocopus pileatus</i>	28	174
Eastern Wood-Pewee	<i>Contopus virens</i>	29	396
Acadian Flycatcher	<i>Empidonax virescens</i>	25	394
Willow Flycatcher	<i>Empidonax traillii</i>	2	6
Eastern Phoebe	<i>Sayornis phoebe</i>	24	127
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	28	212
Eastern Kingbird	<i>Tyrannus tyrannus</i>	21	89
Loggerhead Shrike	<i>Lanius ludovicianus</i>	1	4
White-eyed Vireo	<i>Vireo griseus</i>	15	68

Table 2. (cont.)

Common Name	Scientific Name	Number of Parks Reported	Total Count
Yellow-throated Vireo	<i>Vireo flavifrons</i>	23	139
Blue-headed Vireo	<i>Vireo solitarius</i>	5	28
Warbling Vireo	<i>Vireo gilvus</i>	3	13
Red-eyed Vireo	<i>Vireo olivaceus</i>	29	866
Blue Jay	<i>Cyanocitta cristata</i>	29	265
American Crow	<i>Corvus brachyrhynchos</i>	29	451
Fish Crow	<i>Corvus ossifragus</i>	12	65
Common Raven	<i>Corvus corax</i>	4	21
Horned lark	<i>Eremophila alpestris</i>	1	2
Purple Martin	<i>Progne subis</i>	12	45
Tree Swallow	<i>Tachycineta bicolor</i>	13	167
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	19	85
Bank Swallow	<i>Riparia riparia</i>	1	66
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	3	31
Barn Swallow	<i>Hirundo rustica</i>	19	143
Carolina Chickadee	<i>Poecile carolinensis</i>	28	366
Black-capped Chickadee	<i>Poecile atricapillus</i>	1	5
Tufted Titmouse	<i>Baeolophus bicolor</i>	29	522
White-breasted Nuthatch	<i>Sitta carolinensis</i>	25	252
Brown-headed Nuthatch	<i>Sitta pusilla</i>	7	42
Carolina Wren	<i>Thryothorus ludovicianus</i>	30	380
House Wren	<i>Troglodytes aedon</i>	6	11
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>	28	386
Eastern Bluebird	<i>Sialia sialis</i>	26	237
Wood Thrush	<i>Hylocichla mustelina</i>	27	428
American Robin	<i>Turdus migratorius</i>	24	231
Gray Catbird	<i>Dumetella carolinensis</i>	20	85
Northern Mockingbird	<i>Mimus polyglottos</i>	19	94
Brown Thrasher	<i>Toxostoma rufum</i>	22	85
European Starling	<i>Sturnus vulgaris</i>	15	318
Cedar Waxwing	<i>Bombycilla cedrorum</i>	22	166
Nashville Warbler	<i>Vermivora ruficapilla</i>	1	1
Northern Parula	<i>Parula americana</i>	20	163
Yellow Warbler	<i>Dendroica petechia</i>	8	21
Magnolia Warbler	<i>Dendroica tigrina</i>	1	1
Black-throated Blue Warbler	<i>Dendroica caerulescens</i>	2	2
Yellow-rumped Warbler*	<i>Dendroica coronata</i>	1	3
Black-throated Green Warbler	<i>Dendroica virens</i>	1	13
Yellow-throated Warbler	<i>Dendroica dominica</i>	17	79
Pine Warbler	<i>Dendroica pinus</i>	22	286
Prairie Warbler	<i>Dendroica discolor</i>	10	47

Table 2. (cont.)

Common Name	Scientific Name	Number of Parks Reported	Total Count
Blackpoll Warbler*	<i>Dendroica striata</i>	1	1
Cerulean Warbler	<i>Dendroica cerulea</i>	3	17
Black-and-white Warbler	<i>Mniotilta varia</i>	13	52
American Redstart	<i>Setophaga ruticilla</i>	6	29
Prothonotary Warbler	<i>Protonotaria citrea</i>	12	45
Worm-eating Warbler	<i>Helmitheros vermivorum</i>	11	38
Swainson's Warbler	<i>Limnithlypis swainsonii</i>	1	5
Ovenbird	<i>Seiurus aurocapilla</i>	26	404
Louisiana Waterthrush	<i>Seiurus motacilla</i>	15	57
Kentucky Warbler	<i>Oporornis formosus</i>	5	22
Common Yellowthroat	<i>Geothlypis trichas</i>	20	158
Hooded Warbler	<i>Wilsonia citrina</i>	15	128
Yellow-breasted Chat	<i>Icteria virens</i>	14	55
Summer Tanager	<i>Piranga rubra</i>	20	118
Scarlet Tanager	<i>Piranga olivacea</i>	22	223
Eastern Towhee	<i>Pipilo erythrophthalmus</i>	22	187
Chipping Sparrow	<i>Spizella passerina</i>	28	318
Field Sparrow	<i>Spizella pusilla</i>	13	126
Savannah Sparrow	<i>Passerculus sandwichensis</i>	1	1
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	6	11
Song Sparrow	<i>Melospiza melodia</i>	15	90
Northern Cardinal	<i>Cardinalis cardinalis</i>	30	517
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	2	5
Blue Grosbeak	<i>Passerina caerulea</i>	17	62
Indigo Bunting	<i>Passerina cyanea</i>	29	437
Dickcissel	<i>Spiza americana</i>	1	3
Bobolink	<i>Dolichonyx oryzivorus</i>	1	2
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	20	339
Eastern Meadowlark	<i>Sturnella magna</i>	10	76
Common Grackle	<i>Quiscalus quiscula</i>	25	798
Boat-tailed Grackle	<i>Quiscalus major</i>	1	4
Brown-headed Cowbird	<i>Molothrus ater</i>	26	257
Orchard Oriole	<i>Icterus spurius</i>	20	86
Baltimore Oriole	<i>Icterus galbula</i>	11	69
House Finch	<i>Carpodacus mexicanus</i>	11	44
American Goldfinch	<i>Carduelis tristis</i>	29	370
House Sparrow	<i>Passer domesticus</i>	3	29

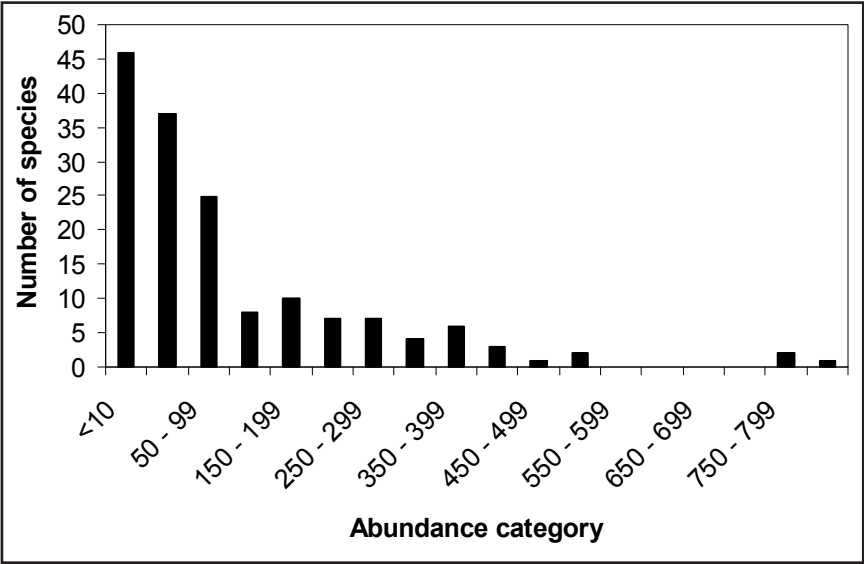


Figure 1: Overall frequency histogram of species detected during the state park foray.

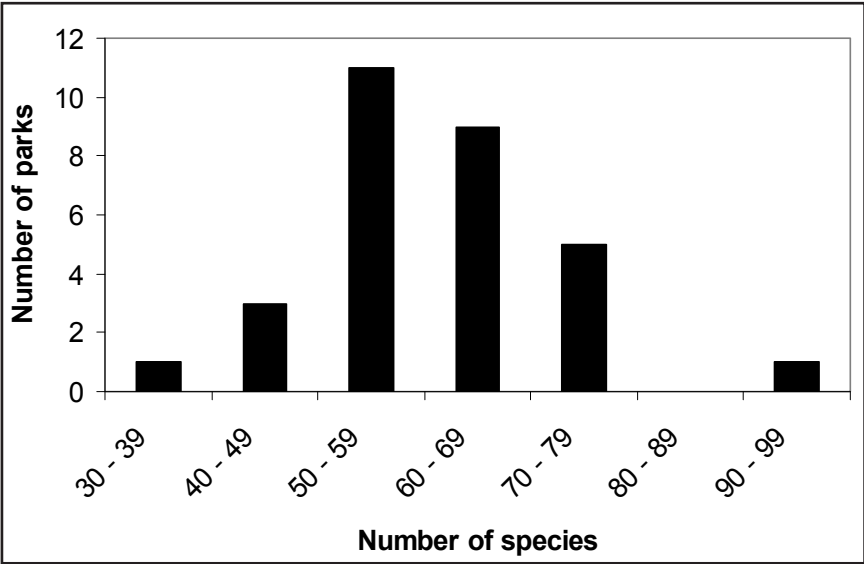


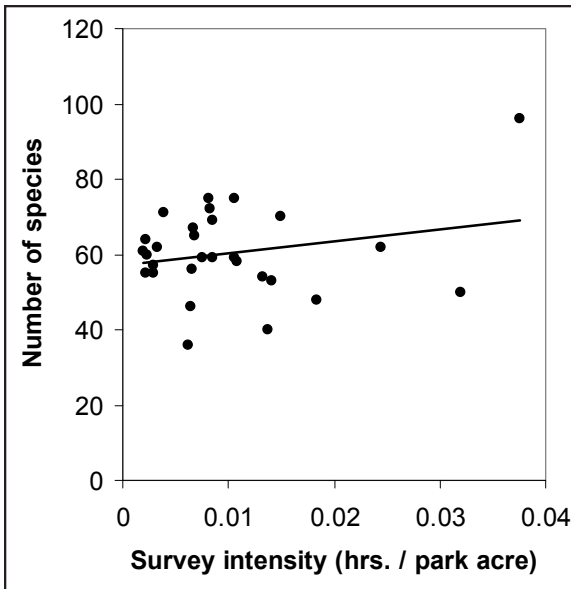
Figure 2: Frequency distribution of species diversities in the 30 state parks covered by the foray.

seen in Sky Meadows (Appendix III), and one Blackpoll Warbler was recorded in Westmoreland, which was the first report of this species in this state park (Appendix I, Spencer, pers. comm.). All of these species were most likely late migrants.

DISCUSSION

The number of species detected across state parks varied widely. This variation was most likely attributable to differences in habitat diversity and chance detection of rare and unusual species, including late migrants. Additionally, some parks lie within more extensive tracts of undisturbed habitat compared to others, which may facilitate breeding bird populations, or they may contain relatively greater numbers of relatively easily detected species. Survey intensity, though, explained only a small percentage of the variation in species diversity among parks (Fig. 3). For example, although Holliday Lake and Sky Meadows were surveyed with nearly equal intensity, half as many species were recorded for Holliday Lake. Implementation of a more systematic, standardized survey protocol would help to reduce extraneous variation in counts stemming from procedural differences used by foray participants.

The state parks with the most focused coverage during previous forays are Belle Isle, Breaks Interstate Park, Occoneechee, Staunton River, and Westmoreland. Belle Isle and Westmoreland were both surveyed during the Northern Neck Foray in 2004 (Dolby and Spencer 2005), which is too recent for informative historical comparisons to be drawn. Sporadic sightings from other state parks are included in previous



foray reports (e.g. Dalmas 1996; Blalock 1999), but in most cases, specific counts for each species are not given, or it cannot be determined how many individuals were observed within park boundaries.

The most extensive and informative historical comparisons with the 2007 foray can be drawn from the 1977 Kerr Reservoir, which included Occoneechee and Staunton River State Parks (Scott 1979), and the 1984 Breaks Interstate Park (Peake 1986) forays. Many of the differences in the species lists between these two years and 2007 involve species with fewer than five detections each in either year. Meaningful comparisons are difficult to draw when such few individuals are reported. However, several species were initially detected in quantities great enough to indicate possible population trends over the last several decades (Figs. 4,5). For example, approximately 66% fewer Wood Thrush and 71% fewer Scarlet Tanager were observed in Occoneechee State park in 2007 than in 1977 (Fig. 4). Wood Thrush detections declined by a similar amount in Staunton River State Park, from 40 in 1977 to six in 2007. Northern Flicker declined precipitously in Staunton River, from 18 to two during the same period. Sixteen and 10 Purple Martin were observed in Occoneechee in 1977 (Scott 1979; Fig. 4) and in Fairy Stone in 1995 (Dalmas 1996), respectively, but they were not seen in either location in 2007. While Great-crested Flycatcher reports dropped by 65% in Occoneechee since 1977 (Scott 1979; Fig. 4) and by 90% in Fairy Stone since 1995 (Dalmas 1996), they increased slightly in Breaks Interstate from eight to nine (Peake 1986). The only species indicating an increase is the Brown-headed Nuthatch in Staunton River State Park. It was not detected in 1977 (Scott 1979), but two were reported in 1998 (Blalock 1999) and 15 in 2007. These trends should be interpreted with caution, however, because previous foray reports do not describe survey effort specifically within park boundaries.

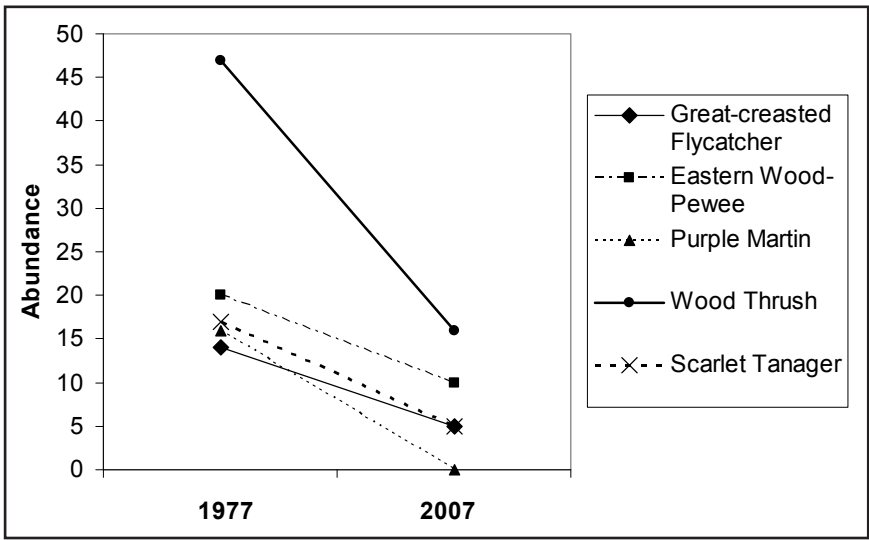


Figure 4: Examples of species that were reported in greater numbers in Occoneechee State Park during the 1977 Kerr Reservoir foray compared to 2007.

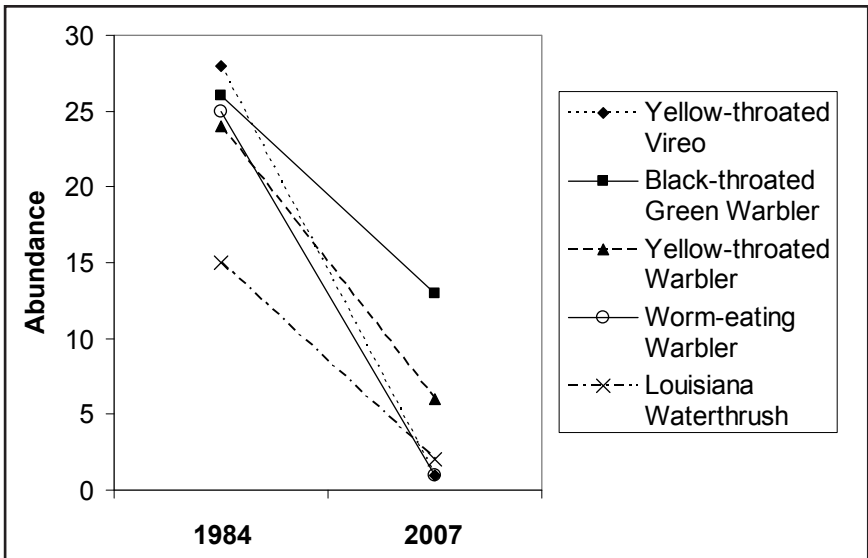


Figure 5: Examples of species that were reported in greater numbers during the 1984 Breaks Interstate Park foray compared to 2007.

Even though historical comparisons for many permanent resident species appear to reflect stable populations, the general trend between previous forays and 2007 is decline, particularly for neotropical migrant insectivores. Again, however, for very few species do earlier foray reports specify particular numbers of birds within state park boundaries. Previous foray reports also do not describe survey effort within parks, which makes historical comparisons difficult to interpret. This report could therefore serve as an important reference for future surveys focusing on Virginia State Parks.

ACKNOWLEDGEMENTS

The following volunteers participated in this foray: Kari Abbott, Mary Apperson, Fred Atwood, Scott Baron, Hugh Beard, Anna Bedell, Paul Bedell, Jeff Blalock, Catherine Bond, Paula Boundy, Rexanne Bruno, Gene Bureson, Dawn Carrier, Don Carrier, Anne-Marie Castellani, Roger Clapp, Thelma Dalmas**, Andrew Dolby, Adam D'Onofrio, Wendy Ealting**, Damien Fehrer, Linda Fields, Donna Finnegan, Irene Frentz*, Jane Frigo, Kurt Gaskill, Tina Gibson, Jim Goehring, Bruce Grimes, Gerry Hawkins, Dave Hewitt*, Ann Ingram, Steve Johnson, Clyde Kessler*, Jo King, Alice Kopinitz, Seig Kopinitz, Peggy Lyons, Linda Mayhorn*, Roger Mayhorn*, Tom McCary, Grace McCrowell, Paul Nasca, Bill Opengari, Peggy Opengari, Fawn Palmer, JoAnne Pierce, Alex Powell, Susan Powell, Mike Purdy, Alyce Quinn, Tim Quinn, David Raines, Tom Raque, Marc Ribaud, Peter Ross, Alan Shreck, Grant Simmons, Brent Slaughter, Laura Slaughter, John Spahr, David Spears*, Evan Spears, Jennifer Spears, Sandy Spencer, Randy Suhl, Brian Taber, Charlene Talcott, Tina Trice, Chuck

Turner*, Al Warfield, Linda Warfield, Carolyn Wells, Bill Williams*, Hayes Williams, Joyce Williams, Peter Wilson, Sandy Wilson. Thank you to Theresa Layman and Stephanie Turner of the Department of Conservation and Recreation for facilitating this foray. Appreciation is also due to the state park district managers, especially Irene Frentz, Erik Molleen and Reed Stanley for either directly participating in the foray (Frentz) or providing detailed habitat information about the parks in their districts (Molleen and Stanley). Arun Bose, Rexanne Bruno, Linda Fields and David Spears provided helpful comments that improved this manuscript.

(*surveyed two parks; **surveyed three parks)

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Appendix I, Table 1. Total species counts for state parks located on the Coastal Plain.

SPECIES	Belle Isle	Chippokes Plantation	False Cape	First Landing	Kiptopeke	Leesylvania	Mason Neck	Westmoreland	York River
Canada Goose	15	26	--	3	--	8	65	--	--
Wood Duck	--	4	13	--	--	--	4	--	1
Mallard	4	--	9	6	--	2	2	--	--
Lesser Scaup	--	--	--	--	--	--	2	--	--
Red-breasted Merganser	--	--	2	--	--	--	--	--	--
Wild Turkey	--	7	--	--	--	--	--	--	1
Northern Bobwhite.	1	3	--	--	9	--	1	--	1
Pied-billed Grebe	--	--	--	--	1	--	--	--	--
Northern Gannet	--	--	13	--	--	--	--	--	--
Brown Pelican	--	--	75	67	162	--	--	--	--
Double-crested Cormorant	1	--	15	9	42	1	1	--	--
Magnificent Frigatebird	--	--	1	--	--	--	--	--	--
Great Blue Heron.	13	4	5	16	--	8	62	2	8
Great Egret	--	--	11	2	--	--	--	--	--
Snowy Egret	--	--	2	--	--	--	--	--	--
Little Blue Heron	--	--	4	--	--	--	--	--	--
Green Heron.	--	1	1	4	1	--	5	--	--
Black-crowned Night-Heron	--	--	--	1	--	--	--	--	--
Yellow-crowned Night-Heron	--	--	--	1	--	--	--	--	--
Black Vulture	--	--	--	--	--	--	--	2	--
Turkey Vulture.	11	21	7	--	6	--	4	10	5
Osprey	21	8	9	35	11	9	12	5	10
Mississippi Kite	--	1	--	--	--	--	--	--	--
Bald Eagle	5	3	--	--	--	3	8	8	6
Red-shouldered Hawk.	2	1	--	--	--	--	3	1	1
Red-tailed Hawk.	2	--	--	1	--	--	1	1	3
Semipalmated Plover	--	--	5	--	--	--	--	--	--
Killdeer.	--	4	2	--	3	--	--	--	--
Greater Yellowlegs	--	1	1	--	--	--	--	--	--
Ruddy Turnstone	--	--	--	--	1	--	--	--	--
Sanderling	--	--	--	--	1	--	--	--	--
Laughing Gull	1	2	--	27	178	--	--	--	1
Ring-billed Gull	--	--	1	--	--	--	9	--	--
Herring Gull	--	--	17	6	144	--	--	--	--
Lesser Black-backed Gull	--	--	1	--	--	--	--	--	--
Great Black-backed Gull	--	--	1	11	39	--	--	--	--
Least Tern	--	--	--	1	--	--	--	--	--
Gull-billed Tern	--	--	--	--	1	--	--	--	--
Caspian Tern	--	--	--	--	--	--	6	--	--
Common Tern	--	--	--	1	200	--	--	--	--
Forster's Tern	--	--	1	5	25	--	--	--	--
Royal Tern	--	--	16	1	37	--	--	--	5
Sandwich Tern	--	--	1	--	--	--	--	--	--
Black Skimmer	--	--	--	1	--	--	--	--	--

SPECIES	Belle Isle	Chippokes Plantation	False Cape	First Landing	Kiptopeke	Leesylvania	Mason Neck	Westmoreland	York River
Rock Pigeon.	--	---	--	--	85	--	--	--	--
Mourning Dove.	8	22	17	12	7	8	19	3	2
Yellow-billed Cuckoo.	7	5	10	4	2	6	47	3	5
Eastern Screech-Owl	--	2	--	--	--	--	--	--	5
Barred Owl.	--	1	--	--	--	2	1	--	--
Common Nighthawk.	--	--	--	--	2	--	--	--	--
Chuck-will's-widow	--	--	2	3	1	--	--	--	--
Chimney Swift.	--	1	--	3	7	--	1	--	--
Ruby-throated Hummingbird.	3	5	1	1	8	1	3	3	4
Belted Kingfisher.	--	4	--	1	--	--	2	4	2
Red-headed Woodpecker.	--	1	--	--	1	--	--	1	--
Red-bellied Woodpecker.	6	6	16	12	2	15	47	6	8
Downy Woodpecker.	2	2	3	4	2	8	21	5	2
Hairy Woodpecker.	--	2	1	--	1	4	6	4	5
Northern Flicker.	--	5	1	1	2	9	3	2	1
Pileated Woodpecker.	1	1	2	15	1	4	18	8	4
Eastern Wood-Pewee.	2	6	8	--	3	20	31	36	11
Acadian Flycatcher.	3	10	--	4	--	21	74	41	22
Eastern Phoebe.	2	4	1	2	--	1	6	--	--
Great Crested Flycatcher.	5	2	16	6	7	8	17	14	8
Eastern Kingbird.	--	4	5	--	1	--	5	2	--
White-eyed Vireo.	13	8	4	--	1	--	4	8	5
Yellow-throated Vireo.	12	--	--	--	--	1	7	21	6
Red-eyed Vireo.	--	10	1	7	8	25	72	129	25
Blue Jay.	6	2	5	3	--	8	16	12	1
American Crow.	13	27	3	16	5	7	23	33	5
Fish Crow	--	5	11	4	4	4	2	--	3
Purple Martin.	--	6	9	4	1	2	8	--	2
Tree Swallow.	--	--	--	10	--	11	17	2	--
Northern Rough-winged Swallow.	--	1	--	--	26	--	3	9	1
Bank Swallow	--	--	--	--	66	--	--	--	--
Barn Swallow.	7	30	2	8	--	3	2	4	3
Carolina Chickadee.	7	5	29	7	7	12	35	11	6
Tufted Titmouse.	6	4	--	10	4	26	84	30	11
White-breasted Nuthatch.	2	2	--	--	--	11	29	7	11
Brown-headed Nuthatch	2	--	5	--	--	--	--	--	--
Carolina Wren.	10	12	12	13	13	25	10	32	18
House Wren.	--	--	--	3	--	--	--	--	--
Blue-gray Gnatcatcher.	11	10	2	--	2	13	38	35	12
Eastern Bluebird.	20	30	--	2	2	1	5	13	10
Wood Thrush.	--	5	2	--	--	14	55	42	4
American Robin.	1	1	--	12	3	11	10	3	2
Gray Catbird.	2	--	--	1	1	2	1	1	1
Northern Mockingbird.	2	20	2	3	6	3	--	--	5
Brown Thrasher.	2	2	4	7	2	--	--	3	3

SPECIES	Belle Isle	Chippokes Plantation	False Cape	First Landing	Kiptopeke	Leesylvania	Mason Neck	Westmoreland	York River
European Starling	--	27	4	14	52	9	10	2	--
Cedar Waxwing.	25	5	5	--	3	1	2	18	3
Northern Parula.	--	2	--	10	--	6	40	26	1
Yellow Warbler.	--	6	--	--	--	--	--	--	--
Magnolia Warbler.	--	--	--	--	--	--	--	1	--
Black-throated Blue Warbler.	--	--	--	1	--	--	--	--	--
Yellow-throated Warbler	6	--	1	--	2	3	2	16	19
Pine Warbler	7	5	60	37	11	--	5	16	12
Prairie Warbler.	11	--	4	1	--	--	--	--	--
Blackpoll Warbler	--	--	--	--	--	--	--	1	--
Black-and-white Warbler.	1	--	--	--	--	--	--	8	3
American Redstart.	--	1	--	--	--	--	--	1	--
Prothonotary Warbler	--	2	1	14	--	4	10	1	--
Worm-eating Warbler.	--	--	1	1	--	5	--	8	--
Ovenbird.	1	4	--	2	--	6	28	43	7
Louisiana Waterthrush.	--	3	--	--	--	1	1	7	--
Kentucky Warbler.	--	1	--	--	--	--	--	6	1
Common Yellowthroat.	7	3	9	--	12	--	12	17	11
Hooded Warbler	--	1	--	--	--	--	--	45	4
Yellow-breasted Chat.	--	--	4	--	--	--	1	4	3
Summer Tanager	4	4	8	--	2	2	--	16	15
Scarlet Tanager.	--	--	--	--	--	16	22	17	4
Eastern Towhee.	1	1	13	--	--	1	--	1	1
Chipping Sparrow.	18	26	--	1	1	4	4	17	10
Field Sparrow.	1	--	2	--	19	--	--	1	--
Grasshopper Sparrow.	1	--	--	--	1	--	--	--	--
Song Sparrow.	1	--	--	1	--	--	1	--	--
Northern Cardinal.	20	17	24	34	23	14	49	27	17
Blue Grosbeak.	8	6	2	2	7	1	3	9	3
Indigo Bunting.	28	18	7	--	14	9	24	28	13
Dickcissel	--	--	--	--	3	--	--	--	--
Red-winged Blackbird.	1	1	34	21	71	8	35	19	3
Eastern Meadowlark.	--	3	--	--	7	--	--	--	--
Common Grackle.	38	6	37	74	231	19	134	10	15
Boat-tailed Grackle	--	--	4	--	--	--	--	--	--
Brown-headed Cowbird.	4	4	18	8	19	11	13	10	13
Orchard Oriole.	--	2	--	--	5	6	6	5	1
Baltimore Oriole.	1	--	--	--	--	3	--	--	--
House Finch.	--	8	--	14	3	--	2	--	4
American Goldfinch.	7	23	3	6	5	10	34	15	7
House Sparrow.	1	--	--	--	1	--	--	--	--

SPECIES	Belle Isle	Chippokes Plantation	False Cape	First Landing	Kiptopeke	Leesylvania	Mason Neck	Westmoreland	York River
Blue Jay.			nestbx				juv.		
Purple Martin.							nestbx		
Tree Swallow.						nest	nestbxs		
Barn Swallow.	nest	nest			nest		nest		
Carolina Chickadee.			juvs.				juv.	juv.	
Tufted Titmouse.				pair			f.c.		
White-breasted Nuthatch.						pair	juv.		juvs.
Brown-headed Nuthatch	pair								
Carolina Wren.				pair(2)		pair;juv.		pair;c.f.	
Blue-gray Gnatcatcher.					nestbx; juv.			nest	juvs.
Eastern Bluebird.	pairs	juv.;c.f.		pair			nestbxs	nest	juvs.
Wood Thrush.							juv.		
American Robin.							f.c.	juv.	
Northern Mockingbird.		c.f.;juvs.							n.c.
Brown Thrasher.		nest		pair(2)	pair				
European Starling		juvs.					juv.		
Cedar Waxwing.		nest					pair		
Northern Parula.				pair(2)			juv.		
Pine Warbler	pair		juvs.(2)	pair			juv.		
Black-and-white Warbler.									pair
Prothonotary Warbler							pair		
Ovenbird								pair	
Louisiana Waterthrush.		juv.						pair;c.f.	
Common Yellowthroat								c.f.	
Summer Tanager	pair		pair						
Chipping Sparrow.	pairs	pair;cop.				pair			nest
Northern Cardinal.	pairs	c.n.m.	pair(3); juv.	pair(5); nest			juv.	juv.	juvs.
Blue Grosbeak.	pair(4)			pair			pair;imm.	pair(2)	
Indigo Bunting.	pairs								cop.
Red-winged Blackbird.		court.					nest	c.f.	pair

Appendix II, Table 1. Total species counts for state parks located on the Piedmont.

SPECIES	Bear Creak Lake	Holiday Lake	James River	Lake Anna	Oconeechee	Pocahontas	Powhatan	Sailor's Creek Battfield	Staunton River	Staunton River Battfield	Twin Lakes
Canada Goose	4	--	--	--	--	15	5	--	1	--	3
Wood Duck	10	--	--	--	--	--	2	--	--	14	--
Mallard	--	3	--	--	--	3	--	--	1	--	--
Wild Turkey	--	--	--	1	--	--	24	--	17	5	1
Northern Bobwhite.	--	1	5	2	--	--	3	--	--	1	--
Double-crested Cormorant	--	--	--	--	2	3	--	--	2	-	--
Great Blue Heron.	1	--	1	4	2	2	5	--	10	1	1
Green Heron.	--	2	5	1	1	--	1	--	1	--	--
Black Vulture	--	--	1	--	5	1	4	2	7	2	--
Turkey Vulture.	1	3	8	3	6	3	4	7	10	10	3
Osprey	--	--	--	1	4	--	--	--	1	--	--
Bald Eagle	--	--	--	--	2	--	--	--	2	--	--
Cooper's Hawk	--	--	--	--	--	1	--	--	--	--	--
Red-shouldered Hawk.	1	--	--	--	--	--	2	--	--	1	--
Red-tailed Hawk.	--	1	--	2	2	2	3	--	--	--	1
Killdeer.	--	1	--	6	--	3	1	--	--	--	--
Spotted Sandpiper.	1	3	--	--	--	--	--	--	--	--	--
Ring-billed Gull	--	--	--	--	--	--	--	--	1	--	--
Rock Pigeon.	--	--	--	--	2	--	3	--	--	--	--
Mourning Dove.	1	4	6	14	4	16	18	4	3	6	5
Yellow-billed Cuckoo.	5	1	6	18	9	1	23	1	5	3	3
Black-billed Cuckoo	--	--	--	4	--	--	--	--	--	--	--
Eastern Screech-Owl	--	3	--	--	--	--	--	--	2	--	--
Great Horned Owl	--	1	--	--	--	--	--	--	2	--	--
Barred Owl.	1	--	--	--	1	--	2	--	--	--	--
Common Nighthawk.	--	--	--	--	--	--	--	--	--	--	1
Chuck-will's-widow	1	--	--	--	--	--	--	--	--	--	--
Whip-poor-will.	--	--	--	--	--	--	--	--	--	--	1
Chimney Swift.	--	--	1	--	--	3	--	--	--	2	--
Ruby-throated Hummingbird.	--	2	1	4	2	2	6	--	--	2	--
Belted Kingfisher.	1	1	--	3	--	--	--	--	--	4	--
Red-headed Woodpecker.	--	--	--	--	--	4	--	--	5	--	--
Red-bellied Woodpecker.	4	3	4	22	6	8	19	1	2	3	5
Downy Woodpecker.	4	2	1	16	8	10	12	1	5	2	2
Hairy Woodpecker.	--	--	--	3	--	2	--	--	2	--	--
Northern Flicker.	--	--	--	4	--	1	3	--	2	1	1
Pileated Woodpecker.	3	8	2	17	2	9	8	--	1	3	5
Eastern Wood-Pewee.	7	8	6	60	10	29	35	2	2	1	9
Acadian Flycatcher.	7	10	4	22	12	55	38	1	2	--	5
Willow Flycatcher.	--	--	2	--	--	--	--	--	--	--	--
Eastern Phoebe.	6	10	9	2	--	7	--	--	2	5	5

SPECIES	Bear Creek Lake	Holliday Lake	James River	Lake Anna	Oconeechee	Pocahontas	Powhatan	Sailor's Creek Battlefield	Staunton River	Staunton River Battlefield	Twin Lakes
Great Crested Flycatcher.	3	--	2	8	5	6	9	1	5	3	3
Eastern Kingbird.	1	3	2	11	2	1	--	--	2	1	3
White-eyed Vireo.	1	--	--	--	--	--	8	--	3	7	--
Yellow-throated Vireo.	7	3	1	10	5	21	13	1	--	--	5
Red-eyed Vireo.	17	18	16	89	22	66	88	8	4	9	12
Blue Jay.	4	8	5	29	3	3	9	2	4	3	6
American Crow.	15	9	14	31	4	10	12	13	22	14	13
Fish Crow	--	--	--	4	2	--	--	--	5	--	--
Horned lark	--	--	--	--	--	--	2	--	--	--	--
Purple Martin.	--	--	--	--	--	2	2	--	--	--	--
Tree Swallow.	--	--	1	5	--	--	--	--	--	--	--
Northern Rough-winged Swallow.	--	--	1	--	3	3	4	2	2	2	--
Cliff Swallow	--	--	--	--	25	--	--	--	--	--	--
Barn Swallow.	--	--	--	--	--	2	2	2	--	5	--
Carolina Chickadee.	8	5	5	49	18	19	18	6	19	7	4
Tufted Titmouse.	13	5	6	66	17	35	28	2	15	3	10
White-breasted Nuthatch.	6	10	1	29	8	26	19	--	9	1	6
Brown-headed Nuthatch	-	--	--	--	8	4	--	--	15	--	--
Carolina Wren.	9	2	7	30	17	34	36	5	7	5	10
Blue-gray Gnatcatcher.	9	4	3	34	18	40	18	2	1	4	11
Eastern Bluebird.	2	1	1	18	21	6	3	8	13	6	4
Wood Thrush.	2	16	3	79	16	8	28	3	6	4	6
American Robin.	--	12	--	12	5	20	--	--	--	2	3
Gray Catbird.	--	1	1	13	--	--	--	--	--	1	--
Northern Mockingbird.	--	5	4	6	3	--	1	2	2	--	--
Brown Thrasher.	1	1	1	3	--	--	1	--	--	3	1
European Starling	--	--	--	--	--	--	--	--	--	15	3
Cedar Waxwing.	--	8	11	4	6	--	16	--	--	2	3
Nashville Warbler	--	--	--	--	--	--	--	--	--	--	--
Northern Parula.	5	9	1	--	2	12	9	1	--	2	3
Yellow Warbler.	--	--	1	--	--	1	--	--	--	--	2
Yellow-throated Warbler	1	--	1	--	4	4	1	--	4	--	--
Pine Warbler	--	1	5	9	22	21	15	--	20	--	--
Prairie Warbler.	--	--	3	--	--	8	2	--	2	2	1
Black-and-white Warbler.	2	2	--	--	--	6	1	--	--	--	1
American Redstart.	--	--	1	--	--	--	--	--	--	--	--
Prothonotary Warbler	--	--	1	--	4	--	2	--	3	2	--
Worm-eating Warbler.	--	--	1	2	--	2	--	--	--	--	--
Ovenbird.	11	7	--	71	22	39	41	1	3	--	9
Louisiana Waterthrush.	3	1	2	2	--	--	3	--	--	--	--
Kentucky Warbler.	1	--	--	--	--	--	--	--	--	--	--
Common Yellowthroat.	1	--	9	--	1	9	16	6	3	5	1

	Bear Creek Lake	Holiday Lake	James River	Lake Anna	Oconeechee	Pocahontas	Powhatan	Sailor's Creek Battleground	Staunton River	Staunton River Battleground	Twin Lakes
SPECIES											
Hooded Warbler	7	5	1	--	--	8	--	1	1	--	4
Yellow-breasted Chat.	--	--	4	--	--	2	11	1	7	2	--
Summer Tanager	4	2	1	7	9	13	6	1	8	--	2
Scarlet Tanager.	7	2	1	22	5	8	18	1	--	--	1
Eastern Towhee.	--	--	1	2	2	14	--	--	5	4	--
Chipping Sparrow.	12	15	1	26	28	12	11	--	18	4	16
Field Sparrow.	--	--	4	--	--	--	2	4	--	--	--
Grasshopper Sparrow.	--	--	--	--	--	--	6	1	--	1	--
Song Sparrow.	--	--	1	5	--	--	--	--	--	--	2
Northern Cardinal.	7	8	5	34	12	22	28	4	10	10	14
Blue Grosbeak.	--	--	4	--	1	--	7	--	1	--	1
Indigo Bunting.	3	1	9	5	7	15	59	7	3	8	7
Red-winged Blackbird.	--	--	11	--	--	8	9	--	2	4	--
Eastern Meadowlark.	--	--	1	--	--	--	3	2	--	4	--
Common Grackle.	--	9	8	12	6	--	9	--	18	5	1
Brown-headed Cowbird.	5	--	8	31	8	16	9	1	4	1	5
Orchard Oriole.	3	3	6	10	5	--	2	--	1	2	1
Baltimore Oriole.	--	1	--	--	--	--	--	--	--	--	1
House Finch.	--	--	--	--	--	1	--	--	--	--	1
American Goldfinch.	6	--	4	38	10	11	28	3	6	5	9

SPECIES	Bear Creek Lake	Holiday Lake	James River	Lake Anna	Oconeechee	Poconhontas	Powhatan	Staunton River	Staunton River Battlefield	Twin Lakes
Eastern Kingbird.		pair	pair		pair	c.n.m.				
Red-eyed Vireo.		pair								
Blue Jay.		pair		juv.						
American Crow.	juv.(2)									
Horned lark							juv.			
Tree Swallow.			nestbx							
Cliff Swallow					nest				nest	
Barn Swallow.										
Carolina Chickadee.		pair		juv.						
Tufted Titmouse.		pair(5)				nest	juv.			
White-breasted Nuthatch.										
Carolina Wren.				juv.						
Blue-gray Gnatcatcher.				nest						
Eastern Bluebird.	juv.	nestbx		nestbx(3)	juvs.	c.f.	c.f.	juvs.		
Wood Thrush.						c.f.				c.n.m.
American Robin.		c.f.;juv.		c.f.	juv.					
Gray Catbird.				c.n.m.						
Northern Mockingbird.				juvs.						
Cedar Waxwing.					c.n.m.					
Pine Warbler				pair				juvs.		
Ovenbird.					juv.					
Scarlet Tanager.				pair(2)			pair			
Chipping Sparrow.	c.f.	pair			juvs.					pair
Song Sparrow.										
Northern Cardinal.				court;c.f.;juvs.		f.c.				
Indigo Bunting.				juvs.			nest			
Red-winged Blackbird.						c.n.m.				
Common Grackle.				c.f.s			egg*			
Brown-headed Cowbird.				cop.;juvs.		court.; cop.				
Orchard Oriole.		pair								

Appendix III, Table 1. Total species counts for state parks located in the Appalachian Plateau, Valley and Ridge, and Blue Ridge physiogeographical regions of Virginia.

SPECIES	Breaks Interstate	Claytor Lake	Douthat	Fairy Stone	Hungry Mother	Natural Tunnel	New River Trail (w/Shot Tower)	Shenandoah River "Andy Guest"	Sky Meadows	Smith Mountain Lake
Canada Goose	--	1	32	--	13	4	12	36	33	2
Wood Duck	--	--	--	--	--	--	--	8	--	--
--Mallard	2	4	--	3	15	--	--	2	--	6
Hooded Merganser	--	--	1	--	--	--	--	--	--	--
Red-breasted Merganser	--	--	--	--	--	--	--	1	--	--
Ruffed Grouse	--	--	--	--	--	--	--	1	3	--
Wild Turkey	--	--	1	--	1	--	--	2	1	3
Northern Bobwhite.	--	--	--	--	--	--	--	--	3	--
Common Loon	--	2	--	--	--	--	--	--	--	--
Double-crested Cormorant	--	--	--	--	--	--	1	--	--	--
Great Blue Heron.	--	1	1	--	--	2	--	3	2	1
Green Heron.	--	1	--	2	--	--	--	2	6	--
Black Vulture	--	--	--	--	2	2	--	--	4	3
Turkey Vulture.	3	1	9	5	3	2	1	2	24	15
Osprey	--	--	--	--	--	--	--	1	--	4
Bald Eagle	--	--	1	--	--	--	--	--	1	--
Sharp-shinned Hawk.	2	--	--	--	--	--	--	--	1	--
Cooper's Hawk	--	--	--	--	--	--	--	--	1	--
Red-shouldered Hawk.	2	--	1	--	--	--	--	--	1	--
Broad-winged Hawk.	--	--	--	1	1	--	--	--	1	--
Red-tailed Hawk.	--	--	--	1	--	1	--	1	7	--
American Kestrel	--	--	--	--	--	--	--	--	5	--
Killdeer.	--	--	--	2	--	--	--	--	7	--
Spotted Sandpiper.	--	--	--	1	--	--	--	--	1	--
American Woodcock	--	--	--	--	--	--	--	--	1	--
Ring-billed Gull	--	--	--	--	--	--	--	--	--	1
Rock Pigeon.	--	--	--	--	--	--	--	1	36	--
Mourning Dove.	8	4	11	4	14	7	2	6	33	18
Yellow-billed Cuckoo.	--	1	5	--	3	--	--	5	19	10
Eastern Screech-Owl	--	--	--	--	--	--	--	1	1	--
Great Horned Owl	--	--	--	--	--	--	--	--	--	1
Barred Owl.	1	--	3	1	--	--	--	--	--	--
Chuck-will's-widow	--	--	--	--	--	--	--	--	--	4
Whip-poor-will.	1	--	4	--	--	--	--	1	--	3
Chimney Swift.	3	8	1	1	5	--	--	1	11	--
Ruby-throated Hummingbird.	2	2	4	1	2	1	--	2	1	1

SPECIES	Breaks Interstate	Claytor Lake	Douthat	Fairy Stone	Hungry Mother	Natural Tunnel	New River Trail (w/Shot Tower)	Shenandoah River "Andy Guest"	Sky Meadows	Smith Mountain Lake
Belted Kingfisher.	--	2	3	--	1	--	1	1	4	--
Red-headed Woodpecker.	--	--	--	--	--	--	--	1	28	--
Red-bellied Woodpecker.	--	7	7	1	3	3	--	7	40	11
Downy Woodpecker.	6	2	7	3	1	1	1	3	13	4
Hairy Woodpecker.	--	1	2	--	--	--	--	1	4	1
Northern Flicker.	3	1	8	1	2	5	--	4	18	3
Pileated Woodpecker.	5	6	8	4	3	2	--	5	20	9
Eastern Wood-Pewee.	3	3	15	13	6	2	2	9	51	6
Acadian Flycatcher.	7	--	6	13	9	7	1	2	18	--
Willow Flycatcher.	--	--	--	--	--	--	--	--	4	--
Eastern Phoebe.	8	2	11	8	12	5	1	7	9	2
Great Crested Flycatcher.	9	4	12	1	6	1	--	5	37	9
Eastern Kingbird.	--	8	--	3	1	--	1	9	17	7
Loggerhead Shrike.	--	--	--	--	--	--	--	--	4	--
White-eyed Vireo.	1	3	1	--	--	--	--	--	1	--
Yellow-throated Vireo.	1	2	2	4	--	4	2	4	7	1
Blue-headed Vireo.	8	--	5	10	2	3	--	--	--	--
Warbling Vireo	--	4	--	--	--	--	4	5	--	--
Red-eyed Vireo.	29	13	30	37	9	18	3	9	69	23
Blue Jay.	7	21	11	7	4	3	2	5	61	15
American Crow.	10	27	9	8	26	15	--	14	35	18
Fish Crow	--	--	--	--	--	--	--	3	18	--
Common Raven.	--	--	2	3	--	--	--	1	15	--
Purple Martin.	--	1	--	--	--	--	--	--	4	4
Tree Swallow.	--	3	8	--	11	1	--	26	70	2
Northern Rough-winged Swallow.	3	1	6	--	11	4	--	--	2	1
Cliff Swallow	--	1	--	--	--	--	5	--	--	--
Barn Swallow.	--	1	--	8	3	2	6	--	47	6
Carolina Chickadee.	8	3	9	8	4	--	--	8	31	18
Black-capped Chickadee.	--	--	5	--	--	--	--	--	--	--
Tufted Titmouse.	12	9	15	12	2	12	1	11	51	22
White-breasted Nuthatch.	4	5	6	4	4	5	--	10	32	5
Brown-headed Nuthatch	--	--	--	2	--	--	--	--	--	6
Carolina Wren.	7	2	9	7	6	10	2	6	12	12
House Wren.	--	1	--	--	--	1	1	--	4	1
Blue-gray Gnatcatcher.	10	2	9	24	5	--	1	20	46	2
Eastern Bluebird.	--	6	1	5	1	4	--	11	39	5
Wood Thrush.	20	6	2	9	4	12	1	5	58	18
American Robin.	17	37	33	1	14	7	4	7	16	1

[illegible]

Species	Breaks Interstate	Claytor Lake	Douthat	Fairy Stone	Hungry Mother	Natural Tunnel	New River Trail (w/Shot Tower)	Shenandoah River "Andy Guest"	Sky Meadows	Smith Mountain Lake
Blue-headed Vireo.				pair					pair(2)	juv.
Blue Jay.				juvs.	nest	juv (2)			c.n.m.	
American Crow.	juv.							nestbx (10)	nest; juv.(35)	
Tree Swallow.							nest(2)			
Cliff Swallow									nest(21);n.c.;	
Barn Swallow.				nest(7)					juvs.	
Carolina Chickadee.	nest(2); juvs.(7)		juvs.							
pair:juvs										
Tufted Titmouse		pair;juvs		pair			pair(3)		pair	pair(3)
White-breasted Nuthatch.										
Brown-headed Nuthatch				pair					nest(2);pair	
Carolina Wren.									pair	pair
House Wren.		pair		juv.(3)					pair(5);c.n.m.;	
Blue-gray Gnatcatcher.				pair(2); c.f.		juv.(2)	pair	Nests(bx); juvs.	nest;c.f.(2);juv.(4)	
Eastern Bluebird.	c.f.								pair;n.m.c.	
Wood Thrush.			nest; c.f.(2)						pair(3); nest(4)	
American Robin.	c.f.				juv.		c.f.		pair	
Gray Cabird.									nest	
Northern Mockingbird.									pair(4);nest;	
Brown Thrasher.									juv.(4)	
European Starling	juv.	nest							pair(3);nest;	
Cedar Waxwing.		c.n.m.					c.f.		juv.(4)	pair(2)

Species	Breaks Interstate	Claytor Lake	Douthat	Fairy Stone	Hungry Mother	Natural Tunnel	New River Trail (w/Shot Tower)	Shenandoah River "Andy Guest"	Sky Meadows	Smith Mountain Lake
Swainson's Warbler	c.f.			pair(2)						
Louisiana Waterthrush.										
Kentucky Warbler.									nest; juv.(5)	
Common Yellowthroat.				pair					pair	
Hooded Warbler										
Yellow-breasted Chat.									pair	
Scarlet Tanager.	pair			pair						
Chipping Sparrow.				pair;juvs.	pair;juvs.				pair(2);c.f.;juv.	
Field Sparrow.									pair(5);c.n.m.	
Song Sparrow.		juvs.		c.f.					c.f.;juv.(4)	
Northern Cardinal.							c.n.m.		pair;c.f.;nest	
Blue Grosbeak								pair	pair(2); juv.(3)	
Indigo Bunting.										
Red-winged Blackbird.									pair	
Eastern Meadowlark.									pair(4)	
Common Grackle.									c.f.	
									pair(3);c.f.	
Orchard Oriole.									nest	
Baltimore Oriole.		nest							pair	c.f.
House Finch.		juvs.								
American Goldfinch.									pair(2)	
House Sparrow.							nests;c.f.		Nests; juv.(18)	

BOOK REVIEW

BIRDS OF AUGUSTA COUNTY. 2008. 3RD ED.
YULEE R. LARNER, EDITOR.
AUGUSTA BIRD CLUB. MID VALLEY PRESS. 116 PP.

DAVID W. JOHNSTON
5219 *Concordia St.*
Fairfax, VA 22032

My initial impression of this book was positive--its accommodating size, spiral binding, and the covers with colorful bird photographs. And I was further pleased by the text, notably the useful format for each species, namely, status (including abundance and preferred habitats), extreme dates (and numbers at all seasons), and breeding records. Finally, the book contains a list of all known publications on birds in the county, and a user-friendly index.

This book is essentially a summary of all bird reports from Augusta County, but chiefly since the earlier editions in 1988 and 1998. The total number of species reported has increased from 282 to 307, largely through intensive field efforts of Club members. At the same time the Club's membership has increased to approximately 200. This calculates to about 10 new species each decade, an exceptional record.

To me, a superlative achievement of this edition is its long-term coverage. Under the editorship of experienced birder and VSO leader extra-ordinaire, YuLee Lerner has consolidated and archived reports over at least a 30-year period with the help of Club members and other birders. Such long-term databases will be valuable in developing future conservation measures.

Future editions will benefit by eliminating the first map (rivers). It was not professionally executed--many labels are frustratingly upside down regardless of the reader's position. Furthermore, the terminal map already includes many of the county's rivers. A discussion of actual or perceived changes in species' populations would be useful. Additional proof-reading will correct errors, such as "Rough-legged Swallow."

In summary, this county list ranks highly with several other regional booklets from Virginia, and I recommend it to any birder visiting that part of the state. Copies may be obtained from YuLee Lerner, 21 Woodlee Rd., Apt. 114, Staunton, VA 24401. Make checks (\$17.00) payable to the Augusta Bird Club.

VIRGINIA SOCIETY OF ORNITHOLOGY 2007 ANNUAL MEETING

MAY 4-6
STRATFORD HALL
STRATFORD, VIRGINIA

FRIDAY, MAY 4, 8 PM
Business Meeting, John Spahr, President of VSO, presiding

Opening Remarks

Teta Kain, 2007 VSO Annual Meeting Chairman, opened the meeting with a moment of silence in honor of those who died, and their families, at the recent shootings at Virginia Tech.

Kain pointed out that, contrary to most annual meetings where a chapter acts as host, this year the VSO board is acting as host. She acknowledged those people who helped with the organization:

Thelma and John Dalmás - registration
Peggy Opengari - exhibits
Sandy Spencer - field trips
Rexanne Bruno - publicity
Sue Thrasher - finances
Steve Eccles - Friday evening program.

Special recognition was given to the Rappahannock River Valley National Wildlife Refuge (RRVNR) for assistance with boat trips. Kain also recognized the Northern Neck Chapter of the Native Plant Society, led by Paula Boundy, for securing and preparing the potted plant arrangements for the banquet tables.

After housekeeping announcements, John Spahr, president, welcomed everybody. He acknowledged Kain as the person who organized the whole meeting, despite the several surgeries she has endured in the previous months.

Treasurer's Report

T. Dalmás gave the treasurer's report in place of Sue Thrasher who was unable to attend.

At the end of the 2006 Calendar Year report:

General Fund balance	\$149,121.36
Total receipts	\$25,427.23
Total disbursements	\$20,888.20
Balance as of report date	\$153,660.39
Total funds	\$153,660.39

Spahr announced that the small grants conservation fund set up by the Conservation Committee had accumulated \$3800 to date. These funds have come from contributions from half a dozen individuals. People or organizations can apply for a grant of \$1000 or less for bird conservation projects.

Nomination Committee Report

Teta Kain, chair of the Nominating Committee, presented the following slate 2007-2008:

Officers - 2006-2007

President, David Spears (Dillwyn, Buckingham County)

Past President: John Spahr (Staunton)

Vice President: Rexanne Bruno (Lynchburg)

Secretary: Alyce Quinn (Roanoke)

Treasurer: Sue Thrasher (Lynchburg)

Newsletter Editors: Linda Fields/ Alan Schreck (Arlington)

Raven Editor, Paul Cabe (Rapine, Rockbridge County)

Membership Chairman: Thelma Dalmas (Evington, Campbell County)

Board of Directors (Class of 2010)

Bob Riggs, Lebanon

Jennifer Gaden, Charlottesville

Arun Bose, Richmond

The slate was unanimously approved.

Announcements

Roving Ravens - Spahr announced that Fields and Schreck, the VSO Roving Ravens (RR), will represent the society in the 2007 World Series of Birding, and were scouting for the competition this weekend. Pledges for this effort will go to the publication *Virginia Birds*, the quarterly journal of the society. Todd Day and Eric Hines are also members of the RR team.

Field Trips - The Mount Rogers field trip will take place June 22-24. Peggy Opengari announced a joint field trip with the Center for Conservation Biology to Piney Grove to see the Red-cockaded Woodpecker on June 2.

Breeding Bird Foray - Andrew Dolby announced that the 2007 Breeding Bird Foray would cover 32 state parks (so far). Volunteers are still needed at Fairy Stone State Park and Wilderness Road. Dates: June 2-10.

eBird - Spahr announced that the VSO and the Costal Virginia Wildlife Observatory have agreed to fund and start the Virginia eBird web portal, part of the Cornell Laboratory of Ornithology national eBird. The Virginia portal should be up and running by September. From it participators can get useful information as well as contribute sightings. In addition, it should give VSO more of a national and international presence.

Publications - Spears, chair of non-serial publications (one-time publications), announced the arrival of the Gold Book, 4th edition of the annotated checklist of

birds of Virginia. He acknowledged the contributions of the editor, Steve Rottenborn, and proofreaders, particularly Ned Brinkley. Cost of book: \$15; with shipping \$20. He also brought attention to the newly produced Birds of Virginia's South-Central Piedmont: an Annotated Checklist of Prince Edward and Surrounding Counties, sponsored by the Margaret Watson Bird Club of Farmville.

The meeting was adjourned at 8:40

Annual meeting field trips - Spencer described the field trips for the weekend.

Stratford Hall Plantation - May 4, 5, 6

Rappahannock River Pontoon Boat Tour: May 4, 5, 6

Cat Point Creek Kayak Trip, May 5, 6

George Washington Birthplace National Monument, May 5, 6

Westmoreland State Park, May 5, 6

Wilna Tract (RRVNWR) Grasslands, Bald Eagle Roost, and Ravines, May 5, 6

Toby' Point Tract (RRVNWR), May 5

Mulberry Point Marsh, May 5, 6

Laurel Grove Tract (RRVNWR), May 5

Voorhees Nature Preserve, Westmoreland Berry Farm, May 5, 6

Hughlett Point and Dameron Marsh Natural Area Preserves, Crosshills Road Area, May 6

Evening Presentation

Steve Eccles, Chairman of the Conservation Committee, preceded his program on the Cerulean Warbler with a review of the committee's work this past year.

The small grants fund of \$3800 made available \$1000 to the Virginia Department of Game and Inland Fisheries for a marsh survey. The Department received funds from another source and returned the VSO funds.

\$500 was made available to the American Bird Conservancy (ABC) to publish additional copies of the booklet "Managing Land in the Piedmont of Virginia for the Benefit of Birds and Other Wildlife".

The committee is looking for corporate sponsorship for conservation. He requested suggestions for possible donors.

The committee donated \$500 to the Bird Conservation Alliance (part of ABC) to save the Cerulean Warbler. The goal is to raise \$100,000 to enable ProAves in Colombia to purchase additional land for shade-grown coffee and other lands to preserve Cerulean Warbler habitat in its winter territory.

Eccles then presented a power point program on Saving the Cerulean Warbler.

SATURDAY, MAY 5

Paper Session, 1 pm, Council House

Osprey foraging ecology and population dynamics. Andy Glass, GSH 147, P.O. Box 8705, Williamsburg, VA 23187; The College of William and Mary, Bryan Watts

Bird Conservation in New Zealand Bryan K. Rhodes, Dept. of Zoology, University of Otago, P.O. Box 56, Dunedin, New Zealand BKRhodesVA@aol.com

Results of the 2006 Northern Saw-whet Owl foray Andrew Dolby, Department of Biological Sciences, University of Mary Washington, 1301 College Avenue, Fredericksburg, VA 22401

Mercury levels in fledgling Eastern Bluebirds (*Sialia sialis*) on the South River, VA Anne Condon, 213 Waller Mill, 2nd Floor, Williamsburg, VA 23185, The College of William and Mary, Daniel Cristol.

Unable to present:

A preliminary analysis of the contributions of managed southern pine systems to regional populations of declining migrant birds Mark Fink, Department of Biological and Environmental Sciences, Longwood University, 201 High St., Farmville, VA 23909.

The Influence of diet on bird diversity in urbanizing landscapes Elise A. Larsen, Dept. of Biology, PO Box 8795, College of William and Mary, Williamsburg, VA 23187, Center for Conservation Biology, Bryan D. Watts.

Posters

Does previous mating experience affect subsequent mate preferences in female zebra finches (*Taeniopygia guttata*) Kelly C. Minton and John P. Swaddle.

After Dinner Program, 8:30 pm, Council House

Spencer announced that 129 species were reported on the weekend field trips so far. She suggested that the following day's field trips could be subject to change due to the weather.

Thelma Dalmas recognized Jim Watson (and his wife Laura) for 67 years of VSO membership. Kain added that Watson has been on every Christmas Bird Count since 1941. She then recognized Kain as Queen of the Night for her work on the annual meeting. Kain was crowned with a diamond (not!) tiara.

Kain expressed appreciation on behalf of the VSO to Spahr for his excellent work as VSO president and presented him with the president's pin.

J. J. Murray Award - Bruno presented the award designed to encourage graduate and undergraduate student research on Virginia birds. A matching grant from the Northern Neck Audubon Society allows a second grant to be awarded. The 2007 recipients chosen from 8 proposals were Anne Condon (topic - see above) and Joanna Hubbard (Mutual mate choice in Eastern Bluebirds). Hubbard is a Masters student at the College of William and Mary under the tutelage of Dr. John Swaddle.

Bruno also recognized last year's recipient, Andy Glass.

Jackson Abbott Conservation Award - This award was presented by Spahr to the Center for Conservation Biology (CCB). Spahr recited the many projects the organization has carried out as well as their converting 76 volumes (1930-2005) of The Raven to pdf format, now available of the CCB and VSO websites. The award was accepted with thanks by Dr. Bryan Watts, CCB Director.

James Eike Service Award - Presented by Opengari to Steven Rottenborn for his many years of service to the VSO editing the Gold Book. Ned Brinkley was presented with a second award for his 300-400 hours of proof reading the Gold Book as well as his work with VARCOM.

Banquet Speaker - Spencer introduced the after dinner speaker, Dr. Bryan Watts, who spoke about Bird Conservation in Virginia.

Thelma Dalmas awarded door prizes after which the meeting was adjourned (shortly after 10 pm).

Respectfully submitted by Jennifer Gaden, VSO Secretary

2007-2008 VIRGINIA SOCIETY OF ORNITHOLOGY OFFICERS AND COMMITTEE CHAIRS

President: David Spears, Dillwyn, VA

Vice President: Rexanne Bruno, Lynchburg, VA

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Field Trips: Clark White, Yorktown, VA, Peggy Opengari, Pearisburg, VA

Important Bird Areas: Aimee Weldon

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Murray Award and Archives: Gene Sattler, Lynchburg, VA

Partners in Flight: Jim Waggoner, Peggy Opengari

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Thanksgiving Count: Thelma Dalmas, Evington, VA

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INFORMATION FOR CONTRIBUTORS

The Raven, the official journal of the Virginia Society of Ornithology (VSO), functions to publish original contributions and review articles in ornithology, not published elsewhere, mostly relating to Virginia birdlife. Manuscripts should be sent to the editor, Paul R. Cabe, Biology Department, Washington & Lee University, Lexington, VA 24450 (cabep@wlu.edu).

Most manuscripts published in *The Raven* concern the distribution, abundance, and migration of birds in Virginia. Manuscripts on other ornithological topics, including Virginia-based historical reviews, bibliographical reviews, life history, and behavioral observations are also welcomed. In addition, the journal serves to publish the official proceedings of the VSO and other formal items pertaining to all aspects of the Society's activities. *The Raven* may also publish articles pertaining to the activities of various public and private organizations engaged in biological and conservation work in Virginia. *The Raven* is a peer-reviewed journal; all feature articles and short communications are reviewed before acceptance for publication.

Format of *The Raven* generally follows guidelines set by the Council for Biology Editors as outlined in the CBE style manual, 6th edition, 1994 (Council of Biology Editors, Inc., 11250 Roger Bacon Dr., Reston, VA 20190). Recent volumes of *The Raven* should be inspected for style. Vernacular and scientific names of birds should be those published in the Seventh Edition of the A.O.U. Check-list of North American Birds and subsequent supplements. All measurements should be reported in metric units.

Preferred submission format for manuscripts is by electronic file, prepared using Microsoft® Word or WordPerfect®. Text files should contain minimal formatting. All graphics (photos, maps, graphs, charts) must be in black and white; original size should not exceed 5 x 7 inches. Files may be submitted by email attachment (preferred) or on floppy disk or CD. Authors are encouraged to consult with the editor on additional matters of content, format or style.

