

The Raven

JOURNAL OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

Volume 75

Number 1

2004



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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.

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Editor
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Volume 75, No. 1

Published by
THE VIRGINIA SOCIETY OF ORNITHOLOGY

2004

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ISSN 0034-0146

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TRENDS THROUGH TIME: 57 YEARS OF SPRING ARRIVAL DATES OF NEOTROPICAL MIGRANTS IN CENTRAL VIRGINIA

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INTRODUCTION

The springtime return of Neotropical migrants is a much anticipated event for winter-weary birders. Beginning as early as mid-March and continuing for the next nine or ten weeks, our Virginia avifauna is enriched by the return from tropical regions of both local breeding species and passage migrants moving through to nesting areas farther north.

This yearly cycle raises long-term questions. Against the backdrop of possible climate change, habitat alteration, and population decline or increase, is the phenology, (yearly timing) of these events, changing as illustrated by spring arrival dates for Neotropical migrants? A growing body of evidence is accumulating that many organisms are undergoing a change in their timing of phenological events. In North America, Tree Swallows (*Tachycineta bicolor*) (Dunn and Winkler 1999) and Mexican Jays (*Aphelocoma ultramarina*) (Brown et al. 1999) are laying eggs earlier. In Wisconsin, 19 of 51 phenophases (seasonal biological events) of birds and plants became significantly earlier during a 61-year period (Bradley et al. 1999). A comprehensive study based on taxa worldwide showed an average change in spring phenology for temperate zone species to be around five days earlier per decade (Root et al. 2003).

Few long term studies of Neotropical migrant arrival dates are available. A study in Maine (Wilson et al. 2000) contrasted arrival dates from the early 1900's to a four-year period in the 1990's. The study of phenology in Wisconsin by Bradley (1999) also was discontinuous and included only a few Neotropical migrants.

The detection of bird arrival time could be influenced by population size (Tryjanowski 2001). For instance, the population of Wood Thrush (*Hylocichla mustelina*) may have declined by as much as 3.1% per year in Virginia during the period 1966 – 2000 based on North American Breeding Bird Survey data (Sauer et al. 2001). Since there are fewer birds to be detected, observers may miss a declining species during field work. This may bias toward a gradual trend in the observation of later arrival dates. I therefore tested for an association between arrival date and population trends.

This study examines arrival date trends for 43 species of Neotropical migrants over a continuous period of 57 years in central Virginia. The purpose of this paper is to contribute this local data set to the larger body of phenological studies, and to examine a relationship between population and arrival date trends.

METHODS

The study area is primarily the portion of central Virginia that includes the city of Richmond and the contiguous counties of Chesterfield and Henrico. I also included occasional records obtained from the nearby Virginia counties of Prince Edward, Charles City, and Richmond. The study area includes the Hopewell Christmas Bird Count circle (habitat description in Cruickshank, 1972). I did not include records from milder coastal locations such as the Dismal Swamp National Wildlife Refuge, where spring arrival dates may be five to ten days earlier than in the study area (Kain 1987). Within the study area, records are predominantly from James River Park in the city of Richmond, and Curles Neck Farm in Henrico County.

I obtained arrival dates from the original field notebooks of F. R. Scott III (see Armistead 2001) which he began in 1945 and continued annually through 1987, with the exception of the years 1951-1952 when he was not in Virginia. I recorded only the earliest date a species was observed in the study area each year. I obtained additional field records to complete the data set from three local observers for the following years; the author, 1983 – 2001, D. Peterson, 1979 – 2001, and W. Ealding, 1990 – 2001. These additional records are substantially from the same sites in the study area where Mr. Scott obtained his field records. Scott recorded all species heard or seen in the study area two to three days or more per week and supplemented this with observations (including banding) from his home in Richmond. Scott was almost always accompanied by one or more additional observers in the field. Since Scott was accompanied by other observers, and the three additional observers were in the field less often than Scott, I consider the field effort of the additional observers combined to be approximately equal to that of Scott. When arrival dates for a species were recorded by more than one observer in a year, I chose the earliest date. The observers were not always present in the study area during the entire spring migration period each year, so data is not available for each species every year (n = number of years an earliest date was recorded).

I chose Neotropical species based on two criteria. (1) They must be common enough that an observer in the study area can expect to encounter the species on more than one occasion each yearly spring migration. Therefore I eliminated species such as Warbling Vireo (*Vireo gilvus*), Cerulean Warbler (*Dendroica cerulea*), and Golden-winged Warbler (*Vermivora chrysoptera*). (2) I eliminated species that winter locally (pers. obs.) such as Eastern Phoebe (*Sayornis phoebe*), House Wren (*Troglodytes aedon*), and Palm Warbler (*Dendroica palmorum*). Based on these criteria, I selected 43 species.

I tested for an association between arrival dates and population trends with a chi-square test using population data for the eastern North America region obtained from the North American Breeding Bird Survey (BBS) over the period 1966 – 2000 (Sauer et al. 2001). I categorized migrants in this study as either earlier or unchanged, and population trends as increasing, stable, or decreasing. I did not consider species with later arrival trends as there were too few to statistically test.

Neotropical migrant arrival data were analyzed with regression analysis performed using MINITAB Release 13.31 software.

RESULTS

Twenty-two of the 43 Neotropical species were arriving significantly earlier in central Virginia through the 57-year period 1945 – 2001 (Table 1). Twenty species had no significant trend (Table 2), and only one, American Redstart (*Setophaga ruticilla*), trended significantly later (regression slope = 0.111 days per year, $n = 52$, $P = 0.046$; see Figure 1).

Species showing particularly strong trends toward earlier arrival dates ($P = 0.001$) were Ruby-throated Hummingbird (*Archilocus colubris*; see Figure 1), Purple Martin (*Progne subis*), Blue-winged Warbler (*Vermivora pinus*), Black-throated Blue Warbler (*Dendroica caerulescens*), Prothonotary Warbler (*Protonotaria citrea*), Indigo Bunting (*Passerina cyanea*), and Baltimore Oriole (*Icterus spurius*). Species with the most stable arrival dates ($P > 0.6$) included Red-eyed Vireo (*Vireo olivaceus*; see Figure 1), Yellow Warbler (*Dendroica dominica*), Chestnut-sided Warbler (*Dendroica pensylvanica*), Kentucky Warbler (*Oporornis formosus*), and Hooded Warbler (*Wilsonia citrine*). The Eastern Wood-Pewee (*Contopus virens*) was also strongly trending later, though not significantly (see Table 2), but its trend may be biologically significant. I found no association between population trends as reported by the BBS and arrival date trends ($\phi^2 = 0.665$, $df = 2$, $P = 0.717$).

Table 1. Species showing a significantly earlier trend in spring arrival dates in Virginia 1945-2001.

Species	<i>n</i>	Slope	<i>P</i>
Chimney Swift (<i>Chaetura pelagica</i>)	55	-0.108	0.007
Ruby-throated Hummingbird (<i>Archilochus colubris</i>)	46	-0.361	<0.001
Eastern Kingbird (<i>Tyrannus tyrannus</i>)	51	-0.125	0.024
White-eyed Vireo (<i>Vireo griseus</i>)	54	-0.103	0.026
Purple Martin (<i>Progne subis</i>)	40	-0.384	<0.001
Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)	49	-0.261	0.012
Barn Swallow (<i>Hirundo rustica</i>)	49	-0.225	0.004
Swainson's Thrush (<i>Catharus ustulatus</i>)	49	-0.116	0.008
Blue-winged Warbler (<i>Vermivora pinus</i>)	48	-0.149	<0.001
Magnolia Warbler (<i>Dendroica magnolia</i>)	46	-0.124	0.018
Black-throated Blue Warbler (<i>Dendroica caerulescens</i>)	52	-0.185	<0.001
Prothonotary Warbler (<i>Protonotaria citrea</i>)	48	-0.246	<0.001
Northern Waterthrush (<i>Seiurus noveboracensis</i>)	43	-0.189	0.014
Canada Warbler (<i>Wilsonia canadensis</i>)	47	-0.176	0.004
Scarlet Tanager (<i>Piranga olivacea</i>)	52	-0.155	0.001
Rose-breasted Grosbeak (<i>Pheucticus ludovicianus</i>)	45	-0.099	0.047
Blue Grosbeak (<i>Passerina caerulea</i>)	45	-0.137	0.018
Indigo Bunting (<i>Passerina cyanea</i>)	53	-0.212	<0.001
Orchard Oriole (<i>Icterus spurius</i>)	45	-0.220	0.001
Baltimore Oriole (<i>Icterus galbula</i>)	43	-0.191	<0.001

Table 2. Species showing no significant trend in spring arrival dates in Virginia 1945-2001.

Species	n	Slope	P
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	48	-0.0732	0.252
Eastern Wood -Pewee (<i>Contopus virens</i>)	54	0.0640	0.066
Acadian Flycatcher (<i>Empidonax virescens</i>)	50	-0.0619	0.112
Great Crested Flycatcher (<i>Myiarchus crinitus</i>)	47	-0.0662	0.114
Yellow-throated Vireo (<i>Vireo flavifrons</i>)	37	0.0795	0.139
Blue-headed Vireo (<i>Vireo solitarius</i>)	37	-0.1340	0.117
Red-eyed Vireo (<i>Vireo olivaceus</i>)	54	-0.0154	0.645
Veery (<i>Catharus fuscescens</i>)	39	0.0703	0.188
Wood Thrush (<i>Hylocichla mustelinus</i>)	55	-0.0223	0.443
Northern Parula (<i>Parula americana</i>)	54	0.0345	0.501
Yellow Warbler (<i>Dendroica petechia</i>)	50	0.0142	0.751
Chestnut-sided Warbler (<i>Dendroica pensylvanica</i>)	47	0.0103	0.846
Yellow-throated Warbler (<i>Dendroica dominica</i>)	52	-0.0901	0.102
Prairie Warbler (<i>Dendroica discolor</i>)	54	-0.0402	0.389
Blackpoll Warbler (<i>Dendroica striata</i>)	53	-0.0230	0.424
Black -and -white Warbler (<i>Mniotilta varia</i>)	54	0.0397	0.591
Ovenbird (<i>Seiurus aurocapillus</i>)	54	-0.0857	0.071
Louisiana Waterthrush (<i>Seiurus motacilla</i>)	53	0.0482	0.361
Kentucky Warbler (<i>Oporornis formosus</i>)	46	-0.0014	0.978
Hooded Warbler (<i>Wilsonia citrina</i>)	52	0.0225	0.635
Yellow-breasted Chat (<i>Icteria virens</i>)	53	-0.0263	0.512
Summer Tanager (<i>Piranga rubra</i>)	54	0.0450	0.341

DISCUSSION

Population size and the detection of birds by observers are likely linked to some degree but this study found no correlation. It could be that populations have not changed enough to effect detectability in the study area. For instance, even though the Wood Thrush population has declined in the study area, it is still a common bird in appropriate habitat and probably has not dropped below a threshold where it could be missed by field observers. One criteria for species inclusion in this study was that birds were to be common enough to be observed at least twice in the spring migration period, but this may have ensured that only species with a large population size in the study area were considered. Perhaps no species population declined below a threshold that would have affected detectability.

The American Redstart was the only species in this study to show a significantly later arrival trend. Its regional population is trending lower (Sauer et al. 2001), but the trend is not significant. Wilson (2000) reported American Redstart as arriving in Maine an average of four days later in the period 1994 -1997 as compared to 1899-1911. It has been shown that spring arrival dates of American Redstart can be influenced by the quality of winter habitat (Marra et al. 1998). Migrants originating from lesser quality habitat arrived in poorer condition on the breeding grounds and at a later date than those wintering in prime habitat. It might be important to corroborate these results elsewhere in their range in case the trend toward lateness is an indication of a general decline in wintering habitat of this species.

This study and Wilson's study show some contradictory results, e.g., Chimney Swift (*Chaetura pelagica*), Barn Swallow (*Hirundo rustica*), and Magnolia

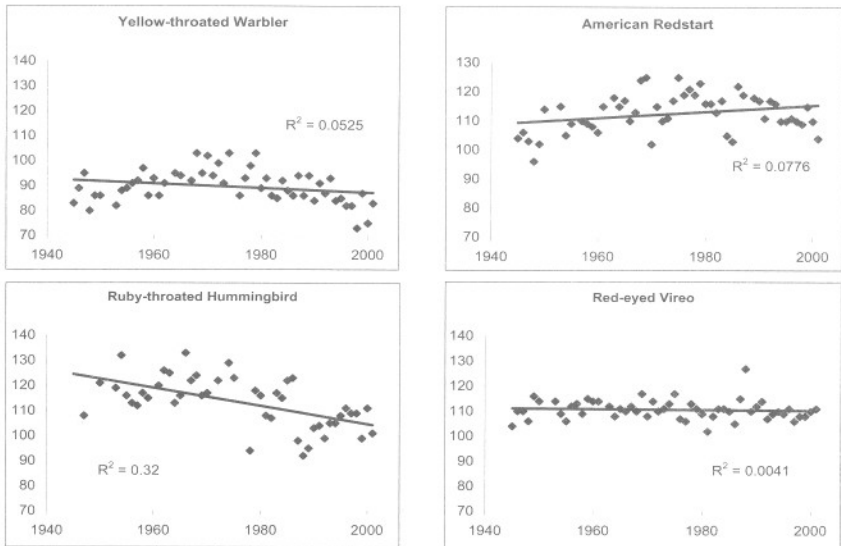


Figure 1. Regression analysis of earliest spring arrival dates in central Virginia of four Neotropical migrants. The Julian calendar date is plotted against year. The Yellow-throated Warbler is trending earlier, but not significantly so, but very early arrival dates were recorded at the end of the period (see Table 2). The American Redstart is the only species becoming significantly later. The Ruby-throated Hummingbird is an example of a species becoming significantly earlier (see Table 1). The Red-eyed Vireo is an example of a species showing no trend or unusually early dates (Table 2).

Warbler (*Dendroica magnolia*) were arriving later in Maine, when in Virginia these species were becoming earlier. Still, the similarity in results for American Redstart may merit attention.

For all species, 79% of the earliest ever arrival dates observed in this study have occurred since 1980 (Table 3). I believe this figure is of particular interest. As an example, the two earliest dates recorded for Yellow-throated Warbler (*Dendroica dominica*) (Table 3, Figure 1), a species with a non-significant slope, were 14 March 1998 and 16 March 2000. The earliest date recorded by Scott was 21 March 1948. I do not believe that Scott, with his excellent field skills, intimate knowledge of Virginia's avifauna, and regular field observations, would have missed these earlier arrival dates during forty years of field work! I strongly feel that the preponderance of early arrival dates recorded in the last twenty years is not an artifact of additional observers, but reflects a true change. It's also important to note with the example of the Yellow-throated Warbler that earliest arrival dates at the end of the period are not enough in themselves to give a significant result toward earliness. This reflects the value of a long-term data set. Other species such as the Red-eyed Vireo show a consistent arrival window without any unusual dates (Figure 1).

Table 3. Earliest and mean arrival dates of Neotropical migrants in Virginia 1945-2001.

Species	Earliest	Mean
Yellow-billed Cuckoo	22 April 1995	3 May
Chimney Swift	30 March 1984	8 April
Ruby-throated Hummingbird	2 April 1988	22 April
Eastern Wood-Pewee	23 April 1982	4 May
Acadian Flycatcher	21 April 1996	1 May
Great Crested Flycatcher	12 April 2000	23 April
Eastern Kingbird	6 April 2000	23 April
White-eyed Vireo	30 March 1985	12 April
Yellow-throated Vireo	10 April 1949, 1998	22 April
Blue-headed Vireo	27 March 1948	14 April
Red-eyed Vireo	12 April 1981	20 April
Purple Martin	15 March 1982	6 April
Northern Rough-winged Swallow	8 March 1986	4 April
Barn Swallow	22 March 1981	10 April
Veery	21 April 1996	1 May
Swainson's Thrush	23 April 1973	1 May
Wood Thrush	11 April 1959, 1982, 1998	18 April
Blue-winged Warbler	16 April 1992	26 April
Northern Parula	30 March 1946	13 April
Yellow Warbler	14 April 1991, 2001	23 April
Chestnut-sided Warbler	18 April 1948	1 May
Magnolia Warbler	30 April 1990	8 May
Black-throated Blue Warbler	15 April 1978	29 April
Yellow-throated Warbler	14 March 1998	1 April
Prairie Warbler	8 April 2000	18 April
Blackpoll Warbler	23 April 1982	1 May
Black-and-white Warbler	26 March 1995	12 April
American Redstart	6 April 1948	23 April
Prothonotary Warbler	8 April 2000	21 April
Ovenbird	2 April 1993	12 April
Northern Waterthrush	15 April 1962	29 April
Louisiana Waterthrush	20 March 1949	2 April
Kentucky Warbler	21 April 2001	2 May
Hooded Warbler	11 April 1959, 1999	22 April
Canada Warbler	21 April 1999	6 May
Yellow-breasted Chat	17 April 1992	30 April
Summer Tanager	17 April 2000	26 April
Scarlet Tanager	15 April 2001	26 April
Rose-breasted Grosbeak	20 April 1997	29 April
Blue Grosbeak	18 April 1998	30 April
Indigo Bunting	5 April 1980	30 April
Orchard Oriole	31 March 2001	29 April
Baltimore Oriole	21 April 1996	1 May

It is remarkable that greater than 50% of the Neotropical migrants in this study showed a significant trend toward earlier arrival dates over the last half of the Twentieth Century. The 22 earlier species had an average trend toward earliness of 1.84 days per decade. It is perhaps tempting to speculate on causal factors of this trend, but the research reported can make no unequivocal claims. I encourage others

to analyze additional data sets, perhaps also including nesting dates, to search for trends. Like Breeding Bird Survey data, more results from a broader geographical area are needed and would be of great interest. This study also emphasizes the value of accurate, long-term data collection on the phenology of bird migration.

ACKNOWLEDGEMENTS

I thank Mrs. Elizabeth Scott for making available the original field notebooks of her husband. I thank Darrell Peterson and John and Wendy Ealding for keeping and making their records available to me. I also thank Dr. C. Blem for help on this study.

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THE PRESENCE OF BARRED OWLS (*STRIX VARIA*) AS AN INDICATION OF THE HEALTH OF COMMONWEALTH PARKS

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INTRODUCTION

A commonly used gauge of ecosystem health is the abundance of a particular organism that is considered critical to the function and integrity of that ecosystem (Merendino and Ankney 1994, Paquette and Ankney 1996). Many of these indicator species exhibit very particular habitat demands, including temporal and spatial prey preferences and sufficient nesting and dwelling sites (Mazur et. al. 1997). Their presence therefore indicates that potentially limiting habitat characteristics are present in large enough quantities to support vital physiological needs.

Because of their important role as apex predators, owls are considered ideal indicators of habitat health and are often used to assess the health of national forests and park systems alike (Fuller and Mosher 1981, Allen 1987, Mazur et. al. 1997, Higgelke and MacLeod 2000, Johnson and Anderson 2002). However, with their highly nocturnal nature, inconspicuous nesting habits, and low densities, owls are difficult to census (Fuller and Mosher 1981, Johnson et. al. 1981).

Barred Owls (*Strix varia*), in particular, are frequently used as management indicators of the health of national forests throughout the United States (Allen 1987, Mazur et. al. 1997, Higgelke and MacLeod 2000). Their predilection for nesting in trees with a diameter breast height (dbh) ≥ 50.8 cm and an average height of 18.8 m indicates the importance of mature forests in the ecology of this species (Allen 1987, Mazur et. al. 1997, Allen 1987). The home range of *S. varia* is large enough that their presence in a park surrounded by development suggests that the park may contain a large enough supply of mature forest to meet specific habitat requirements (Mazur et. al. 1997). However, while park systems are typically created with the intention of preserving the integrity of a natural area, this integrity is often lost as impervious surfaces are created throughout the park to service pedestrians. The disturbances created from construction and increased foot traffic within the park may have a negative impact on *S. varia* and necessitates further investigation.

Because of their limited home range, small size, association with human development, and less stringent prey requirements, Eastern Screech Owls (*Megascops asio*) are not as useful as indicators of the health of a large forest system (Johnsgard 2002). The Great Horned Owl (*Bubo virginianus*), while larger than *S. varia*, is known as an "edge tolerant" species and is often found in close vicinity to disturbed and heavily populated areas (Johnsgard 2002). Barred Owls are typically more successful in heavily wooded habitat where exposure to humans and predators is reduced

(Johnsgard 2002). For these reasons, *S. varia* perhaps serves as a better indicator of the health of a forest ecosystem.

The goal of this study was to evaluate the health of the park systems in the City of Richmond and the surrounding counties by assessing the abundance of *S. varia*. The presence of all owl species in the park system was documented. To the best of my knowledge, no owl census has ever been performed to determine the extant owl population within the City of Richmond or the surrounding county's park systems, and with a combined human population of 719,993 and steady expansion, this location is ideal for the study of habitat fragmentation and the ability of public parks to offer apposite habitat for owls (<http://dlsGIS.state.va.us/PL94-171/PL94-171.htm>)

STUDY AREA AND METHODS

Eighteen parks totaling 1117.9 ha located throughout the City of Richmond, Henrico, and Chesterfield Counties (37° 30' 00"N, 077° 22' 30"W; 37.55° N, 77.37°W; 37° 22' 30"N, 077° 30' 00"W, respectively) were used in this study (Table 1). These areas lie in the Eastern Mesozoic basin located on the fall line separating the

Table 1. A list of the 18 parks surveyed for owls in the Richmond, Chesterfield, and Henrico areas.

Study Area	Approximate size (ha)	County
Dutch Gap	323.7	Chesterfield
G.G. Dodd	76.1	Chesterfield
Huguenot Park	22.6	Chesterfield
Matoaca Park	29.5	Chesterfield
Rockwood Park	65.9	Chesterfield
Water Front	24.3	Chesterfield
Cheswick Park	9.9	Henrico
Crump Park	60.3	Henrico
Deep Bottom Park	35.0	Henrico
Deep Run Park	65.1	Henrico
Short Pump Park	19.9	Henrico
Vawter St. Park	95.8	Henrico
Bandy Field	4.8	Richmond
Byrd Park	116.0	Richmond
Huguenot Woods	-----*	Richmond
Pony Pasture	135.0	Richmond
Pumphouse Park	9.3	Richmond
The Wetlands	-----*	Richmond

Total area: 1117.9

*Pony Pasture, The Wetlands, and Huguenot Woods are all considered the James River Park, which is 135 hectares in size.

Piedmont Plateau from the Coastal Plain physiographic province (Wolff and Ware 1994). Tree species range from upland forests dominated by *Pinus strobus*, *Quercus alba*, *Ilex opaca*, and *Acer saccharum*, to flood tolerant *Platanus occidentalis*, *Ulmus americana*, *Acer rubrum* sp., and *Alnus* sp. along the James River.

The study period extended from December 2003 to March 2004, with an average nighttime temperature of 1.8°C for these months (ranging from -0.5°C to 2.7°C). To avoid additional physiological stress to the owls, attempts were made to refrain from surveying in temperatures drastically below or above average nighttime temperatures ($\pm 10^\circ\text{C}$). Average rainfall for the study period was 177.8 mm (NOAA).

Each of the parks involved in the study was visited during the daytime in order to determine survey routes and the suitability of habitat based on habitat suitability index models for the Barred Owl (Mumford and Zusi 1957, Allen 1987, Pardieck et. al. 1996, Mazur et. al. 1997, Higgelke and MacLeod 2000, Johnson and Anderson 2002). Abundance of owls was determined through the use of nocturnal playback surveys from 20 December 2003 to 11 March 2004. Playback locations were spaced according to the home ranges of the species of owl and were carried out in accordance with the procedure outlined by Takats et. al. (2001) and McGarigal and Fraser (1985).

Territorial conspecific song recordings of four owl species were used for the survey: Barred Owl, Eastern Screech Owl, Great Horned Owl, and Northern Saw-whet Owl (*Aegolius acadicus*). If multiple species were expected to share a particular habitat, care was taken to ensure that broadcasts began with the smallest of species, thereby avoiding inhibition of response due to the apparent presence of predators (Fuller and Mosher 1981).

All calls were broadcast on a Sony MZ-S1 mini-disc player and a Marantz PMD 221 cassette recorder equipped with an AIWA SC-A5 external speaker. An initial 2-minute listening period was followed by a series of 3 30-second broadcasts with a 2-minute silent period following each of the broadcasts. Response by the owls was recorded as prior to, during, or after playback and whether the owl made itself known vocally, visually, or both. Weather conditions, noise level, snow cover, wind, and temperature were also recorded.

RESULTS

A total of 22 owls were detected in 9 of the 18 parks surveyed (Table 2). Barred Owls comprised 13 of the 22 owls (59%). Four of the owls were detected prior to playback (18%), 8 during playback (36%), and 10 following cessation of playback (45%) (Figure 1). Seven owls responded vocally only (32%), 2 responded visually only (9%), and 13 responded both visually and vocally (59%) (Figure 2).

DISCUSSION

In a survey by Allen (1987), only 15% of detected Barred Owls ($n=140$) occurred in city/urban vegetation, while 53% occurred in large-tract old growth forests (Allen 1987). The largest park in the study, Dutch Gap, was the only park

Table 2. A list of the owl species present in parks surveyed; BDOW = Barred Owl (*Strix varia*); EASO = Eastern Screech Owl (*Megascops asio*); GHOW = Great Horned Owl (*Bubo virginianus*); NSWO = Northern Saw-whet Owl; (*Aegolius acadicus*); SEOW = Short-eared Owl (*Asio flammeus*).

Park	Owl species present	Count
Dutch Gap	BDOW	7
Matoaca Park	BDOW	1
Rockwood Park	GHOW	1
Deep Bottom Park	GHOW; EASO	3; 1
Deep Run Park	BDOW; EASO	1; 1
Short Pump Park	SEOW**	1
Vawter St. Park	NSWO	1
Pony Pasture	BDOW	1
The Wetlands	BDOW; NSWO	3; 1

** The presence of *A. flammeus* in a heavily developed park is an unusual phenomenon as this particular owl is known to avoid human development and heavily populated areas (Johnsgard 2002). However, the presence of snow on the ground has been known to disrupt the cryptic coloration of the owl, forcing movement to nearby wooded areas (Johnsgard 2002).

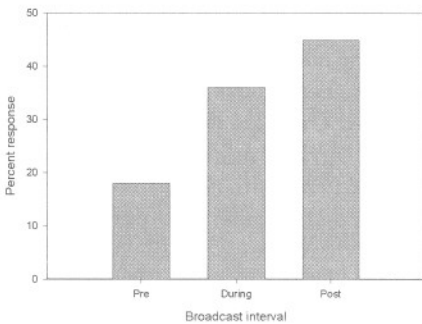


Figure 1. Timing of owl responses relative to broadcast of conspecific call.

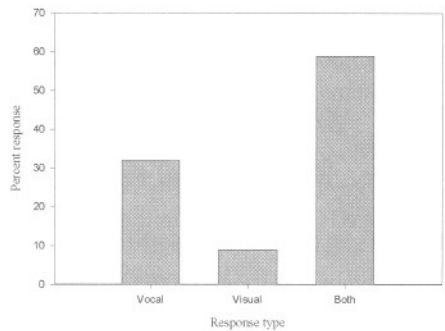


Figure 2. Type of response recorded.

large enough to accommodate the Barred Owl’s average home range of 228.6 ha. and subsequently had the highest density of owls. Only 4 parks were as large or larger than the smallest known home range of 86.1 ha (Allen 1987). However, while many parks were not large enough to accommodate the reported home range of *Strix varia*, some did contain them. This may suggest that these parks comprise only a portion of the owl’s territory. The area surrounding these parks, however, was

Table 3. Certain parks surveyed contained nesting owls. The presence of a nesting owl in a park smaller than their home range may indicate that the park sufficiently supports the owl despite the size of the park or the park comprises only a portion of the owl's actual home range.

Park Site	Owl Species	Avg. home range (ha)	Park Size (ha)
Deep Bottom	<i>B. virginianus</i>	212*	35
Deep Run	<i>O. asio</i>	9 – 108*	65
Dutch Gap	<i>S. varia</i>	86 – 229**	324
The Wetlands	<i>S. varia</i>	86 – 229**	135

*Johnsgard (2002)

**Allen (1987)

often heavily developed and the potential for dispersal to wooded areas beyond the development would involve long distance travel, which is not known to occur in any of the species studied (Johnsgard 2002). Following habitat biodiversity assessment models, these findings would lead to the conclusion that these parks may meet the specific habitat requirements of the Barred Owl and although small, contain healthy ecosystems and adequate prey (Higgelke and MacLeod 2000).

Evidence exists that some of the Barred Owls are nesting in the parks where they were located as they were observed carrying nesting material during the surveys (Table 3). Further studies are planned to radio-track the movements of the Barred Owls present in the city parks in order to determine if the park in which an owl was found comprises a portion of the owl's home range or if the park is used exclusively. Johnsgard (2002) states that Barred Owls are ongoing territory holders, with some occupying the same territory for three decades. The implications for natal dispersal in these small county parks with several generations of owls tenaciously occupying all available and sufficient territories deserves attention.

ACKNOWLEDGEMENTS

I thank Charles Blem for his helpful suggestions throughout the project and insightful review and comments on the drafts of the paper. Richard Upton contributed a great deal of his time to aid in the fieldwork involved in the study. Libby Clarkson provided assistance in the field and appreciated suggestions on the drafts of the paper. Julie Naumann and René Cabaniss also aided in the fieldwork for the study. I also acknowledge the supervisors and grounds crew for each of the parks visited as well as the Department of Parks and Recreation for Richmond City, Henrico County, and Chesterfield County.

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VIRGINIA CHRISTMAS BIRD COUNTS: 2003-2004 SEASON

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SUMMARY

The 2003-04 Christmas count season was not one of Virginia's best. There were far fewer all-time high counts and, for the most part, those hoped-for rarities simply weren't there this year. Virginia experienced an extremely severe drought in 2002 which didn't allow wild food crops to set. The drought was followed by almost never-ending rains throughout most of 2003. Add to that the wide-spread devastation of Hurricane Isabel and it's not hard to see why some areas were almost devoid of birds.

The only change in the count schedule this year was the absence of the Dismal Swamp count. The hurricane downed literally thousands of trees over the entire refuge, requiring a clean-up job that will take months, if not years to complete. Of the 47 counts held, nine were submitted only to *The Raven* for publication. They are Big Flat Mountain, Charlottesville, Danville, Darlington Heights, Giles County, Lynchburg, Peaks of Otter, Roanoke, and Warren. A tenth count, Bristol, was submitted to both Audubon and *The Raven*. On National Audubon's website, Bristol appears under the Tennessee counts, even though its circle center and greater part of its count area are in Virginia.

Weather seemed to be against birders this year with hard rains pouring down on several prime count days. Counts that were especially affected were those located in the southeastern part of the state and held on the first Saturday and Sunday of the count period. The temperatures, however, were not unusually cold, and in some areas thermometers registered between 65° and 75° F. Many birders reported an unusually poor wild food crop, especially noting a lack of myrtle berries.

The total number of individuals for all counts dropped below one million this year, the first time that has happened since 1990. The total number of species seen on all counts was the same as last year. Even though there were few unusual sightings, most of the regulars and a few fairly uncommon birds kept the number of species at a respectable level of 211.

The Eurasian Collared-Dove (*Streptopelia decaocto*) was new for Virginia counts, but certainly not new to those birding the Cape Charles area where it has often been spotted for the past couple of years. At least two have been seen in the Cape Charles count circle area by many observers as they course over the area with a band of Rock Doves (*Columba livia*), but on count day, only one appeared.

Two loons, thought to be Pacific Loons (*Gavia pacifica*) at Little Creek were reviewed by Virginia Avian Records Committee (VARCOM) and were accepted as pacific/arctic loon, sp. only. On that same count, a Clark's Grebe (*Aechmophorus clarkii*) was accepted by the committee and becomes the fourth Coastal Plain record. One other rarity, a Western Grebe (*Aechmophorus occidentalis*) at Back Bay on 31 December, was accepted by VARCOM and becomes the second Coastal Plain Record. Documentation for the Sabine's Gull (*Xema sabini*) at Little Creek, the most unusual gull of the season, was still under review as of this writing. The outcome of other Christmas count rarities reviewed by VARCOM can be found visiting the VSO website www.virginiabirds.net and clicking on the VARCOM link.

A Ruby-throated Hummingbird (*Archilochus colubris*) coming to a feeder on Eastern Shore was the second record ever for Virginia Christmas counts where many observers had an opportunity to see the bird for an extensive period. A Cattle Egret (*Bubulcus ibis*) surprised birders on the Chesapeake Bay bridge-tunnel. Found in good numbers, ranging from 5 to 35 birds almost every year from 1968 through 1998, this species suddenly became scarce. The bridge-tunnel sighting is the first on a count since 1999. White Ibis (*Eudocimus albus*) continued its erratic winter occurrence in Virginia. The first Xmas count record of the species was at Cape Charles 1980. In the next 15 years one to four birds were counted at Cape Charles and one at Newport News. Suddenly in 1996, numbers shot up to 28. A record 105 were counted in 1987, 64 in 1998, 73 in 1999, and 21 in 2000. Then, in 2001, participants were surprised to find only one bird on Fishermans Island. The next year 82 appeared, but this year the number dropped back to one individual. The extreme weather fluctuations, including Hurricane Isabel, may have had something to do with this dramatic rise and fall of numbers in the past three years.

In talking to compilers and participants of the counts, the overall impression was that numbers of passerine species were drastically low. But that does not appear to be the case. Many observers felt that birds tended to occur in "pockets." Birding parties in one sector of a count would find huge areas that were almost devoid of birds. Other parties in different sectors of the same count circle would find astonishingly high numbers of various species moving in busy groups through trees and undergrowth. Had it not been for those bands of passerines, numbers for many species would have been dismally low. As it was, some species did not fare well at all. Eastern Bluebird (*Sialia sialis*) numbers were down by half or more on counts all over the state. Yellow-rumped Warblers (*Dendroica coronata*) reacted to the almost total denudement of myrtle berries by Hurricane Isabel by vacating many of their usual haunts. The only place they could be found in good numbers was at Chincoteague. And only 89 Gray Catbirds (*Dumetella carolinensis*) were found statewide. The usual state total is in the triple digits.

Even though there were fewer birds overall, there still were a few notable high counts. A remarkable 8,076 Red-throated Loons (*Gavia stellata*) flew over the heads of observers on the Fishermans Island sector of the Cape Charles circle for most of the count day. Added to the individuals seen on eight other counts, this brought the state total to 10,267, exceeding the previous high of 2,781 in 1997 by 369%.

Dabbling duck numbers were higher on Eastern Shore this year, mostly due to larger flocks at Chincoteague enjoying higher water levels than had been seen there in many years. American Wigeon (*Anas americana*), Northern Shoveler (*A. clypeata*), Northern Pintail (*A. acuta*), and Green-winged Teal (*A. crecca*) all appeared in high-than-usual totals, and 471 Wood Ducks (*Aix sponsa*) at Manassas-Bull Run outstripped previous record highs for that count by 422 individuals.

Other notable highs were 15 Blue-headed Vireos (*Vireo solitarius*) at Little Creek; 104 Barred Owls (*Strix varia*) with 88 of those distributed among four Northern Virginia counts. An all-time high of 3,015 White-crowned Sparrows (*Zonotrichia leucophrys*) were counted on 34 counts. As would be expected, the highest totals were from the mountain counts. Even Purple Finches (*Carpodacus purpureus*) fared well this year with 1,142 being the highest total in 15 years. The real excitement was the Common Redpoll (*Carduelis flammea*) invasion up and down the East Coast, with Virginia birders counting their share. A total of 95 individuals statewide shattered the old record of 19 set in 2001, with redpolls spotted on seven counts, the highest number coming from Back Bay with 72. Even Pine Siskins (*C. pinus*) show up in good numbers, with the state-wide total of 123 the most in five years.

More apparent than record-breaking highs, were the large number of low counts. Proportionately there were fewer record high counts on the 2003-04 season than in any other count period since the 1950s. Statewide, Canvasback (*Aythya valisineria*) numbers were the lowest in 15 years, Redheads (*A. americana*), the lowest in 10 years. American Kestrels (*Falco sparverius*) were down by more than half their usual numbers, Ruffed Grouse (*Bonasa umbellus*) was the lowest in 36 years, Northern Goshawk (*Accipiter gentilis*) was missed for the first time in 11 years. Black-bellied (*Pluvialis squatarola*) and Semipalmated plovers (*Charadrius semipalmatus*), Killdeer (*C. vociferus*), Willet (*Catoptrophorus semipalmatus*), Ruddy Turnstone (*Arenaria interpres*), Dunlin (*Calidris alpina*), and Least Sandpiper (*Calidris minutilla*) numbers were down dramatically. It was the first miss for Marbled Godwits (*Limosa fedoa*) since 1977.

Almost no unusual warblers showed up anywhere, except two Yellow-breasted Chats (*Chat Icteria virens*), one at Cape Charles, and one at Central Loudoun. American Tree Sparrow (*Spizella arborea*) numbers were up somewhat with 184 seen around the state, but nothing like the counts of yesteryear when it was common to find as many as four or five hundred on the 20 or 30 counts around the state. Le Conte's Sparrow (*Ammodramus leconteii*) was completely missed for the first time in 12 years. On the other hand 14 Lapland Longspurs (*Calcarius lapponicus*) in a big farm field on Eastern Shore provided great views for many observers.

Even though Hurricane Isabel rearranged much of Virginia's landscape and bad weather seemed to be the norm for the season, birders stalwartly persevered and came up with some nice finds throughout the state. Hopefully, however, better conditions and more birds will prevail next year.

AUGUSTA COUNTY. Circle Center: Jct. 780 & 781 in Augusta County. 38°12'N 78°59'W.

Field data: 14 Dec 2003. Time in field: 5:45 a.m. to 5 p.m. Temperatures: 19° to 25° F. Wind variable, 0-5 mph. Skies cloudy. Still water partly frozen, moving water open. Field observers: 16 in 8 parties. Nocturnal birding: 1.5 hours and 0 miles. Total party-hours (excludes nocturnal hours): 41.25 (2.25 on foot, 39 by car). Total party-miles: 302 (2.5 on foot, 299.5 by car).

Species: Pied-billed Grebe 1; Great Blue Heron (blue form) 4; Black Vulture 31; Turkey Vulture 79; **Snow Goose (white form) 1**; **Ross's Goose 1**; Canada Goose 341; Gadwall 9; American Black Duck 2; Mallard 74; Ring-necked Duck 1; Hooded Merganser 3; Ruddy Duck 1; Bald Eagle CW; Northern Harrier 4; Sharp-shinned Hawk 2; Cooper's Hawk 1; Red-tailed Hawk 24; American Kestrel 7; **Peregrine Falcon 1**; **Wild Turkey 1**; Killdeer 11; Wilson's Snipe 16; Rock Dove 210; Mourning Dove 265; Great Horned Owl 1; Belted Kingfisher 2; Red-bellied Woodpecker 33; Yellow-bellied Sapsucker 7; Downy Woodpecker 35; Hairy Woodpecker 3; Northern (Yellow-shafted) Flicker 14; Pileated Woodpecker 4; Blue Jay 120; American Crow 188; Common Raven 3; Horned Lark 98; Carolina Chickadee 70; Black-capped Chickadee 2; Tufted Titmouse 36; White-breasted Nuthatch 22; Brown Creeper 2; Carolina Wren 13; Winter Wren 3; Golden-crowned Kinglet 7; Ruby-crowned Kinglet 2; Eastern Bluebird 41; American Robin 107; Northern Mockingbird 40; European Starling 3,398.

American Pipit 2; Cedar Waxwing 106; Yellow-rumped (Myrtle) Warbler 34; Eastern Towhee 2; American Tree Sparrow CW; Chipping Sparrow 1; Field Sparrow 3; Savannah Sparrow 7; Song Sparrow 113; Swamp Sparrow 1; White-throated Sparrow 541; White-crowned Sparrow 475; Dark-eyed (Slate-colored) Junco 513; **Lapland Longspur 1**; Northern Cardinal 113; Red-winged Blackbird 85; Eastern Meadowlark 38; Rusty Blackbird 22; Common Grackle 12; Brown-headed Cowbird 801; Purple Finch 33; House Finch 20; American Goldfinch 106; House Sparrow 201.

Total species: 72; Total individuals: 8,571.

Compiler: John Spahr, 613 Locust Ave., Waynesboro, VA 22980 (jspahr@yahoo.com).

BACK BAY. Circle Center: 1.5 miles east of Back Bay. 36°39'N 76°00'W.

Field data: 29 Dec 2003. Time in field: 5 a.m. to 6 p.m. Temperature: 30° to 60° F. Wind variable, 0-12 mph. AM partly cloudy. PM clear. Water open. Field observers: 20 in 10 to 13 parties. Nocturnal birding: 3.5 hours and 19 miles. Total party-hours (excludes nocturnal hours): 98 (83 on foot, 15 by car). Total party-miles (excludes nocturnal miles): 315 (48 on foot, 267 by car).

Species: Red-throated Loon **691**; Common Loon 123; Pied-billed Grebe 6; Horned Grebe 1; **Western Grebe 1**; Northern Gannet 2,650; Brown Pelican 76; Double-crested Cormorant 76; Great Cormorant 1; Great Blue Heron (blue form) 56; Great Egret 8; Snowy Egret 1; Black-crowned Night-Heron 15; Turkey Vulture 64; Snow Goose (blue form) 8; Snow Goose (white form) 5,225; Canada Goose 932;

Tundra Swan 984; Wood Duck 5; Gadwall 227; American Wigeon 250; American Black Duck 249; Mallard 307; Blue-winged Teal 1; Northern Shoveler 10; Northern Pintail 97; American Green-winged Teal 6; Greater Scaup 2; Lesser Scaup 5; Surf Scoter 141; White-winged Scoter 5; Black Scoter 46; scoter, sp. 345; Long-tailed Duck 2; Bufflehead 27; Hooded Merganser 155; Red-breasted Merganser 37; Osprey 1; Bald Eagle 5 (3a, 1i, 1u); Northern Harrier 30; Sharp-shinned Hawk 6; Cooper's Hawk 1; Red-shouldered Hawk 4; Red-tailed Hawk 22; Rough-legged Hawk 1; American Kestrel 23; Merlin 2; Peregrine Falcon 1; Northern Bobwhite 14; King Rail 26; Virginia Rail 16; Sora 1.

American Coot 2; Killdeer 22; Greater Yellowlegs 30; Sanderling 69; Wilson's Snipe 70; American Woodcock 2; Laughing Gull 17; Bonaparte's Gull 720; Ring-billed Gull 2,850; Herring Gull 161; Lesser Black-backed Gull 11; Great Black-backed Gull 167; Forster's Tern 89; Rock Dove 156; Mourning Dove 257; Eastern Screech-Owl 12; Great Horned Owl 9; Barred Owl 3; Belted Kingfisher 19; Red-bellied Woodpecker 47; Yellow-bellied Sapsucker 15; Downy Woodpecker 30; Hairy Woodpecker 2; Northern (Yellow-shafted) Flicker 90; Pileated Woodpecker 19; Eastern Phoebe 1; Blue-headed Vireo 2; Blue Jay 77; American Crow 107; Fish Crow 8; Tree Swallow 131; Carolina Chickadee 131; Tufted Titmouse 40; Red-breasted Nuthatch 3; White-breasted Nuthatch 20; Brown-headed Nuthatch 29; Carolina Wren 106; House Wren 7; Winter Wren 12; Sedge Wren 6; Marsh Wren 10; Golden-crowned Kinglet 16; Ruby-crowned Kinglet 20; Eastern Bluebird 69; Hermit Thrush 25; American Robin 177; Gray Catbird 20; Northern Mockingbird 59; Brown Thrasher 8; European Starling 1,900.

American Pipit 4; Cedar Waxwing 3; Orange-crowned Warbler 8; Yellow-rumped (Myrtle) Warbler 1,048; Pine Warbler 8; Palm Warbler 24; Common Yellowthroat 7; Eastern Towhee 95; Chipping Sparrow 161; Field Sparrow 60; Savannah Sparrow 126; Savannah (Ipswich) Sparrow 6; Fox Sparrow 39; Song Sparrow 210; Lincoln's Sparrow 1; Swamp Sparrow 154; White-throated Sparrow 303; Dark-eyed (Slate-colored) Junco 100; Northern Cardinal 72; Red-winged Blackbird 1,152; Eastern Meadowlark 31; Rusty Blackbird 35; Common Grackle 130; Boat-tailed Grackle 96; Brown-headed Cowbird 400; Purple Finch 2; House Finch 80; **Common Redpoll** 72; Pine Siskin 1; American Goldfinch 25; House Sparrow 34.

Total species: 130; **Total individuals:** 25,328.

Compiler: Paul Sykes, 1080 Forest Rd., Watkinsville, GA 3067 (paul_sykes@usgs.gov).

Compiler's notes: Because of the complex ecological problems within the Back Bay system, and perhaps factors elsewhere, waterfowl populations in the Back Bay area have been very low for the past 25 + years. The dabbling ducks have been very low and the divers absent in many years where historically, they were in the thousands (Canvasback, Redhead, Ruddy Duck, in particular); this applies to the American Coot as well. Passerines were scarce and hard to find in many cases. The numbers of Yellow-rumped Warblers were way down compared to previous years. Fruits and seeds were scarce as a result of Hurricane Isabel in late September.

BANISTER RIVER WILDLIFE MANAGEMENT AREAS. Circle Center: At Banister River Wildlife Management Areas in Halifax County. 36°43'N 78°48'W.

Field data: 14 Dec 2003. Time in field: 7 a.m. to 5:30 p.m. Temperature: 30° to 35° F. Wind NW, 5-8 mph. Skies: Cloudy, light rain. Water open. Field observers: 1. Feeder watchers: 2 for 7 hours. Total party-hours (excludes feeder hours): 9 (1.5 on foot, 7.5 by car). Total party-miles: 58 (3 on foot, 55 by car).

Species: Great Blue Heron (blue form) 2; Black Vulture 10; Turkey Vulture 17; Canada Goose 6; Mallard 2; Ring-necked Duck 1; Lesser Scaup 1; Bufflehead 5; Hooded Merganser 1; Bald Eagle 1 (a); Northern Harrier 1; Sharp-shinned Hawk 1; Cooper's Hawk CW; Red-tailed Hawk 1; American Kestrel 1; Wild Turkey 32; Killdeer 20; Bonaparte's Gull 4; Ring-billed Gull 9; Rock Dove CW; Mourning Dove 75; Belted Kingfisher CW; Red-headed Woodpecker 2; Red-bellied Woodpecker 12; Yellow-bellied Sapsucker 2; Downy Woodpecker 5; Northern (Yellow-shafted) Flicker 8; Eastern Phoebe 1; Blue Jay 115; American Crow 92; Carolina Chickadee 8; Tufted Titmouse 5; White-breasted Nuthatch 2; Brown-headed Nuthatch 3; Brown Creeper CW; Carolina Wren 7; Golden-crowned Kinglet 3; Ruby-crowned Kinglet 6; Eastern Bluebird 12; Hermit Thrush 3; American Robin 105; Northern Mockingbird 4; European Starling 10; Cedar Waxwing 170; Yellow-rumped (Myrtle) Warbler 3; Pine Warbler 1; Eastern Towhee 9; Chipping Sparrow 70; Field Sparrow 2; Savannah Sparrow 15; Fox Sparrow 3; Song Sparrow 18; White-throated Sparrow 53; White-crowned Sparrow 2.

Dark-eyed (Slate-colored) Junco 265; Northern Cardinal 60; Red-winged Blackbird 80; Eastern Meadowlark 12; Rusty Blackbird 300; Common Grackle 100; Purple Finch 15; House Finch 11; American Goldfinch 84; House Sparrow 18.

Total species: 60; **Total individuals:** 1,886.

Compiler: Jeffrey Blalock, 103 Elizabeth Court, South Boston, VA 24592 (jcbabirder@gconline.com).

BIG FLAT MOUNTAIN. Circle Center: On Pasture Fence Mountain in Albemarle County. 38°11'N 78°43'W.

Field data: 31 Dec 2003. Time in field: 6:15 a.m. to 5:45 p.m. Temperature: 24° to 51° F. Wind W-SW, 0-5 mph. Skies clear. Thin snow cover on north slopes. Water open. Field observers: 3 in 2 parties. Nocturnal birding: 1.25 hours and 2 miles. Total party-hours (excludes nocturnal hours): 21.25 all on foot. Total party-miles (excludes nocturnal miles): 28 all on foot.

Species: Great Blue Heron (blue form) 1; Black Vulture 6; Turkey Vulture 17; Red-tailed Hawk 2; Ruffed Grouse 3; Eastern Screech-Owl 1; Great Horned Owl 1; Red-bellied Woodpecker 11; Yellow-bellied Sapsucker 5; Downy Woodpecker 10; Hairy Woodpecker 6; Northern (Yellow-shafted) Flicker 1; Pileated Woodpecker 9; American Crow 17; Common Raven 12; Carolina Chickadee 33; Black-capped Chickadee 11; White-breasted Nuthatch 11; Brown Creeper 1; Carolina Wren 6; Winter Wren 3; Golden-crowned Kinglet 6; Ruby-crowned Kinglet 7; Eastern Bluebird 16; Hermit Thrush 2; American Robin 1; Song Sparrow 3; White-throated Sparrow 39; Dark-eyed (Slate-colored) Junco 114; Northern Cardinal 21; American Goldfinch 24.

Total species: 31; **Total individuals:** 400.

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

Participants: Carter McNeely, Charles Stevens, Tom Wieboldt.

BLACKFORD. Circle Center: Confluence of the Clinch and Little rivers in Russell County. 37°00'N 81°55'W.

Field data: 27 Dec 2003. Time in field: 4:30 a.m. to 6:30 p.m. Temperature: 28° to 53° F. Wind calm. AM clear. PM partly clear. Water open. Field observers: 7 in 5 parties. Nocturnal birding: 3 hours and 15 miles. Total party-hours (excludes nocturnal hours): 48 (5 on foot, 43 by car). Total party-miles (excludes nocturnal miles): 245 (10 on foot, 235 by car).

Species: Great Blue Heron (blue form) 13; Black Vulture 23; Turkey Vulture 14; Canada Goose 61; Wood Duck 1; Gadwall 1; American Black Duck 1; Mallard 173; **Blue-winged Teal** 6; **Northern Pintail** 10; **Bald Eagle** 1; Sharp-shinned Hawk 1; Cooper's Hawk 1; Red-shouldered Hawk 1; Red-tailed Hawk 14; Golden Eagle 1 (a); American Kestrel 9; Ruffed Grouse 1; Killdeer 11; Wilson's Snipe 1; Rock Dove 32; Mourning Dove 210; Eastern Screech-Owl 2; Great Horned Owl 2; Belted Kingfisher 4; Red-bellied Woodpecker 9; Yellow-bellied Sapsucker 3; Downy Woodpecker 13; Hairy Woodpecker 4; Northern (Yellow-shafted) Flicker 13; Pileated Woodpecker 5; Eastern Phoebe 2; Loggerhead Shrike 1; Blue Jay 67; American Crow 696; Common Raven 12; Carolina Chickadee 31; Tufted Titmouse 51; White-breasted Nuthatch 24; Brown Creeper 1; Carolina Wren 20; Golden-crowned Kinglet 6; Ruby-crowned Kinglet 2; Eastern Bluebird 45; American Robin 63; Northern Mockingbird 27; European Starling 2,260; Cedar Waxwing 18; Yellow-rumped (Myrtle) Warbler 63; Eastern Towhee 9.

Chipping Sparrow 2; Field Sparrow 17; Savannah Sparrow 1; Song Sparrow 90; Swamp Sparrow 1; White-throated Sparrow 31; White-crowned Sparrow 115; Dark-eyed (Slate-colored) Junco 34; Northern Cardinal 52; Red-winged Blackbird 13; Eastern Meadowlark 4; Common Grackle 3; Brown-headed Cowbird 22; Purple Finch 3; House Finch 12; **Pine Siskin** 1; American Goldfinch 55; House Sparrow 17.

Total species: 68; **Total individuals:** 4,512.

Compiler: Robert Riggs, Rt. 2, Box 27 B, Lebanon, VA 24266 (sheba@mounet.com).

BLACKSBURG. Circle Center: Jct. Merrimac Rd. (657) and Prices Fork Rd. (685) in Montgomery County. 37°12'N 80°28'W.

Field data: 20 Dec 2003. Times in field: 1 a.m. and 5:30 a.m. to 6:00 p.m. Temperature: 19° to 27° F. Wind NW, 0-16 mph. AM cloudy, light snow. PM partly clear. Snow depth: 0-3 inches. Still water frozen, moving water partly frozen. Field observers 38 in 19 to 20 parties. Feeder watchers: 8 for 24.75 hours. Nocturnal birding: 9.25 hours and 24 miles. Total party-hours (excludes feeder and nocturnal hours): 113 (72 on foot, 41 by car). Total party-miles (excludes nocturnal miles): 478 (66 on foot, 412 by car).

Species: Pied-billed Grebe 2; Great Blue Heron (blue form) 15; Black Vulture 76; Turkey Vulture 20; Canada Goose 1,547; Gadwall CW; American Wigeon CW; American Black Duck 26; Mallard 281; American Green-winged Teal 2; Lesser Scaup 5; Bufflehead 136; Common Goldeneye 1; Hooded Merganser 25; Northern Harrier 5; Sharp-shinned Hawk 3; Cooper's Hawk 6; Red-shouldered Hawk 2; Red-tailed Hawk 29; *Buteo*, sp. 2; eagle, sp. 1; American Kestrel 9; Wild Turkey 125; Killdeer 29; Wilson's Snipe 10; Ring-billed Gull 44; Rock Dove 208; Mourning Dove 486; Barn Owl 1; Eastern Screech-Owl 17; Great Horned Owl 1; Barred Owl 1; Northern Saw-whet Owl 1 (heard only); Belted Kingfisher 9; Red-headed Woodpecker 1; Red-bellied Woodpecker 85; Yellow-bellied Sapsucker 20; Downy Woodpecker 93; Hairy Woodpecker 29; Northern (Yellow-shafted) Flicker 51; Pileated Woodpecker 44; Eastern Phoebe 6; Loggerhead Shrike 3; Blue Jay 194; American Crow 714; Common Raven 8; Horned Lark 312; Carolina Chickadee 263; chickadee, sp. 26; Tufted Titmouse 240; Red-breasted Nuthatch 7; White-breasted Nuthatch 98; Brown Creeper 22; Carolina Wren 153, Winter Wren 28.

Golden-crowned Kinglet 68; Ruby-crowned Kinglet 26; Eastern Bluebird 160; Hermit Thrush 7; American Robin 86; Gray Catbird 1; Northern Mockingbird 68; Brown Thrasher 5; European Starling 2,704; American Pipit 193; Cedar Waxwing 214; Yellow-rumped (Myrtle) Warbler 85; Palm Warbler 1; Eastern Towhee 39; Chipping Sparrow 4; Field Sparrow 29; *Spizella*, sp. 1; Savannah Sparrow 2; Fox Sparrow 16; Song Sparrow 397; Swamp Sparrow 7; White-throated Sparrow 598; White-crowned Sparrow 358; Dark-eyed (Slate-colored) Junco 632; **Lapland Longspur 3**; Northern Cardinal 408; Red-winged Blackbird 10; Eastern Meadowlark 47; Rusty Blackbird 35; **Brewer's Blackbird 3**; Common Grackle 1; Brown-headed Cowbird 129; Purple Finch 58; House Finch 163; *Carpodacus*, sp. 1; American Goldfinch 400; House Sparrow 176.

Total species: 86; **Total individuals:** 12,657.

Compilers: Patricia A. Polentz, 915 Coal Hollow Rd., Christiansburg, VA 24073 (thomas@blacksburg.net) and Bruce Grimes, 2306 Terra Bella St., Blacksburg, VA 24060 (bgrimes@bev.net).

BREAKS INTERSTATE PARK. Circle Center: 4.5 miles northeast of Haysi in Buchanan County. 37°15'N 82°13'W.

Field data: 20 Dec 2003. Time in field: 6 a.m. to 4 p.m. Temperature: 19° to 32° F. Wind variable, 3-5 mph. AM cloudy, light snow. PM partly cloudy, light snow. Snow cover 8-12 inches. Still water partly frozen. Moving water open. Field observers: 8 in 3 to 5 parties. Feeder watchers: 5 for 3 hours. Total party-hours (excludes feeder hours): 16 (14 on foot, 2 by car). Total party-miles: 61 (11 on foot, 50 by car).

Species: Pied-billed Grebe 1; Great Blue Heron (blue form) CW; Turkey Vulture 20; Wood Duck 3; **American Black Duck 1**; Mallard 18; Bufflehead 2; Sharp-shinned Hawk CW; Cooper's Hawk CW; Red-shouldered Hawk 1; Red-tailed Hawk 1; American Kestrel 1; Wild Turkey 10; Rock Dove 45; Mourning Dove 43; Barred Owl CW; *Selasphorus*, sp. 1 (ph); Belted Kingfisher 2; Red-bellied Woodpecker

3; Yellow-bellied Sapsucker 2; Downy Woodpecker 6; Hairy Woodpecker 1; Northern (Yellow-shafted) Flicker 4; Pileated Woodpecker 10; Eastern Phoebe 5; Blue Jay 29; American Crow 41; Common Raven 1; Carolina Chickadee 73; Tufted Titmouse 42; White-breasted Nuthatch 22; Carolina Wren 19; Winter Wren 11; Golden-crowned Kinglet 1; Eastern Bluebird 23; **Hermit Thrush 6**; American Robin 11; Brown Thrasher 1; European Starling 77; Yellow-rumped (Myrtle) Warbler 1; Eastern Towhee 6; **Chipping Sparrow 1**; Field Sparrow 2; **Savannah Sparrow 2**; Fox Sparrow 1; Song Sparrow 41; **Lincoln's Sparrow 1**; Swamp Sparrow 2; White-throated Sparrow 32; White-crowned Sparrow **15**; Dark-eyed (Slate-colored) Junco 73; Northern Cardinal 70; Eastern Meadowlark 2; Rusty Blackbird 1.

Common Grackle 3; Brown-headed Cowbird 2; Purple Finch 16; House Finch 15; Pine Siskin 4; American Goldfinch 291; House Sparrow 2.

Total species: 57; Total individuals: 1,132.

Compiler: Terry Owens, PO Box 100, Breaks, VA 24607 (bip@mounet.net).

BRISTOL. Circle Center: Jct. 647 and 654, east of Bristol, Tennessee in Washington County, VA. 36°35'N 82°06'W.

Field data: 28 Dec 2003. Temperature: 27° to 53° F. No wind. Skies cloudy. Still water partly frozen, moving water open. Field observers: 21 in 6 parties. Nocturnal birding: 2 hours and 18 miles. Total party-hours (excludes nocturnal hours): 55 (22 on foot, 33 by car). Total party-miles (excludes nocturnal miles): 370.5 (10.5 on foot, 360 by car).

Species: Common Loon 15; Pied-billed Grebe 37; Horned Grebe 3; Great Blue Heron (blue form) 16; **Black-crowned Night-Heron 2**; Black Vulture 19; Turkey Vulture 123; **Snow Goose (white form) 5**; Canada Goose 740; Gadwall 30; American Wigeon 9; American Black Duck 8; Mallard 377; American Green-winged Teal 3; Ring-necked Duck 31; Lesser Scaup 3; Bufflehead 259; Common Goldeneye 1; Hooded Merganser 129; Bald Eagle 1; Sharp-shinned Hawk 2; Cooper's Hawk 2; Red-tailed Hawk 18; American Kestrel 18; Merlin 1; Wild Turkey 7; American Coot 30; Killdeer 19; Wilson's Snipe 3; Ring-billed Gull 241; Herring Gull 1; Rock Dove 144; Mourning Dove 219; Eastern Screech-Owl 4; Great Horned Owl 6; Barred Owl 1; Belted Kingfisher 16; Red-bellied Woodpecker 20; Yellow-bellied Sapsucker 14; Downy Woodpecker 27; Hairy Woodpecker 8; Northern (Yellow-shafted) Flicker 21; Pileated Woodpecker 20; Eastern Phoebe 8; Loggerhead Shrike 2; Blue Jay 117; American Crow 551; Common Raven 1; Carolina Chickadee 123; Tufted Titmouse 48; White-breasted Nuthatch 22.

Brown Creeper 4; Carolina Wren 73; Winter Wren 9; Golden-crowned Kinglet 35; Ruby-crowned Kinglet 17; Eastern Bluebird 108; Hermit Thrush 6; American Robin 203; Gray Catbird CW; Northern Mockingbird 98; European Starling 823; Cedar Waxwing 88; Yellow-rumped (Myrtle) Warbler 96; **Pine Warbler 1**; **Palm Warbler 17**; Eastern Towhee 25; Chipping Sparrow 7; Field Sparrow 10; Savannah Sparrow **20**; Fox Sparrow CW; Song Sparrow 154; Swamp Sparrow 8; White-throated Sparrow 180; White-crowned Sparrow 168; Dark-eyed (Slate-colored) Junco 53; Northern Cardinal 126; Red-winged Blackbird 93; Eastern

Meadowlark 7; Common Grackle 30; Purple Finch 32; House Finch 95; American Goldfinch 201; House Sparrow 11.

Total species: 82; **Total individuals:** 6,323.

Compiler: Richard Lewis, 407 V.I. Ranch Rd., Bristol, TN 37620 (mountainbirds@email.com).

Compiler's note: The total number of species was about average for recent years; however, very low numbers were recorded for several species. New to the count was Pine Warbler. New highs were recorded for Palm Warbler and Savannah Sparrow.

Participants: Rob Biller, Ron Carrico, Wallace Coffey, Rick Cross, Marion Finucane, Bill Grigsby, Bert Hale, Lorraine Hale, Meredith Hale, Andrew Jones, Rick Knight, Richard Lewis, Vickie Lewis, Larry McDaniel, Tom McNeil, Janice Martin, Dexter Newman, Mike Poe, Bob Quillen, Ruth Smith, and Dave Worley.

BROOKE. Circle Center: At Center Road 3 miles east-southeast of Brooke in Stafford County. 38°22'N 77°20'W.

Field data: 16 Dec 2003. Time in field: 7 a.m. to 4:30 p.m. Temperature: 26° to 56° F. Wind SW, 0-15 mph. AM clear. PM partly cloudy. Water open. Field observers: 19 in 9 parties. Total party-hours: 76.75 (41.75 on foot, 35 by car). Total party-miles: 204.5 (33.5 on foot, 171 by car).

Species: Pied-billed Grebe 49; Double-crested Cormorant 48; Great Blue Heron (blue form) 45; Black Vulture 32; Turkey Vulture 119; Canada Goose 2,400; **Brant** 2; Mute Swan 62; Tundra Swan 215; Gadwall 365; American Wigeon 1; American Black Duck 13; Mallard 205; American Green-winged Teal 2; Canvasback 700; Ring-necked Duck 45; Lesser Scaup 480; Bufflehead 147; Common Goldeneye 12; Hooded Merganser 2; Common Merganser 24; Red-breasted Merganser 15; Ruddy Duck 29; Bald Eagle 29 (23a, 6i); Northern Harrier 7; Sharp-shinned Hawk 2; Cooper's Hawk 2; Red-shouldered Hawk 15; Red-tailed Hawk 25; American Kestrel 4; Merlin 1; Wild Turkey 10; American Coot 10; Killdeer 3; Laughing Gull 475; Ring-billed Gull 12,000; Herring Gull 700; Great Black-backed Gull 200; Rock Dove 59; Mourning Dove 330; Belted Kingfisher 14; Red-headed Woodpecker 2; Red-bellied Woodpecker 68; Yellow-bellied Sapsucker 10; Downy Woodpecker 34; Hairy Woodpecker 7; Northern (Yellow-shafted) Flicker 66; Pileated Woodpecker 16; Eastern Phoebe 1; Blue Jay 186.

American Crow 260; Fish Crow 5; Carolina Chickadee 136; Tufted Titmouse 134; Red-breasted Nuthatch 1; White-breasted Nuthatch 36; Brown Creeper 5; Carolina Wren 65; Golden-crowned Kinglet 21; Ruby-crowned Kinglet 28; Eastern Bluebird 148; Hermit Thrush 2; American Robin 239; Gray Catbird 1; Northern Mockingbird 40; European Starling 2,500; American Pipit 7; Cedar Waxwing 315; Yellow-rumped (Myrtle) Warbler 134; Eastern Towhee 8; American Tree Sparrow 3; Chipping Sparrow 1; Field Sparrow 37; Savannah Sparrow 1; Song Sparrow 154; Swamp Sparrow 13; White-throated Sparrow 400; Dark-eyed (Slate-colored) Junco 486; Northern Cardinal 150; Red-winged Blackbird 101; Eastern Meadowlark 14; Common Grackle 700; House Finch 52; American Goldfinch 176; House Sparrow 70.

Total species: 85; **Total individuals:** 25,731.

Compiler: David Stewart, 10715 Midsummer Dr., Reston, VA 20191
(o.b.james@worldnet.att.net).

CALMES NECK. Circle Center: Castleman's Ferry Bridge, State Route 7 and the Shenandoah River in Clarke County. 39°07'N 77°54'W.

Field data: Count date: 4 Jan 2004. Time in field: 4:30 a.m. to 6 p.m. Temperature: 45° to 72° F. Wind 5-20 mph. Skies not recorded. Water open. Field observers: 49 in 12 to 15 parties. Feeder watchers: 2 for 24 hours. Nocturnal birding: 8 hours and 40 miles. Total party-hours (excludes feeder and nocturnal hours): 122 (47 on foot, 73 by car, 2 by non-motorized boat). Total party-miles (excludes nocturnal miles): 692 (79 on foot, 608 by car, 5 by non-motorized boat).

Species: Pied-billed Grebe 2; Great Blue Heron (blue form) 13; Black Vulture 64; Turkey Vulture 177; Canada Goose 4,437; Tundra Swan 1; Wood Duck 2; American Wigeon 25; American Black Duck 81; Mallard 266; **Northern Pintail** 10; American Green-winged Teal 13; Ring-necked Duck 13; Common Merganser 15; Red-breasted Merganser 3; Ruddy Duck 1; Bald Eagle 10 (3a, 7i); Northern Harrier 7; Sharp-shinned Hawk 6; Cooper's Hawk 4; Red-shouldered Hawk 22; Red-tailed Hawk 87; Rough-legged Hawk 2; American Kestrel 22; Merlin 1; Ring-necked Pheasant 1; Wild Turkey 32; American Coot 9; Killdeer 2; Wilson's Snipe 7; American Woodcock 1; Ring-billed Gull 2; Rock Dove 499; Mourning Dove 766; Barn Owl 2; Eastern Screech-Owl 5; Great Horned Owl 12; Barred Owl 11; Short-eared Owl 2; **Rufous Hummingbird** 1 (ph); Belted Kingfisher 19; Red-headed Woodpecker 30; Red-bellied Woodpecker 192; Yellow-bellied Sapsucker 50; Downy Woodpecker 110; Hairy Woodpecker 23; Northern (Yellow-shafted) Flicker 83; Pileated Woodpecker 65; Eastern Phoebe 1; Loggerhead Shrike 3.

Blue Jay 337; American Crow 530; Fish Crow 1; Common Raven 16; Carolina Chickadee 388; Tufted Titmouse 187; White-breasted Nuthatch 146; Brown Creeper 28; Carolina Wren 110; Winter Wren 6; Golden-crowned Kinglet 40; Ruby-crowned Kinglet 18; Eastern Bluebird 305; Hermit Thrush 4; American Robin 81; Northern Mockingbird 153; Brown Thrasher 1; European Starling 6,173; Cedar Waxwing 90; Yellow-rumped (Myrtle) Warbler 28; Eastern Towhee 2; American Tree Sparrow 5; Chipping Sparrow 1; Field Sparrow 44; Savannah Sparrow 13; Fox Sparrow 1; Song Sparrow 212; Swamp Sparrow 9; White-throated Sparrow 400; White-crowned Sparrow 163; Dark-eyed (Slate-colored) Junco 570; Northern Cardinal 465; Red-winged Blackbird 334; Eastern Meadowlark 17; Common Grackle 1,466; Brown-headed Cowbird 162; Purple Finch 33; House Finch 75; American Goldfinch 208; House Sparrow 107.

Total species: 90; **Total individuals:** 20,141.

Compilers: Frances Endicott, 3355 Calmes Neck Lane, Boyce, VA 22620; Linda Thomas, 111 Chapel Road, Middletown, VA 22654 (lthomas@crosslink.net); and Margaret Wester, 181 Little River Lane, Boyce, VA 22620 (margaretwester@hotmail.com).

CAPE CHARLES. Circle Center: 1.5 miles southeast of Capeville Post Office in Northhampton County. 37°12'N 75°56'W.

Field data: Count date: 30 Dec 2003. Time in field: 5 a.m. to 6 p.m. Temperature: 50° to 60° F. Wind SW, 15-25 mph. AM cloudy, light rain. PM clear. Water open. Field observers: 41 in 9 to 22 parties. Nocturnal birding: 4.5 hours and 8 miles. Total party-hours (excludes nocturnal hours): 178 (137 on foot, 38 by car, 3 by motorized boat). Total party-miles (excludes nocturnal miles): 326.5 (88.5 on foot, 228 by car, 10 by motorized boat).

Species: Red-throated Loon 8,076; **Pacific Loon** 1; Common Loon 202; Pied-billed Grebe 22; Horned Grebe 33; Northern Gannet 299; Brown Pelican CW; Double-crested Cormorant 103; Great Cormorant 37; American Bittern 1; Great Blue Heron (blue form) 60; Great Egret 6; Snowy Egret 3; Little Blue Heron CW; Tricolored Heron 2; Black-crowned Night-Heron 5; White Ibis 1; Black Vulture 98; Turkey Vulture 203; Canada Goose 2,414; Brant 3,747; Tundra Swan 78; Wood Duck 3; Gadwall 476; American Wigeon 417; American Black Duck 489; Mallard 207; Northern Shoveler 26; Northern Pintail 6; American Green-winged Teal 185; Redhead 30; Ring-necked Duck 47; Greater Scaup 2; Lesser Scaup 11; scaup, sp. 2; Common Eider 2; Surf Scoter 305; White-winged Scoter 11; Black Scoter 157; scoter, sp. 118; Long-tailed Duck 11; Bufflehead 491; Common Goldeneye 12; Hooded Merganser 160; Common Merganser 3; Red-breasted Merganser 848; Ruddy Duck 3; Bald Eagle 18; Northern Harrier 28; Sharp-shinned Hawk 10; Cooper's Hawk 8; Red-shouldered Hawk 2; Red-tailed Hawk 28; American Kestrel 26.

Merlin 2; Peregrine Falcon 3; Wild Turkey 22; Northern Bobwhite 8; Clapper Rail 18; Virginia Rail 6; Common Moorhen 1; American Coot 28; Black-bellied Plover 148; Semipalmated Plover 3; Piping Plover 2; Killdeer 3; American Oystercatcher 91; Greater Yellowlegs 154; Lesser Yellowlegs 28; Willet 33; Ruddy Turnstone 21; Red Knot 2; Sanderling 244; Western Sandpiper 508; Purple Sandpiper 5; Dunlin 2,463; Short-billed Dowitcher 29; Wilson's Snipe 4; American Woodcock 46; Laughing Gull 2; Bonaparte's Gull 53; Ring-billed Gull 4,621; Herring Gull 1,052; **Iceland Gull** 1; Great Black-backed Gull 742; **Black-legged Kittiwake** 1; Forster's Tern 4; Rock Dove 288; **Eurasian Collared-Dove** 1; Mourning Dove 309; Eastern Screech-Owl 11; Great Horned Owl 10; Short-eared Owl 2; **Ruby-throated Hummingbird** 1; Belted Kingfisher 22; Red-bellied Woodpecker 67; Yellow-bellied Sapsucker 10; Downy Woodpecker 32; Hairy Woodpecker 5; Northern (Yellow-shafted) Flicker 61; Pileated Woodpecker 1; Eastern Phoebe 4; Blue-headed Vireo 2; Blue Jay 76.

American Crow 232; Fish Crow 5; Horned Lark 35; Carolina Chickadee 125; Tufted Titmouse 36; Red-breasted Nuthatch 4; White-breasted Nuthatch 1; Brown-headed Nuthatch 6; Brown Creeper 7; Carolina Wren 296; House Wren 23; Winter Wren 72; Sedge Wren 15; Marsh Wren 5; Golden-crowned Kinglet 40; Ruby-crowned Kinglet 62; Eastern Bluebird 164; Hermit Thrush 89; American Robin 276; Gray Catbird 13; Northern Mockingbird 85; Brown Thrasher 9; European Starling 2,253; American Pipit 634; Cedar Waxwing 62; Orange-crowned Warbler 2; Yellow-rumped (Myrtle) Warbler 382; Pine Warbler 14; Palm Warbler 49; Common Yellowthroat 3; Yellow-breasted Chat 1; Eastern Towhee 83; Chipping Sparrow 132;

Field Sparrow 134; Vesper Sparrow 3; Savannah Sparrow 207; Savannah (Ipswich) Sparrow 5; Nelson's Sharp-tailed Sparrow 1; Saltmarsh Sharp-tailed Sparrow 1; sharp-tailed sparrow, sp. 3; Seaside Sparrow 7; Fox Sparrow 180; Song Sparrow 509; Swamp Sparrow 182; White-throated Sparrow 861; White-crowned Sparrow 6; Dark-eyed (Slate-colored) Junco 118; Lapland Longspur 14; Northern Cardinal 266; **Dickcissel** 1; Red-winged Blackbird 1,230; Eastern Meadowlark 92.

Common Grackle 14; Boat-tailed Grackle 75; Brown-headed Cowbird 53; Baltimore Oriole 2; Purple Finch 3; House Finch 101; **Common Redpoll** 17; Pine Siskin CW; American Goldfinch 151; House Sparrow 99.

Total species: 158; **Total individuals:** 40,333.

Compiler: Henry Armistead, 523 E. Durh.am St., Philadelphia, PA 19119 (harryarmistead@hotmail.com).

CENTRAL LOUDOUN. Circle Center: Near jct. of rts. 704 and 769 in Loudoun County. 39°06'N 77°38'W.

Field data: Count date: 28 Dec 2003. Time in field: 4 a.m. to 5:45 p.m. Temperature: 23° to 53° F. Wind SE, 0-6 mph. Skies partly clear. Water open. Field observers: 89 in 20 to 33 parties. Nocturnal birding: 9.25 hours and 100 miles. Total party-hours (excludes nocturnal hours): 170.5 (120 on foot, 50.5 by car). Total party-miles (excludes nocturnal miles): 659.5 (81.5 on foot, 578 by car).

Species: Pied-billed Grebe 6; Great Blue Heron (blue form) 20; Black Vulture 125; Turkey Vulture 416; Snow Goose (white form) 2; Canada Goose 6,945; **Mute Swan** 1; Gadwall 40; American Wigeon 22; American Black Duck 45; Mallard 434; Northern Pintail 6; American Green-winged Teal 16; Ring-necked Duck 55; Bufflehead 3; Hooded Merganser 28; Common Merganser 63; Ruddy Duck 1; Bald Eagle 10 (5a, 5i); Northern Harrier 12; Sharp-shinned Hawk 14; Cooper's Hawk 10; Red-shouldered Hawk 54; Red-tailed Hawk 135; American Kestrel 15; Wild Turkey CW; Northern Bobwhite 15; Killdeer 5; Wilson's Snipe 19; Ring-billed Gull 507; Herring Gull 12; Rock Dove 283; Mourning Dove 513; Barn Owl 1; Eastern Screech-Owl 8; Great Horned Owl 12; Barred Owl 22; **Northern Saw-whet Owl** 1; large owl, sp. 1; Belted Kingfisher 24; Red-headed Woodpecker 10; Red-bellied Woodpecker 317; Yellow-bellied Sapsucker 83; Downy Woodpecker 168; Hairy Woodpecker 27; Northern (Yellow-shafted) Flicker 221; Pileated Woodpecker 72; Eastern Phoebe 1; Blue Jay 712; American Crow 443; Fish Crow 72; crow, sp. 127.

Common Raven 2; Carolina Chickadee 300; Tufted Titmouse 146; White-breasted Nuthatch 162; Brown Creeper 39; Carolina Wren 143; Winter Wren 12; Golden-crowned Kinglet 53; Ruby-crowned Kinglet 29; Eastern Bluebird 230; Hermit Thrush 9; American Robin 684; Northern Mockingbird 213; Brown Thrasher 1; European Starling 6,704; American Pipit 1; Cedar Waxwing 133; Yellow-rumped (Myrtle) Warbler 191; **Common Yellowthroat** 1; **Yellow-breasted Chat** 1; Eastern Towhee 32; American Tree Sparrow 39; Chipping Sparrow 1; Field Sparrow 152; Savannah Sparrow 4; Fox Sparrow 5; Song Sparrow 497; Swamp Sparrow 36; White-throated Sparrow 1,449; White-crowned Sparrow 183; Dark-eyed (Slate-colored) Junco 1,332; Northern Cardinal 693; Red-winged Blackbird 170; Eastern Meadowlark 17;

Rusty Blackbird 2; Common Grackle 14; Brown-headed Cowbird 1; blackbird, sp. 101; Purple Finch 5; House Finch 115; American Goldfinch 231; House Sparrow 199.

Total species: 90; **Total individuals:** 26,486.

Compiler: Joseph Coleman, 19499 Yellow Schoolhouse Road, Round Hill, VA 20141 (jandkcoleman@erols.com).

Compiler's notes: The Yellow-breasted Chat near Camp Highroad on Lime Kiln Road was the best find of the day, as chats are extraordinarily rare on the Virginia Piedmont in the winter. The Common Yellowthroat was another rare winter find. It was a great year for owls, A Northern Saw-whet Owl was our first in years. Twenty-two Barred Owls, 12 Great Horned Owls, 8 Eastern Screech-Owls, and Barn Owl were seen by various groups. Over the past few years, we have found increasingly higher numbers of hawks and this year was no exception. One hundred thirty-five Red-tailed Hawks and 10 Bald Eagles were new highs for the count. All seven species of woodpeckers were well-represented this year, with new high counts for Red-bellies, sapsuckers, flickers and Pileated Woodpeckers. However, not all news was good. Several of our more common species were found in much lower numbers than usual, perhaps because of the cooler and wetter spring and summer. Numbers of bluebirds, Carolina Chickadees, Carolina Wrens, Tufted Titmice and Northern Mockingbirds were all down considerably, especially when compared to the number of groups who participated on the count.

CHANCELLORSVILLE. Circle Center: Chancellorsville Battlefield, 10 miles west of Fredericksburg in Spotsylvania County. 38°16'N 77°40'W.

Field data: Count date: 4 Jan 2004. Time in field: 5 a.m. to 6 p.m. Temperature: 58° to 70° F. Wind SW, 10-20 mph. AM partly cloudy. PM partly clear. Water open. Field observers: 18 in 6 parties. Nocturnal birding: 4.5 hours and 10 miles. Total party-hours (excludes nocturnal hours): 48.75 (33.5 on foot, 15.25 by car). Total party-miles (excludes nocturnal miles): 345.5 (12.5 on foot, 333 by car).

Species: Pied-billed Grebe 14; Black Vulture 4; Turkey Vulture 108; Canada Goose 629; Mute Swan 6; American Black Duck 1; Mallard 97; Ring-necked Duck 1; scaup, sp. 4; Bufflehead 63; Hooded Merganser 4; Ruddy Duck 54; Bald Eagle 7 (6a, 1i); Northern Harrier 1; Sharp-shinned Hawk 1; Red-shouldered Hawk 8; Red-tailed Hawk 3; large hawk, sp. 2; American Kestrel 2; American Coot 131; Killdeer 1; American Woodcock 2; Ring-billed Gull 182; Rock Dove 29; Mourning Dove 36; Eastern Screech-Owl 1; Belted Kingfisher 5; Red-bellied Woodpecker 34; Yellow-bellied Sapsucker 5; Downy Woodpecker 18; Hairy Woodpecker 8; Northern (Yellow-shafted) Flicker 19; Pileated Woodpecker 12; Eastern Phoebe 2; Blue Jay 42; American Crow 196; Carolina Chickadee 61; Tufted Titmouse 51; White-breasted Nuthatch 44; Brown Creeper 8; Carolina Wren 42; Winter Wren 1; Golden-crowned Kinglet 34; Ruby-crowned Kinglet 8; Eastern Bluebird 67; Hermit Thrush 2; American Robin 185; Northern Mockingbird 18; **Brown Thrasher** 1; European Starling 903; Cedar Waxwing 24.

Yellow-rumped (Myrtle) Warbler 9; **Palm Warbler** 1; Eastern Towhee 6; Chipping Sparrow 1; Field Sparrow 3; **Vesper Sparrow** 1; Song Sparrow 30; Swamp Sparrow 2; White-throated Sparrow 71; Dark-eyed (Slate-colored) Junco

166; Northern Cardinal 47; Red-winged Blackbird 3; Eastern Meadowlark 3; Brown-headed Cowbird 16; Purple Finch 6; House Finch 20; American Goldfinch 54; House Sparrow 19.

Total species: 68; **Total individuals:** 3,639.

Compiler: Joella Killian, Dept. Of Biology, Mary Washington College, Fredericksburg, VA 22401 (jkillian@mwc.edu).

CHARLOTTESVILLE. Circle Center: Near Ivy in Albemarle County. 38°04'N 78°34'W.

Field data: Count date: 28 Dec 2003. Time in field: 6 a.m. to 6:30 p.m. Temperature: 23° to 54° F. Wind S, negligible. Skies clear. Small ponds frozen. Large ponds open, moving water open. Field observers: 34 in 20 parties. Nocturnal birding: 2.75 hours and 10.5 miles. Total party-hours (excludes nocturnal hours): 158.5 (127 on foot, 26.5 by car, 5 by non-motorized boat). Total party-miles (excludes nocturnal miles): 308 (108 on foot, 196 by car, 4 by non-motorized boat).

Species: Great Blue Heron (blue form) 13; Black Vulture 224; Turkey Vulture 330; Canada Goose 888; Mute Swan 4; Gadwall 5; American Black Duck 3; Mallard 178; Ring-necked Duck 3; Hooded Merganser 4; Bald Eagle 1 (a); Northern Harrier 1; Sharp-shinned Hawk 7; Cooper's Hawk 5; Red-shouldered Hawk 16; Red-tailed Hawk 23; Wild Turkey 17; Northern Bobwhite 9; Wilson's Snipe 1; Rock Dove 225; Mourning Dove 280; Eastern Screech-Owl 4; Great Horned Owl 6; Barred Owl 4; Belted Kingfisher 18; Red-bellied Woodpecker 137; Yellow-bellied Sapsucker 69; Downy Woodpecker 91; Hairy Woodpecker 9; Northern (Yellow-shafted) Flicker 108; Pileated Woodpecker 58; Eastern Phoebe 6; Blue Jay 315; American Crow 552; Fish Crow 81; Common Raven 10; Carolina Chickadee 305; Tufted Titmouse 160; Red-breasted Nuthatch 1; White-breasted Nuthatch 82; Brown Creeper 7; Carolina Wren 204; Winter Wren 11; Golden-crowned Kinglet 81; Ruby-crowned Kinglet 111; Eastern Bluebird 276; Hermit Thrush 49; American Robin 2,693; Northern Mockingbird 132; European Starling 2,265.

Cedar Waxwing 331; Yellow-rumped (Myrtle) Warbler 439; Pine Warbler 2; Eastern Towhee 10; American Tree Sparrow 5; Chipping Sparrow 2; Field Sparrow 75; Savannah Sparrow 10; Fox Sparrow 6; Song Sparrow 394; Swamp Sparrow 7; White-throated Sparrow 1,196; White-crowned Sparrow 25; Dark-eyed (Slate-colored) Junco 633; Northern Cardinal 382; Eastern Meadowlark 5; blackbird, sp. 8; Purple Finch 64; House Finch 97; American Goldfinch 315; House Sparrow 131.

Total species: 71; **Total individuals:** 14,222.

Compiler: Charles Stevens, 615 Preston Place, Charlottesville, VA 22903. mail to: pringdaven@aol.com).

Participants: Amoret Bruguere, Jim Childress, Bruce Davenport; Kit Davenport, Nan Davenport, Pring Davenport, Tom Dierauf, Boo Dulaney, Sonja Eicheltraut, William Eicheltraut, Ned Foss, Jennifer Gaden, Mike Griffin, Allen Hale, David Hannah, Elizabeth Harvard, Priscilla Kingston, Ron Kingston, Ken Lawless, Peter Mehrling, Ryan Mehrling, Lynn Merhib, Hewson Michie, Bill Minor, Maureen Minor, Jim Nix, Barbara Payne, Charles Stevens, Brenda Tekin, David West, David White, Ali Wieboldt; Elsa Wieboldt, Tom Wieboldt.

CHESAPEAKE BAY. Circle Center: The northern three islands of the bridge-tunnel complex and adjacent waters out to one mile. 37°05'N 76°08'W.

Field data: Count date: 26 Dec 2003. Time in field: 7 a.m. to 5 p.m. Temperature: 39° to 51° F. Wind NW, 10-15 mph. Skies cloudy. Water open. Field observers: 6 in 1 to 2 parties. Total party-hours: 12 (11 on foot, 1 by car). Total party-miles: 10 (1 on foot, 6 by car).

Species: Red-throated Loon 622; Common Loon 72; Horned Grebe 29; Northern Gannet 256; Brown Pelican 2; Double-crested Cormorant 11; Great Cormorant 39; **Cattle Egret** 1; Turkey Vulture 72; Greater Scaup 2; Lesser Scaup 13; King Eider 1; Common Eider 6; Harlequin Duck 2; Surf Scoter 1,021; White-winged Scoter 32; Black Scoter 215; Long-tailed Duck 84; Bufflehead 4; Red-breasted Merganser 110; Merlin 1; American Oystercatcher 3; Ruddy Turnstone 12; Sanderling 10; Purple Sandpiper 66; Laughing Gull 5; Bonaparte's Gull 3; Ring-billed Gull 3,100; Herring Gull 235; Lesser Black-backed Gull 1; Great Black-backed Gull 51; Rock Dove 1; European Starling 3; American Pipit 1; **redpoll, sp.** 1; American Goldfinch 1.

Total species: 36; **Total individuals:** 6,088.

Compiler: Ned Brinkley, 9 Randolph Ave., Cape Charles, VA 23310 (phoebetria@aol.com).

CHINCOTEAGUE. Circle Center: Two miles north of center of Chinoteague in Accomack County. 37°58'N 75°22'W.

Field data: Count date: 28 Dec 2003. Time in field: 5:30 a.m. to 5:30 p.m. Temperature: 30° to 50° F. Wind NE, 5-10 mph. Skies clear. Water open. Field observers: 35 in 18 parties. Total party-hours: 108 (59 on foot, 49 by car). Total party-miles: 398.5 (60 on foot, 338.5 by car).

Species: Red-throated Loon 34; Common Loon 104; Pied-billed Grebe 7; Horned Grebe 180; Red-necked Grebe 1; Northern Gannet 5; Double-crested Cormorant 28; Great Cormorant 1; American Bittern 2; Great Blue Heron (blue form) 345; Great Egret 35; Snowy Egret 2; Little Blue Heron 1; Tricolored Heron 4; Green Heron 1; Black-crowned Night-Heron 2; Glossy Ibis 1; Black Vulture 18; Turkey Vulture 421; Snow Goose (blue form) 101; Snow Goose (white form) 23,029; Canada Goose 2,857; Brant 2,549; Mute Swan 2; Tundra Swan 784; Wood Duck 1; Gadwall 1,330; American Wigeon 933; American Black Duck 2,404; Mallard 1,251; Northern Shoveler 1,708; Northern Pintail 3,555; American Green-winged Teal 536; Canvasback 2; Ring-necked Duck 20; Greater Scaup 9; Lesser Scaup 11; Surf Scoter 317; White-winged Scoter 22; Black Scoter 24; scoter, sp. 57; Long-tailed Duck 24; Bufflehead 1,332; Common Goldeneye 2; Hooded Merganser 478; Common Merganser 3; Red-breasted Merganser 249; Ruddy Duck 110; Bald Eagle 28 (15a, 13i); Northern Harrier 48; Sharp-shinned Hawk 13; Cooper's Hawk 5.

Red-tailed Hawk 17; American Kestrel 17; Merlin 2; Peregrine Falcon 3; Wild Turkey 4; Clapper Rail 1; Black-bellied Plover 72; Killdeer 22; American Oystercatcher 184; **American Avocet** 1; Greater Yellowlegs 85; Lesser Yellowlegs 16; Willet 28; Ruddy Turnstone 7; Red Knot 1; Sanderling 1,553; Western Sandpiper

7; Least Sandpiper 1; Dunlin 2,422; peep, sp. 350; Short-billed Dowitcher 2; Wilson's Snipe 2; American Woodcock 3; Bonaparte's Gull 3; Ring-billed Gull 1,724; Herring Gull 1,562; Great Black-backed Gull 410; Forster's Tern 8; Rock Dove 320; Mourning Dove 236; Eastern Screech-Owl 26; Great Horned Owl 20; Barred Owl 1; Short-eared Owl 3; Belted Kingfisher 30; Red-bellied Woodpecker 34; Yellow-bellied Sapsucker 5; Downy Woodpecker 42; Hairy Woodpecker 15; Northern (Yellow-shafted) Flicker 42; Pileated Woodpecker 12; Eastern Phoebe 18; Blue Jay 88; American Crow 452; Fish Crow 22; crow, sp. 15; Horned Lark 28; Carolina Chickadee 121; Tufted Titmouse 33; Red-breasted Nuthatch 2; White-breasted Nuthatch 3.

Brown-headed Nuthatch 47; Brown Creeper 12; Carolina Wren 74; House Wren 4; Winter Wren 22; Sedge Wren 2; Marsh Wren 6; Golden-crowned Kinglet 52; Ruby-crowned Kinglet 19; Eastern Bluebird 100; Hermit Thrush 58; American Robin 2,417; Gray Catbird 13; Northern Mockingbird 46; Brown Thrasher 23; European Starling 5,309; American Pipit 164; Cedar Waxwing 43; Yellow-rumped (Myrtle) Warbler 1,747; Pine Warbler 24; Palm Warbler 21; Common Yellowthroat 1; Eastern Towhee 35; American Tree Sparrow 1; Chipping Sparrow 47; Field Sparrow 28; Vesper Sparrow 4; Savannah Sparrow 242; Nelson's Sharp-tailed Sparrow 9; Saltmarsh Sharp-tailed Sparrow 3; Seaside Sparrow 2; Fox Sparrow 24; Song Sparrow 303; Swamp Sparrow 212; White-throated Sparrow 920; White-crowned Sparrow 6; Dark-eyed (Slate-colored) Junco 206; Northern Cardinal 275; Red-winged Blackbird 18,986; Eastern Meadowlark 182; Rusty Blackbird 12; Common Grackle 901; Boat-tailed Grackle 352; Brown-headed Cowbird 184; Purple Finch 3; House Finch 41; **Common Redpoll** 1; American Goldfinch 151; House Sparrow 136.

Total species: 149; **Total individuals:** 88,531.

Compilers: Richard Roberts, 7212 Fiddler Bay Lane, Chincoteague, VA 23336 (bandbird@intercom.net) and Nancy Roberts, 7212 Fiddler Bay Lane, Chincoteague, VA 23336 (nroberts@intercom.net).

DANVILLE. Circle Center: Ballou Park in Danville. 36°34'N 79°25'W.

Field data: Count date: 28 Dec 2003. Time in field: 8 a.m. to 5 p.m. Temperature: 28° to 42° F. AM clear. PM partly cloudy. Water open. Field observers: 15 in 8 parties. Feeder watchers: 5 for 5 hours. Total party-hours (excludes feeder hours): 26 (21 on foot, 5 by car). Total party-miles: 89 (12 on foot, 77 by car).

Species: Pied-billed Grebe 2; Great Blue Heron (blue form) 2; Black Vulture 9; Turkey Vulture 77; Canada Goose 151; Wood Duck 15; Mallard 159; Hooded Merganser 4; Bald Eagle 1 (a); Northern Harrier 1; Sharp-shinned Hawk 3; Cooper's Hawk 3; Red-shouldered Hawk 3; Red-tailed Hawk 15; American Kestrel 4; Wild Turkey 18; Killdeer 17; Rock Dove 62; Mourning Dove 106; Great Horned Owl 1; Barred Owl 2; Belted Kingfisher 3; Red-headed Woodpecker 1; Red-bellied Woodpecker 19; Yellow-bellied Sapsucker 8; Downy Woodpecker 16; Hairy Woodpecker 4; Northern (Yellow-shafted) Flicker 18; Pileated Woodpecker 5; Eastern Phoebe 2; Blue Jay 93; American Crow 145; Carolina Chickadee 56; Tufted Titmouse 59; Red-breasted Nuthatch 2; White-breasted Nuthatch 18; Brown-headed Nuthatch 2; Brown Creeper 3; Carolina Wren 45; House Wren 1; Winter Wren 2; Golden-crowned Kinglet 15; Ruby-crowned Kinglet 4; Eastern

Bluebird 43; Hermit Thrush 1; American Robin 149; Northern Mockingbird 31; Brown Thrasher 3; European Starling 623; Cedar Waxwing 79.

Yellow-rumped (Myrtle) Warbler 12; Pine Warbler 2; Eastern Towhee 12; Fox Sparrow 1; Song Sparrow 22; Swamp Sparrow 3; White-throated Sparrow 231; Dark-eyed (Slate-colored) Junco 277; Northern Cardinal 133; Common Grackle 75; Purple Finch 52; House Finch 18; American Goldfinch 20; House Sparrow 37.

Total species: 64; **Total individuals:** 3,000.

Compiler: Laura D. Meder, Dept. of Biology, Averett College, 420 W. Main, Danville, VA 24541 (laura.meder@averett.edu).

Participants: Eleanor Douglas, Edward Fisher, Patt Fisher, Mary Foster, Sarah Foster, Vicky Fuquay, Ann Garbett, Gary Grant, Frank Huppert, Albert Maurakis, Pat Maurakis, Fred Meder, Laura Meder, Geoffrey Smith, Mac Williams, Frank Wickers, Sue Wickers, Hugh Wyatt, and Gordon Woody.

DARLINGTON HEIGHTS. Circle Center: Jct. of 665 and 660 in Darlington Heights in Price Edward County. 37°12'N 78°36'W.

Field data: Count date: 4 Jan 2004. Time in field: 7:30 a.m. to 5:30 p.m. Temperature: 59° to 75° F. Wind WSW, 1-7 mph., gusting to 8-12 mph. AM partly cloudy. PM clear to partly cloudy. Water open. Field observers: 21 in 5 parties. Nocturnal birding: 3 hours and 2.25 miles. Total party-hours (excludes nocturnal hours): 41.5 (20.5 on foot, 21 by car). Total party-miles (excludes nocturnal miles): 268.5 (11.5 on foot, 257 by car).

Species: Pied-billed Grebe 1; Great Blue Heron (blue form) 3; Black Vulture 59; Turkey Vulture 152; Canada Goose 218; Mallard 1; **Bufflehead** 5; Hooded Merganser 4; Northern Harrier 6; Cooper's Hawk 1; Red-shouldered Hawk 3; Red-tailed Hawk 27; American Kestrel 14; Wild Turkey 15; Northern Bobwhite 2; American Woodcock 2; Ring-billed Gull 5; Rock Dove 48; Mourning Dove 270; Eastern Screech-Owl 5; Barred Owl 3; Belted Kingfisher 4; Red-bellied Woodpecker 25; Yellow-bellied Sapsucker 6; Downy Woodpecker 22; Hairy Woodpecker 3; Northern (Yellow-shafted) Flicker 23; Pileated Woodpecker 12; Eastern Phoebe 5; Blue Jay 27; American Crow 488; Horned Lark 24; Carolina Chickadee 48; Tufted Titmouse 22; White-breasted Nuthatch 16; Carolina Wren 61; Winter Wren 3; Golden-crowned Kinglet 24; Ruby-crowned Kinglet 34; Eastern Bluebird 257; Hermit Thrush 4; American Robin 42; Northern Mockingbird 42; Brown Thrasher 1; European Starling 554; Cedar Waxwing 6; Yellow-rumped (Myrtle) Warbler 112; Pine Warbler 1; Eastern Towhee 5; Chipping Sparrow 5.

Field Sparrow 11; Savannah Sparrow 7; Song Sparrow 85; Swamp Sparrow 14; White-throated Sparrow 163; White-crowned Sparrow 92; Dark-eyed (Slate-colored) Junco 549; Northern Cardinal 106; Red-winged Blackbird 48; Eastern Meadowlark 110; Common Grackle 1; Brown-headed Cowbird 11; Purple Finch 6; House Finch 1; American Goldfinch 76; House Sparrow 82.

Total species: 66; **Total individuals:** 4,082.

Compiler: Carolyn Wells, 204 Fayette St, Farmville, VA 23901 (bbsmith@hovac.com).

Participants: John Dalmas, Thelma Dalmas, Linda Eanes, Russell Eanes, Tyrone Eanes, Damien Fehrer, Deanna Fehrer, Alix Fink, Jimmy Gates, Ann Ingram, Judy McCann, Kathy Menold, Peter Menold, George Shorter, May Shorter, Laura Slaughter, Bent Slaughter, David Spears, Randy Thrasher, Sue Thrasher and Carolyn Wells.

Compiler's note: Only two sightings of note were recorded: the five Buffleheads found on a secluded pond were the first count sightings since 1991; the 92 White-crowned Sparrows far exceeded the old record of 47 in 1974.

FINCASTLE. Circle Center: North of Fincastle near Jct. 220 and 679 in Botetourt County. 37°31'N 79°52'W.

Field data: Count date: 20 Dec 2003. Time in field: 6 a.m. to 5 p.m. Temperature: 27° to 35° F. Wind NW, 5-10 mph. Skies partly cloudy. Water open. Field observers: 19 in 12 parties. Total party-hours: 47 (28 on foot, 19 by car). Total party-miles: 156 (30 on foot, 126 by car).

Species: Great Blue Heron (blue form) 5; Black Vulture 54; Turkey Vulture 134; Canada Goose 153; Gadwall 9; American Black Duck 2; Mallard 93; Northern Pintail 4; American Green-winged Teal 3; Ring-necked Duck 21; Hooded Merganser 9; **Common Merganser 1; Bald Eagle 1;** Northern Harrier 1; Sharp-shinned Hawk 5; Cooper's Hawk 7; Red-shouldered Hawk 1; Red-tailed Hawk 23; American Kestrel 7; Wild Turkey 55; Killdeer 2; Wilson's Snipe 1; Ring-billed Gull 60; Rock Dove 180; Mourning Dove 270; Eastern Screech-Owl 3; Great Horned Owl 1; Belted Kingfisher 6; Red-headed Woodpecker 1; Red-bellied Woodpecker 25; Yellow-bellied Sapsucker 16; Downy Woodpecker 32; Hairy Woodpecker 8; Northern (Yellow-shafted) Flicker 43; Pileated Woodpecker 14; Eastern Phoebe 2; Blue Jay 117; American Crow 592; Common Raven 5; Carolina Chickadee 107; Black-capped Chickadee 3; Tufted Titmouse 58; White-breasted Nuthatch 34; Brown Creeper 4; Carolina Wren 66; **House Wren 2;** Winter Wren 1; Golden-crowned Kinglet 16; Ruby-crowned Kinglet 11; Eastern Bluebird 124.

Hermit Thrush 18; American Robin 269; **Gray Catbird 1;** Northern Mockingbird 72; European Starling 1,238; Cedar Waxwing 122; Yellow-rumped (Myrtle) Warbler 193; **Palm Warbler 1;** Eastern Towhee 29; American Tree Sparrow 5; Chipping Sparrow 4; Field Sparrow 21; Fox Sparrow 5; Song Sparrow 102; Swamp Sparrow 5; White-throated Sparrow 542; White-crowned Sparrow 128; Dark-eyed (Slate-colored) Junco 249; Northern Cardinal 195; Red-winged Blackbird 55; Eastern Meadowlark 2; Common Grackle 19; Brown-headed Cowbird 108; **Baltimore Oriole 1;** Purple Finch 172; House Finch 112; Pine Siskin 2; American Goldfinch 198; **Evening Grosbeak 3;** House Sparrow 11.

Total species: 80; **Total individuals:** 6,208.

Compiler: Barry Kinzie, PO Box 446, Troutville, VA 24175 (ksummers@infi.net).

Compiler notes: A very warm November average temperature probably caused a few birds that would normally head farther south to linger into the CBC period here.

FORT BELVOIR. Circle Center: Pohick Episcopal Church, Fort Belvoir, in eastern Fairfax County. 38°41'N 77°12'W.

Field data: Count date: 4 Jan 2004. Time in field: 4 a.m. to 9:30 p.m. Temperature: 57° to 70° F. Wind NW, 0-5 mph. Skies clear. Water open. Field observers: 206 in 64 to 65 parties. Feeder watchers: 3 for 5 hours. Nocturnal birding: 36 hours and 45 miles. Total party-hours (excludes feeder and nocturnal hours): 385.5 (351.5 on foot, 32 by car, 2 non-motorized boat). Total party-miles (excludes nocturnal miles): 270.5 (150 on foot, 120 by car, 0.5 by non-motorized boat).

Species: Common Loon 1; Pied-billed Grebe 9; Double-crested Cormorant 51; Great Blue Heron (blue form) 263; Great Egret 1; Black Vulture 115; Turkey Vulture 163; Snow Goose (white form) 1; Canada Goose 12,624; Mute Swan 1; Tundra Swan 422; Wood Duck 75; Gadwall 417; American Wigeon 46; American Black Duck 1,288; Mallard 5,018; Blue-winged Teal 1; Northern Shoveler 5; Northern Pintail 90; American Green-winged Teal 619; Canvasback 238; Redhead 5; Ring-necked Duck 1,326; Greater Scaup 14; Lesser Scaup 10,303; scaup, sp. 121; Bufflehead 625; Common Goldeneye 2; Hooded Merganser 344; Common Merganser 1,184; Red-breasted Merganser 15; Ruddy Duck 5,532; Bald Eagle 131 (79a, 52i); Northern Harrier 6; Sharp-shinned Hawk 25; Cooper's Hawk 13; *Accipiter*, sp. 3; Red-shouldered Hawk 46; Red-tailed Hawk 65; American Kestrel 4; Merlin 2; Peregrine Falcon 1; Wild Turkey 5; Northern Bobwhite 13; King Rail 2; **Virginia Rail 1** (heard only); American Coot 401; Killdeer 26; Greater Yellowlegs 13; Lesser Yellowlegs 2; Wilson's Snipe 1; American Woodcock 7.

Laughing Gull 11; Bonaparte's Gull 6; Ring-billed Gull 4,931; California Gull CW; Herring Gull 515; Lesser Black-backed Gull CW; Great Black-backed Gull 268; gull, sp. 1,870; Rock Dove 282; Mourning Dove 843; Eastern Screech-Owl 15; Great Horned Owl 14; Barred Owl 25; Belted Kingfisher 71; Red-headed Woodpecker 35; Red-bellied Woodpecker 600; Yellow-bellied Sapsucker 59; Downy Woodpecker 367; Hairy Woodpecker 94; Northern (Yellow-shafted) Flicker 347; Pileated Woodpecker 152; Eastern Phoebe 4; Blue Jay 815; American Crow 841; Fish Crow 183; crow, sp. 744; Carolina Chickadee 1,135; Tufted Titmouse 605; Red-breasted Nuthatch 2; White-breasted Nuthatch 328; Brown Creeper 82; Carolina Wren 713; House Wren 1; Winter Wren 26; Golden-crowned Kinglet 223; Ruby-crowned Kinglet 100; Eastern Bluebird 210; Hermit Thrush 52; American Robin 4,974; Gray Catbird 6; Northern Mockingbird 133; Brown Thrasher 10; European Starling 3,364; American Pipit 31; Cedar Waxwing 1,185; Yellow-rumped (Myrtle) Warbler 294; Pine Warbler 6; Common Yellowthroat 3; Eastern Towhee 115; American Tree Sparrow 37; Chipping Sparrow 29; **Clay-colored Sparrow** CW; Field Sparrow 96; Savannah Sparrow 13; Fox Sparrow 26.

Song Sparrow 1,223; Swamp Sparrow 210; White-throated Sparrow 2,596; **Harris's Sparrow 2** (ph); White-crowned Sparrow 4; Dark-eyed (Slate-colored) Junco 1,947; Northern Cardinal 1,060; Red-winged Blackbird 2,830; Eastern Meadowlark 6; Rusty Blackbird 49; Common Grackle 6,032; Brown-headed Cowbird 18; blackbird, sp. 930; Purple Finch 10; House Finch 300; Pine Siskin 3; American Goldfinch 595; House Sparrow 810.

Total species: 117; **Total individuals:** 87,202.

Compiler: Kurt Gaskill, 4101 Komes Ct., Alexandria, VA 22306 (gaskill@estd.nrl.navy.mil).

Compiler's note: The 600 Red-bellied Woodpeckers found on this count is a national all-time high record.

GILES COUNTY. Circle: Pembroke in Giles County. 37°19'N 80°38'W.

Field data: Count date: 28 Dec 2003. Time in field: 5:30 a.m. to 5:30 p.m. Temperature: 19° to 50° F. Wind calm. Skies clear. Water open. Field observers: 10 in 7 parties. Feeder watchers: 1 for 2 hours. Nocturnal birding: 1.5 hours and 5 miles. Total party-hours (excludes feeder and nocturnal hours): 54 (25.25 on foot, 28.75 by car). Total party-miles (excludes nocturnal miles): 261 (19.75 on foot, 241.25 by car).

Species: Great Blue Heron (blue form) 7; Black Vulture 10; Turkey Vulture 11; **Greater White-fronted Goose** 1; Canada Goose 168; American Black Duck 2; Mallard 21; Bufflehead 2; Hooded Merganser 25; Bald Eagle 1; Sharp-shinned Hawk 3; Red-shouldered Hawk 3; Red-tailed Hawk 14; *Buteo*, sp. 1; American Kestrel 5; Wild Turkey 30; Ring-billed Gull 15; Rock Dove 63; Mourning Dove 133; Eastern Screech-Owl 4; Great Horned Owl 3; Belted Kingfisher 14; Red-bellied Woodpecker 40; Yellow-bellied Sapsucker 8; Downy Woodpecker 54; Hairy Woodpecker 15; Northern (Yellow-shafted) Flicker 24; Pileated Woodpecker 23; Eastern Phoebe 9; Blue Jay 173; American Crow 261; Common Raven 2; Carolina Chickadee 147; Black-capped Chickadee 29; Tufted Titmouse 150; White-breasted Nuthatch 98; Brown Creeper 5; Carolina Wren 79; Winter Wren 9; Golden-crowned Kinglet 29; Ruby-crowned Kinglet 5; Eastern Bluebird 122; Hermit Thrush 1; American Robin 93; Northern Mockingbird 50; European Starling 645; Cedar Waxwing 2; Yellow-rumped (Myrtle) Warbler 85; Eastern Towhee 9; Field Sparrow 56; Fox Sparrow 5; Song Sparrow 179; Swamp Sparrow 3.

White-throated Sparrow 233; White-crowned Sparrow 35; Dark-eyed (Slate-colored) Junco 268; Northern Cardinal 180; Red-winged Blackbird 2; Eastern Meadowlark 1; **Rusty Blackbird** 32; Brown-headed Cowbird 6; Purple Finch 46; House Finch 38; Pine Siskin 5; American Goldfinch 138; House Sparrow 71.

Total species: 65; **Total individuals:** 4,001.

Compiler: Peggy Spiegel, Rt. 1, Box 329, Pearisburg, VA 4134-2424 (gramby@swva.net).

Participants: Bill Akers, David Brady, Tom Brobsom, Ray Callahan, Sue Daniels, Bruce Grimes, Dave Grise, Greg Hagee (feeder watcher), Alan Kessler, Clyde Kessler, Bill Opengari, Melissa Petty, Mary Ratliff, Jake Spiegel, Peggy Spiegel, Robbie Spiegel, and Darroch Whitaker.

GLADE SPRING. Circle Center: Jct. 750 and 609 in Glade Spring. 36°47'N 81°47'W.

Field data: Count date: 3 Jan 2004. Times in field: 1 a.m. to 2 a.m. and 6 a.m. to 5:30 p.m. Temperature: 42° to 65° F. Wind variable, 0-15 mph. AM cloudy.

PM partly cloudy. Water open. Field observers: 22 in 6 parties. Nocturnal birding: 3.5 hours and 20.5 miles. Total party-hours (excludes nocturnal hours): 53.5 (24.5 on foot, 29 by car). Total party-miles (excludes nocturnal miles): 343.5 (13.5 on foot, 330 by car).

Species: Great Blue Heron (blue form) 15; Black Vulture 126; Turkey Vulture 100; **Ross's Goose** 1; Canada Goose 289; Gadwall 10; American Black Duck 1; Mallard 127; American Green-winged Teal 2; Northern Harrier 1; Sharp-shinned Hawk 5; Cooper's Hawk 4; Red-tailed Hawk 36; Golden Eagle 1; American Kestrel 25; American Coot 7; Killdeer 2; Rock Dove 495; Mourning Dove 397; Eastern Screech-Owl 9; Great Horned Owl 2; Belted Kingfisher 14; Red-bellied Woodpecker 21; Yellow-bellied Sapsucker 4; Downy Woodpecker 32; Hairy Woodpecker 7; Northern (Yellow-shafted) Flicker 14; Pileated Woodpecker 11; Eastern Phoebe 5; Loggerhead Shrike 3; Blue Jay 115; American Crow 482; Common Raven 4; Horned Lark 140; Carolina Chickadee 87; Black-capped Chickadee 4; Tufted Titmouse 75; White-breasted Nuthatch 20; Brown Creeper 2; Carolina Wren 108; Winter Wren 1; Golden-crowned Kinglet 20; Ruby-crowned Kinglet 4; Eastern Bluebird 101; American Robin 27; Gray Catbird 1; Northern Mockingbird 45; Brown Thrasher 1; European Starling 2,323.

Cedar Waxwing 41; Yellow-rumped (Myrtle) Warbler 12; Eastern Towhee 19; Field Sparrow 17; Song Sparrow 104; Swamp Sparrow 3; White-throated Sparrow 138; White-crowned Sparrow 141; Dark-eyed (Slate-colored) Junco 58; Northern Cardinal 139; Eastern Meadowlark 7; Brown-headed Cowbird 2; Purple Finch 8; House Finch 66; American Goldfinch 146; House Sparrow 140.

Total species: 66; **Total individuals:** 6,369.

Compiler: Ron Harrington, 20435 Carson Ln., Bristol, VA 24202 (roneharrin@aol.com).

GORDONSVILLE. Circle Center: Jct. of rts. 15 and 33 north of the town of Gordonsville in Orange County. 38°09'N 78°12'W.

Field data: Count date: 28 Dec 2003. Time in field: 7 a.m. to 5 p.m. Temperature: 33° to 52° F. Wind calm. AM partly cloudy. PM clear. Water open. Field observers: 9 in 6 parties. Feeder watchers: 1 for 2 hours. Nocturnal birding: 1 hour and 9 miles. Total party-hours (excludes feeder and nocturnal hours): 35 (12.5 on foot, 22.5 by car). Total party-miles (excludes nocturnal miles): 331.5 (13.5 on foot, 318 by car).

Species: Pied-billed Grebe 8; Great Blue Heron (blue form) 6; Black Vulture 13; Turkey Vulture 56; Snow Goose (white form) 1; Canada Goose 1,438; Wood Duck 2; American Black Duck 18; Mallard 31; Ring-necked Duck 124; Lesser Scaup 12; Hooded Merganser 55; Bald Eagle CW; Sharp-shinned Hawk 1; Cooper's Hawk 2; Red-shouldered Hawk 1; Red-tailed Hawk 11; American Kestrel 2; Wild Turkey 7; Killdeer 4; American Woodcock 1; Ring-billed Gull 5; Rock Dove 49; Mourning Dove 72; Barn Owl 1; Eastern Screech-Owl 1; Belted Kingfisher 4; Red-bellied Woodpecker 33; Yellow-bellied Sapsucker 8; Downy Woodpecker 13; Hairy Woodpecker 1; Northern (Yellow-shafted) Flicker 28; Pileated Woodpecker 8; Eastern Phoebe 3; Blue

Jay 107; American Crow 54; Fish Crow 2; Carolina Chickadee 30; Tufted Titmouse 28; White-breasted Nuthatch 25; Carolina Wren 12; Winter Wren 1; Golden-crowned Kinglet 1; Ruby-crowned Kinglet 2; Eastern Bluebird 50; Hermit Thrush 1; American Robin 84; Gray Catbird 1; Northern Mockingbird 26; Brown Thrasher 1; European Starling 176.

Cedar Waxwing 74; Yellow-rumped (Myrtle) Warbler 17; Eastern Towhee 1; Field Sparrow 11; Song Sparrow 93; Swamp Sparrow 5; White-throated Sparrow 168; White-crowned Sparrow 12; Dark-eyed (Slate-colored) Junco 175; Northern Cardinal 71; Eastern Meadowlark 2; House Finch 31; American Goldfinch 26; House Sparrow 3.

Total species: 64; **Total individuals:** 3,309.

Compiler: Donald Ober, P.O. Box 6, Orange, VA 22960 (dober@ns.gemlink.com).

HOPEWELL: Circle Center: Curles Neck in Henrico County. 37°23'N 77°17'W.

Field data: Count date: 14 Dec 2003. Time in field: 6:30 a.m. to 5:30 p.m. Temperature: 31° to 40° F. Wind variable, 0-20 mph. AM cloudy. PM partly cloudy. Water open. Field observers: 18 in 10 parties. Feeder watchers: 1 for 2 hours. Total party-hours (excludes feeder hours): 73.5 (31.5 on foot, 42 by car). Total party-miles: 262 (21.5 on foot, 240.5 by car).

Species: Pied-billed Grebe 4; Double-crested Cormorant 348; Great Blue Heron (blue form) 38; Black Vulture 167; Turkey Vulture 10; Snow Goose (blue form) 1,275; Snow Goose (white form) 225; Canada Goose 6,263; Tundra Swan 6; Wood Duck 15; Gadwall 143; American Wigeon 36; American Black Duck 10; Mallard 161; Northern Shoveler 27; Northern Pintail 6; Ring-necked Duck 481; Lesser Scaup 28; Bufflehead 62; Common Goldeneye 1; Hooded Merganser 80; Common Merganser 38; Ruddy Duck 15; Osprey 2; Bald Eagle 40 (29a, 11i); Northern Harrier 5; Sharp-shinned Hawk 4; Cooper's Hawk 1; Red-shouldered Hawk 3; Red-tailed Hawk 11; American Kestrel 11; Peregrine Falcon 1; Wild Turkey 39; Northern Bobwhite 30; Killdeer 40; Wilson's Snipe 15; American Woodcock 1; Laughing Gull 376; Bonaparte's Gull 1; Ring-billed Gull 6,015; Herring Gull 133; Great Black-backed Gull 21; Forster's Tern 1; Rock Dove 218; Mourning Dove 757; Great Horned Owl 2; Barred Owl 1; Belted Kingfisher 7; Red-headed Woodpecker 6; Red-bellied Woodpecker 55; Yellow-bellied Sapsucker 20.

Downy Woodpecker 22; Hairy Woodpecker 4; Northern (Yellow-shafted) Flicker 133; Pileated Woodpecker 6; Eastern Phoebe 8; Blue Jay 169; American Crow 108; Fish Crow 6; crow, sp. 13; Horned Lark 12; Carolina Chickadee 48; Tufted Titmouse 61; Red-breasted Nuthatch 1; White-breasted Nuthatch 15; Brown-headed Nuthatch 1; Brown Creeper 3; Carolina Wren 85; Winter Wren 13; Golden-crowned Kinglet 27; Ruby-crowned Kinglet 35; Eastern Bluebird 94; Hermit Thrush 9; American Robin 919; Gray Catbird 2; Northern Mockingbird 52; Brown Thrasher 8; European Starling 2,676; American Pipit 215; Cedar Waxwing 864; Orange-crowned Warbler 1; Yellow-rumped (Myrtle) Warbler 106; Eastern Towhee 17; American Tree Sparrow 1; Chipping Sparrow 66; Field Sparrow 41; Savannah Sparrow 55;

Fox Sparrow 3; Song Sparrow 347; Swamp Sparrow 59; White-throated Sparrow 863; White-crowned Sparrow 13; Dark-eyed (Slate-colored) Junco 911; Northern Cardinal 247; Red-winged Blackbird 759; Eastern Meadowlark 40; Rusty Blackbird 54; Common Grackle 342; Brown-headed Cowbird 63; Purple Finch 1; House Finch 14; American Goldfinch 86; House Sparrow 9.

Total species: 101; **Total individuals:** 26,962.

Compiler: Sherrie Siers, 10313 Glen Oaks Dr., Chester, VA 23831 (bruja95@aol.com).

LAKE ANNA. Circle Center: Center of bridge over Lake Anna on rt. 208. 38° 05'N 77° 49'W.

Field data: Count date: 1 Jan 2004. Time in field: 5:30 a.m. to 5:45 p.m. Temperature: 47° to 65° F. Wind variable, 5-7 mph. AM partly cloudy. PM clear. Field observers: 11 in 7 parties. Nocturnal birding: 0.5 hour and 12 miles. Total party-hours (excludes nocturnal hours): 59.5 (18.5 on foot, 41 by car). Total party-miles (excludes nocturnal miles): 471.5 (12.5 on foot, 459 by car).

Species: Red-throated Loon CW; Common Loon 10; Pied-billed Grebe 14; Horned Grebe 13; Double-crested Cormorant 1; Great Blue Heron (blue form) 11; Black Vulture 40; Turkey Vulture 109; **Snow Goose (white form) 1**; Canada Goose 224; Tundra Swan 2; Wood Duck 2; Gadwall 1; American Black Duck 4; Mallard 36; Common Goldeneye 56; Hooded Merganser 10; Bald Eagle 3 (2a, 1i); Northern Harrier 1; Sharp-shinned Hawk 1; Cooper's Hawk 1; Red-shouldered Hawk 6; Red-tailed Hawk 10; **Rough-legged Hawk 1**; American Kestrel 10; Northern Bobwhite 2; American Coot 21; Killdeer 2; American Woodcock 1; Bonaparte's Gull 33; Ring-billed Gull 721; Herring Gull 26; Great Black-backed Gull 12; gull, sp. 50; Rock Dove 20; Mourning Dove 105; Eastern Screech-Owl 1; Great Horned Owl 2; Barred Owl 1; Belted Kingfisher 14; Red-bellied Woodpecker 32; Yellow-bellied Sapsucker 2; Downy Woodpecker 19; Hairy Woodpecker 5; Northern (Yellow-shafted) Flicker 25; Pileated Woodpecker 15; Eastern Phoebe 3; Blue Jay 99; American Crow 241; Fish Crow 4; Carolina Chickadee 73; Tufted Titmouse 45.

Red-breasted Nuthatch 1; White-breasted Nuthatch 19; Brown Creeper 4; Carolina Wren 50; Winter Wren 1; Golden-crowned Kinglet 49; Ruby-crowned Kinglet 11; Eastern Bluebird 110; Hermit Thrush 12; American Robin 44; Northern Mockingbird 28; European Starling 522; Cedar Waxwing 283; Yellow-rumped (Myrtle) Warbler 48; Pine Warbler 1; Eastern Towhee 2; American Tree Sparrow 1; Field Sparrow 11; Savannah Sparrow 1; Fox Sparrow 1; Song Sparrow 50; Swamp Sparrow 1; White-throated Sparrow 114; White-crowned Sparrow 6; Dark-eyed (Slate-colored) Junco 246; Snow Bunting 4; Northern Cardinal 67; Red-winged Blackbird 62; Eastern Meadowlark 2; Common Grackle 1; Purple Finch 2; House Finch 61; American Goldfinch 87; House Sparrow 35;

Total species: 84; **Total individuals:** 4078.

Compiler: Michael Boatwright, 177 Sugar Mill Drive, Amherst, VA 24521 (mboater@att.net).

LEXINGTON. Circle Center: Big Spring Pond in Rockbridge County. 37°51'N 79°29'W.

Field data: Count date: 26 Dec 2003. Times in field: 5 a.m. to 4:30 p.m. Temperature: 20° to 42° F. Wind W, 5-15 mph. AM clear. PM partly cloudy. Still water partly frozen, moving water open. Field observers: 17 in 3 to 10 parties. Feeder watchers: 3 for 4 hours. Nocturnal birding: 3 hours and 20 miles. Total party-hours (excludes feeder and nocturnal hours): 48 (27.5 on foot, 20.5 by car). Total party-miles (excludes nocturnal miles): 229 (26 on foot, 203 by car).

Species: Pied-billed Grebe 1; Great Blue Heron (blue form) 8; Black Vulture 72; Turkey Vulture 276; Canada Goose 92; American Black Duck 9; Mallard 286; Hooded Merganser 16; **Bald Eagle 1** (a); Northern Harrier 1; Sharp-shinned Hawk 3; *Accipiter*, sp. 1; Red-shouldered Hawk 1; Rough-legged Hawk 30; American Kestrel 4; Wild Turkey 5; Killdeer 26; Wilson's Snipe 3; Rock Dove 107; Barn Owl 156; Eastern Screech-Owl 12; Great Horned Owl 1; Belted Kingfisher 4; Red-bellied Woodpecker 35; Yellow-bellied Sapsucker 17; Downy Woodpecker 54; Hairy Woodpecker 10; Northern (Yellow-shafted) Flicker 17; Pileated Woodpecker 31; Eastern Phoebe 4; Loggerhead Shrike 1; Blue Jay 156; American Crow 793; Fish Crow 3; Common Raven 13; Horned Lark CW; Carolina Chickadee 71; Black-capped Chickadee 15; chickadee, sp. 115; Tufted Titmouse 110; White-breasted Nuthatch 47; Brown Creeper 2; Carolina Wren 49; Winter Wren 3; Golden-crowned Kinglet 118; Ruby-crowned Kinglet 17; Eastern Bluebird 164; Hermit Thrush 32; American Robin 8,782; Northern Mockingbird 40; Brown Thrasher 1; European Starling 5,005; Cedar Waxwing 309.

Yellow-rumped (Myrtle) Warbler 249; Eastern Towhee 12; **Chipping Sparrow 1**; Field Sparrow 18; Fox Sparrow 3; Song Sparrow 80; White-throated Sparrow 425; White-crowned Sparrow 85; Dark-eyed (Slate-colored) Junco 346; Northern Cardinal 120; Red-winged Blackbird CW; Eastern Meadowlark 10; Rusty Blackbird 1; Common Grackle 11; Brown-headed Cowbird 7; Purple Finch 202; House Finch 143; American Goldfinch 220; House Sparrow 18;

Total species: 68; **Total individuals:** 19,080.

Compilers: Bob Paxton, 460 Riverside Dr. #72, New York, NY 10027 (rop1@columbia.edu); and George Tolley, 494 Smokey Row Rd., Lexington, VA 24450 (gtolley@rockbridge.net).

LITTLE CREEK. Circle Center: 3.8 miles northeast of Kempsville in Virginia Beach. 36°51'N 76°06'W.

Field data: Count date: 31 Dec 2003. Time in field: 5 a.m. to 5:30 p.m. Temperature: 30° to 62° F. Wind W, 0-15. Skies clear. Water open. Field observers: 19 in 10 to 11 parties. Feeder watchers: 2 for 5 hours. Nocturnal birding: 5 hours and 19 miles. Total party-hours (excludes feeder and nocturnal hours): 91 (72 on foot, 19 by car). Total party-miles (excludes nocturnal miles): 279 (35 on foot, 244 by car).

Species: Red-throated Loon 809; **pacific/arctic loon, sp. 2**; Common Loon 92; Pied-billed Grebe 52; Horned Grebe 8; **Clark's Grebe 1**; Northern Gannet 82;

Brown Pelican 142; Double-crested Cormorant 1,600; Great Cormorant 6; **Anhinga 1**; American Bittern 1; Great Blue Heron (blue form) 116; Great Egret 86; Snowy Egret 2; Black-crowned Night-Heron 12; Black Vulture 202; Turkey Vulture 39; Canada Goose 376; Brant 18; Tundra Swan 36; Wood Duck 28; Gadwall 234; American Wigeon 114; American Black Duck 63; Mallard 414; Northern Shoveler 150; Northern Pintail 4; American Green-winged Teal 46; Redhead 1; Ring-necked Duck 59; Greater Scaup 1; Lesser Scaup 27; King Eider 1; Common Eider 3; Surf Scoter 2,230; White-winged Scoter 1; Black Scoter 34; Long-tailed Duck 61; Bufflehead 546; Common Goldeneye 2; Hooded Merganser 303; Common Merganser 2; Red-breasted Merganser 349; Ruddy Duck 2; Osprey 5; Bald Eagle 3 (a); Northern Harrier 6; Sharp-shinned Hawk 2; Cooper's Hawk 1.

Red-shouldered Hawk 3; Red-tailed Hawk 15; American Kestrel 6; Merlin 1; Peregrine Falcon 2; Clapper Rail 17; King Rail 4; American Coot 9; Black-bellied Plover 4; Killdeer 11; American Oystercatcher 40; Greater Yellowlegs 25; Ruddy Turnstone 13; Sanderling 215; Purple Sandpiper 9; Dunlin 159; Short-billed Dowitcher 3; American Woodcock 2; Laughing Gull 2; **Little Gull 1**; Bonaparte's Gull 830; Ring-billed Gull 6,050; Herring Gull 350; Lesser Black-backed Gull 6; Great Black-backed Gull 337; **Sabine's Gull 1**; Forster's Tern 7; Black Skimmer 2; Rock Dove 970; Mourning Dove 358; Eastern Screech-Owl 18; Great Horned Owl 4; Barred Owl 1; Belted Kingfisher 23; Red-headed Woodpecker 4; Red-bellied Woodpecker 44; Yellow-bellied Sapsucker 8; Downy Woodpecker 65; Hairy Woodpecker 4; Northern (Yellow-shafted) Flicker 36; Pileated Woodpecker 15; Eastern Phoebe 2; Blue-headed Vireo 15; Blue Jay 75; American Crow 700; Fish Crow 510; Horned Lark 1; Carolina Chickadee 196; Tufted Titmouse 64; Red-breasted Nuthatch 1.

White-breasted Nuthatch 10; Brown-headed Nuthatch 25; Brown Creeper 10; Carolina Wren 118; House Wren 1; Winter Wren 12; Sedge Wren 1; Marsh Wren 1; Golden-crowned Kinglet 28; Ruby-crowned Kinglet 27; Eastern Bluebird 17; Hermit Thrush 30; American Robin 870; Gray Catbird 5; Northern Mockingbird 61; Brown Thrasher 17; European Starling 1,720; Cedar Waxwing 10; Orange-crowned Warbler 3; Yellow-rumped (Myrtle) Warbler 229; Pine Warbler 8; Eastern Towhee 53; Chipping Sparrow 25; Field Sparrow 4; Savannah Sparrow 29; sharp-tailed sparrow, sp. 2; Fox Sparrow 34; Song Sparrow 120; Swamp Sparrow 9; White-throated Sparrow 388; Dark-eyed (Slate-colored) Junco 74; Northern Cardinal 63; Red-winged Blackbird 1,400; Eastern Meadowlark 1; Rusty Blackbird 2; Common Grackle 209; Boat-tailed Grackle 358; Brown-headed Cowbird 4; Purple Finch 3; House Finch 62; American Goldfinch 76; House Sparrow 40.

Total species: 142; **Total individuals:** 25,770.

Compiler: Paul Sykes, 1080 Forest Rd., Watkinsville, GA 30677 (paul_sykes@usgs.gov).

Editor's note: The Clark's Grebe was accepted by the Virginia Avian Records Committee and becomes the fourth Coastal Plain record. The Sabine Gull is still under review as of this writing.

LYNCHBURG. Circle Center: Lynchburg College in Lynchburg. 37°24'N 79°11'W.

Field data: Count date: 20 Dec 2003. Times in field: 6 a.m. to 5 p.m. Temperature: 28° to 37° F. Wind NW, 12 mph. Skies partly cloudy. Water mostly open. Field observers: 32 in 13 to 15 parties. Feeder watchers: 3 for 10 hours. Nocturnal birding: 7 hours and 48 miles. Total party-hours (excludes feeder and nocturnal hours): 83 (35 on foot, 48 by car). Total party-miles (excludes nocturnal miles): 413 (29 on foot, 384 by car).

Species: Common Loon 1; Pied-billed Grebe 6; Great Blue Heron (blue form) 10; Black Vulture 142; Turkey Vulture 290; Canada Goose 626; Wood Duck 2; Gadwall 15; American Wigeon 1; American Black Duck 15; Mallard 223; American Green-winged Teal 6; Canvasback 2; Ring-necked Duck 15; Bufflehead 1; Common Goldeneye 1; Hooded Merganser 29; Ruddy Duck 1; Bald Eagle 6; Northern Harrier 1; Sharp-shinned Hawk 7; Cooper's Hawk 1; Red-tailed Hawk 35; American Kestrel 6; Wild Turkey 50; Northern Bobwhite 1; American Coot 2; Killdeer 6; American Woodcock 1; Ring-billed Gull 314; Rock Dove 191; Mourning Dove 247; Eastern Screech-Owl 14; Great Horned Owl 6; Barred Owl 1; *Selasphorus*, sp. 1; Belted Kingfisher 10; Red-headed Woodpecker 1; Red-bellied Woodpecker 56; Yellow-bellied Sapsucker 19; Downy Woodpecker 51; Hairy Woodpecker 4; Northern (Yellow-shafted) Flicker 31; Pileated Woodpecker 20; Eastern Phoebe 5; Blue Jay 173; American Crow 419; Fish Crow 17; Common Raven 5; Carolina Chickadee 151; Tufted Titmouse 166; White-breasted Nuthatch 46.

Brown Creeper 5; Carolina Wren 103; House Wren 1; Winter Wren 8; Golden-crowned Kinglet 22; Ruby-crowned Kinglet 33; Eastern Bluebird 150; Hermit Thrush 7; American Robin 1,086; Northern Mockingbird 86; Brown Thrasher 3; European Starling 2,348; American Pipit 1; Cedar Waxwing 117; Yellow-rumped (Myrtle) Warbler 66; Pine Warbler 1; Eastern Towhee 19; Chipping Sparrow 10; Field Sparrow 27; Fox Sparrow 7; Song Sparrow 132; Swamp Sparrow 2; White-throated Sparrow 485; White-crowned Sparrow 4; Dark-eyed (Slate-colored) Junco 445; Northern Cardinal 321; Red-winged Blackbird 9; Common Grackle 3; Brown-headed Cowbird 28; Purple Finch 28; House Finch 116; Red Crossbill 4; American Goldfinch 226; House Sparrow 46.

Total species: 86; **Total individuals:** 9,399.

Compilers: John and Thelma Dalmás, 1230 Viewmont Dr., Evington, VA 24550-2006 (jtdalmas@juno.com).

Participants: Mike Boatwright, Jeanne Claybough, Adam D'Onofrio, John Dalmás, Thelma Dalmás, Virginia Delaney, Kathie Driscoll, Linda Eanes, Betty Epperson, Robert Epperson, Robert Eubank, Robert Ferrell, Halina Geier, Charles Hansrote, Melva Hansrote, Mike Hayslett, Cinda Hurt, Mark Johnson, Phyllis Jones, Cindy Lane, Peggy Lyons, Dick Miller, Ruth Ann Miller, Melvin Mitchell, Gene Moore, Myriam Moore, Sarah Moore, Phyllis Murphy, Wyatt Murphy, Gene Sattler, Susan Stanton, Randy Thrasher, Sue Thrasher, Susan Wingfield, and Jo Wood.

Compiler's notes: The total of 86 species was the most since 1995, and only six fewer than the all-time high count. For the second time in the past three

years, there was a hummingbird on the count. This bird . . . was first reported on Dec. 5 coming to a feeder at the home of Sarah Moore on Greenway Court. The Common Loon found on the James River is only the third record for the count. Most remarkable, however, was the count of six Bald Eagles. While duplication is likely, this is still twice the previous high count.

The species total is even more remarkable considering that there were a number of notable omissions. It's been 50 years since we failed to find an Eastern Meadowlark on this count! Other expected species which were missed included Red-shouldered Hawk, Horned Lark, Red-breasted Nuthatch, Savannah Sparrow and Pine Siskin. In spite of the generally lower numbers, there were new highs for Ring-billed Gull and Fish Crow.

MANASSAS-BULL RUN. Circle Center: Centreville in western Fairfax County. 38°50'N 77°26'W.

Field data: Count date: 27 Dec 2003. Times in field: 3 a.m. to 6:30 a.m., 7:30 a.m. to 5:30 p.m., and 6 p.m. to 8 p.m. Temperature: 38° to 52° F. Wind 0-16 mph. Skies clear. Water open. Field observers: 81 in 13 to 22 parties. Nocturnal birding: 8 hours and 4.5 miles. Total party-hours (excludes nocturnal hours): 142 (138 on foot, 4 by car). Total party-miles (excludes nocturnal miles): 171 (103 on foot, 68 by car).

Species: Pied-billed Grebe 2; Great Blue Heron (blue form) 21; Black Vulture 56; Turkey Vulture 211; Canada Goose 2,387; Wood Duck **471**; American Black Duck 8; Mallard 324; Northern Shoveler 3; Northern Pintail **12**; Lesser Scaup 6; Hooded Merganser 37; Common Merganser **53**; **Red-breasted Merganser 18**; Bald Eagle **11** (7a, 4i); Northern Harrier **17**; Sharp-shinned Hawk 8; Cooper's Hawk 4; *Accipiter*, sp. 4; Red-shouldered Hawk 23; Red-tailed Hawk 54; American Kestrel 2; Merlin 1; **Peregrine Falcon 1**; Killdeer 17; Ring-billed Gull 575; Herring Gull 66; Great Black-backed Gull 3; gull, sp. 32; Rock Dove 239; Mourning Dove 218; Barn Owl 1; Eastern Screech-Owl 2; Great Horned Owl 5; Barred Owl 3; **Short-eared Owl 1**; **Northern Saw-whet Owl 1**; Belted Kingfisher 15; Red-headed Woodpecker 5; Red-bellied Woodpecker 128; Yellow-bellied Sapsucker 12; Downy Woodpecker 96; Hairy Woodpecker 14; Northern (Yellow-shafted) Flicker 82; Pileated Woodpecker 17; Blue Jay 306; American Crow 261; Fish Crow **385**; crow, sp. 328; **Common Raven 1**.

Horned Lark 6; Carolina Chickadee 257; Tufted Titmouse 122; Red-breasted Nuthatch 2; White-breasted Nuthatch 83; Brown Creeper 12; Carolina Wren 102; Winter Wren 5; Golden-crowned Kinglet 57; Ruby-crowned Kinglet 21; Eastern Bluebird 64; Hermit Thrush 7; American Robin 561; Northern Mockingbird 82; Brown Thrasher 1; European Starling 13,092; **American Pipit 13**; Cedar Waxwing 201; Yellow-rumped (Myrtle) Warbler 311; Eastern Towhee 10; American Tree Sparrow 43; Field Sparrow 132; Savannah Sparrow 3; Fox Sparrow 5; Song Sparrow 258; Swamp Sparrow 38; White-throated Sparrow 462; White-crowned Sparrow 4; sparrow, sp. 35; Dark-eyed (Slate-colored) Junco 890; Northern Cardinal 271; Red-winged Blackbird 26; Eastern Meadowlark 2; Rusty Blackbird **15**; Common Grackle

360; blackbird, sp. 200; Purple Finch 4; House Finch 103; Pine Siskin 5; American Goldfinch 145; House Sparrow 194.

Total species: 86; **Total individuals:** 24,751.

Compiler: John Dent, 6804 Langley Springs Court, McLean, VA 22101 (jdent@erols.com).

MATHEWS COUNTY. Circle Center: 0.5 mile east of Beaverlett Post Office in Mathews County. 37°25'N 76°18'W.

Field data: Count date: 4 Jan 2004. Times in field: 4:30 a.m. to 5:30 a.m. Temperature: 51° to 70° F. Wind 5-25 mph. Skies partly cloudy. Water open. Field observers: 57 in 13 to 14 parties. Nocturnal birding: 4 hours and 15 miles. Total party-hours (excludes nocturnal hours): 120 (85 on foot, 34 by car, 1 by motorized boat). Total party-miles (excludes nocturnal miles): 464.5 (47.5 on foot, 415 by car, 2 by motorized boat).

Species: Red-throated Loon 15; Common Loon 234; Horned Grebe 18; Red-necked Grebe 3; Northern Gannet 2; Brown Pelican 4; Double-crested Cormorant 24; Great Blue Heron (blue form) 45; Black Vulture 17; Turkey Vulture 249; Canada Goose 1,996; Mute Swan 1; Tundra Swan 356; Wood Duck 4; American Wigeon 2; American Black Duck 29; Mallard 150; Greater Scaup 18; Lesser Scaup 55; scaup, sp. 18; Surf Scoter 433; White-winged Scoter 2; Black Scoter 53; Long-tailed Duck 41; Bufflehead 961; Common Goldeneye 40; Hooded Merganser 74; Common Merganser 1; Red-breasted Merganser 415; Ruddy Duck 7; Bald Eagle 19 (16a, 3i); Northern Harrier 6; Sharp-shinned Hawk 6; Cooper's Hawk 6; Red-shouldered Hawk 5; Red-tailed Hawk 18; *Buteo*, sp. 1; American Kestrel 6; Merlin 1; **Peregrine Falcon** 1; Wild Turkey 13; Clapper Rail 2; Black-bellied Plover 2; Killdeer 13; plover, sp. 2; Greater Yellowlegs 6; Lesser Yellowlegs 1; Ruddy Turnstone 9; Sanderling 134; Western Sandpiper 2; Dunlin 558; American Woodcock 3.

Laughing Gull 11; Bonaparte's Gull 115; Ring-billed Gull 976; Herring Gull 463; Great Black-backed Gull 54; **Royal Tern** 4; Forster's Tern 407; Rock Dove 9; Mourning Dove 319; Great Horned Owl 2; Belted Kingfisher 30; Red-bellied Woodpecker 68; Yellow-bellied Sapsucker 17; Downy Woodpecker 37; Hairy Woodpecker 3; Northern (Yellow-shafted) Flicker 77; Pileated Woodpecker 18; Eastern Phoebe 5; Blue Jay 68; American Crow 250; Fish Crow 2; Carolina Chickadee 207; Tufted Titmouse 128; White-breasted Nuthatch 8; Brown-headed Nuthatch 37; Brown Creeper 4; Carolina Wren 147; Winter Wren 9; Marsh Wren 3; Golden-crowned Kinglet 12; Ruby-crowned Kinglet 23; Eastern Bluebird 469; Hermit Thrush 8; American Robin 1,655; Gray Catbird 9; Northern Mockingbird 78; Brown Thrasher 16; European Starling 763; Cedar Waxwing 48; Yellow-rumped (Myrtle) Warbler 375; Pine Warbler 7; Eastern Towhee 24; Chipping Sparrow 56; Field Sparrow 11; Fox Sparrow 10; Song Sparrow 130; Swamp Sparrow 3; White-throated Sparrow 261; Dark-eyed (Slate-colored) Junco 1,006; Northern Cardinal 230.

Red-winged Blackbird 1,404; Eastern Meadowlark 44; Common Grackle 71; Boat-tailed Grackle 30; Brown-headed Cowbird 5; Purple Finch 7; House Finch 168; **Common Redpoll** 2; American Goldfinch 183; House Sparrow 36.

Total species: 110; **Total individuals:** 16,703.

Compilers: John Bazuin, Jr., 7451 Little River Tnpk, #202, Annandale, VA 22003 (bazuin.john@epa.gov) and Mary Pulley, HC 75, Box 2750, Hudgins, VA 23076.

MOUNT ROGERS-WHITE TOP MOUNTAIN. Circle Center: Jct. rts. 600 and 603. 36° 39' N 81° 35' W.

Field data: Count date: 3 Jan 2004. Times in field: 8:30 a.m. to 5 p.m. Temperature: 45° to 55° F. Wind 5-15 mph. AM cloudy. None to light rain. PM partly cloudy. Water open. Field observers: 9 in 4 parties. Total party-hours: 36.75 (18.5 on foot, 18.25 by car). Total party-miles: 220.5 (18.5 on foot, 202 by car).

Species: Great Blue Heron (blue form) 1; Black Vulture 2; Turkey Vulture 4; Mallard 8; Red-tailed Hawk 6; American Kestrel 1; Ruffed Grouse 3; Rock Dove 6; Mourning Dove 97; Eastern Screech-Owl 1; Belted Kingfisher 2; Downy Woodpecker 4; Hairy Woodpecker 3; Northern (Yellow-shafted) Flicker 3; Pileated Woodpecker 3; Eastern Phoebe 2; Blue Jay 15; American Crow 367; Common Raven 18; Carolina Chickadee 24; Black-capped Chickadee 21; Tufted Titmouse 12; Red-breasted Nuthatch 28; White-breasted Nuthatch 9; Brown Creeper 2; Carolina Wren 8; Winter Wren 2; Golden-crowned Kinglet 12; Eastern Bluebird 9; Northern Mockingbird 6; European Starling 187; Cedar Waxwing 23; Eastern Towhee 3; Field Sparrow 1; Song Sparrow 28; Swamp Sparrow 2; White-throated Sparrow 8; White-crowned Sparrow 1; Dark-eyed (Slate-colored) Junco 70; Northern Cardinal 12; Red-winged Blackbird 1; House Finch 2; Red Crossbill 5; Pine Siskin 68; American Goldfinch 307;

Total species: 45; **Total individuals:** 1,397.

Compiler: Allen Boynton, P.O. Box 241, Marion, VA 24354 (allenboynton@adelphia.net).

NANSEMOND RIVER. Circle Center: Jct. rts. 17 and 626 in Pughsville, Suffolk. 36°52'N 76°26'W.

Field data: Count date: 2 Jan 2004. Times in field: 7 a.m. to 5:15 p.m. Temperature: 36° to 50° F. Wind W, 2-10 mph. Skies clear. Water open. Field observers: 8 in 6 parties. Total party-hours: 51 (25 on foot, 22 by car, 4 by non-motorized boat). Total party-miles: 331 (9.5 on foot, 316.5 by car, 5 by non-motorized boat).

Species: Red-throated Loon 6; Common Loon 17; Pied-billed Grebe 12; Horned Grebe 226; **American White Pelican** CW; Brown Pelican 20; Double-crested Cormorant 2,045; Great Cormorant 1; Great Blue Heron (blue form) 18; Great Egret 3; **Snowy Egret** 1; Black Vulture 16; Turkey Vulture 32; Snow Goose (white form) 1; Canada Goose 897; Brant 14; Wood Duck 4; Gadwall 97; American Wigeon 67; American Black Duck 118; Mallard 43; Northern Shoveler 59; Northern Pintail 7; American Green-winged Teal 401; Canvasback 570; Ring-necked Duck 26; Lesser Scaup 13; scaup, sp. 1; Surf Scoter 83; Black Scoter 1; Bufflehead 715; Common Goldeneye 6; Hooded Merganser 58; Red-breasted Merganser 156; Ruddy Duck

556; Osprey 2; Bald Eagle 9 (2a, 6i, 1u); Northern Harrier 12; Sharp-shinned Hawk 1; Cooper's Hawk 3; Red-shouldered Hawk 1; Red-tailed Hawk 20; **Rough-legged Hawk 2**; American Kestrel 11; Peregrine Falcon 2; Northern Bobwhite 8; Clapper Rail 4; American Coot 4; Black-bellied Plover 3; Killdeer 16; Ruddy Turnstone 1; Sanderling 81.

Dunlin 2; American Woodcock 1; Bonaparte's Gull 5; Ring-billed Gull 45,182; Herring Gull 13,365; Lesser Black-backed Gull 8; Great Black-backed Gull 356; Rock Dove 209; Mourning Dove 233; Eastern Screech-Owl 1; Great Horned Owl 1; Belted Kingfisher 15; Red-bellied Woodpecker 34; Yellow-bellied Sapsucker 10; Downy Woodpecker 16; Hairy Woodpecker 1; Northern (Yellow-shafted) Flicker 37; Pileated Woodpecker 4; Eastern Phoebe 2; Blue Jay 53; American Crow 38; Fish Crow 32; Carolina Chickadee 71; Tufted Titmouse 14; White-breasted Nuthatch 5; Brown-headed Nuthatch 2; Carolina Wren 63; House Wren 1; Winter Wren 5; Golden-crowned Kinglet 1; Ruby-crowned Kinglet 13; Eastern Bluebird 46; Hermit Thrush 6; American Robin 778; Gray Catbird 1; Northern Mockingbird 48; Brown Thrasher 8; European Starling 4,875; Cedar Waxwing 51; Yellow-rumped (Myrtle) Warbler 48; Pine Warbler 2; Palm Warbler 1; Common Yellowthroat 1; Eastern Towhee 17; American Tree Sparrow 1; Chipping Sparrow 12; Field Sparrow 27; Savannah Sparrow 40; Nelson's Sharp-tailed Sparrow 5; **Saltmarsh Sharp-tailed Sparrow 1**.

Fox Sparrow 6; Song Sparrow 167; Swamp Sparrow 22; White-throated Sparrow 364; White-crowned Sparrow 2; Dark-eyed (Slate-colored) Junco 188; Northern Cardinal 73; Red-winged Blackbird 2,740; Eastern Meadowlark 33; **Brewer's Blackbird 5**; Common Grackle 9,549; Boat-tailed Grackle 2; Brown-headed Cowbird 750; Purple Finch 1; House Finch 33; **Common Redpoll 2**; American Goldfinch 58; House Sparrow 20.

Total species: 118; **Total individuals:** 86,233.

Compiler: Les Willis, PO Box 6063, Suffolk, VA 23433 (leswillis@clwillis.com).

NEWPORT NEWS. Circle Center: Northern corner of Magruder & Cmdr. Shepard boulevards in Hampton. 37°05'N 76°25'W.

Field data: Count date: 20 Dec 2003. Times in field: 5:45 a.m. to 4:30 p.m. Temperature: 27° to 42° F. Wind NW, 0-10 mph. AM clear. PM partly cloudy. Still water frozen, moving water open. Field observers: 34 in 13 parties. Nocturnal birding: 2 hours and 7 miles. Total party-hours (excludes nocturnal hours): 109.75 (50 on foot, 59.75 by car). Total party-miles (excludes nocturnal miles): 500 (35 on foot, 465 by car).

Species: Red-throated Loon 12; Common Loon 72; Pied-billed Grebe 30; Horned Grebe 14; **Red-necked Grebe 1**; Northern Gannet 3; Brown Pelican 52; Double-crested Cormorant 614; Great Blue Heron (blue form) 66; Great Egret 21; **Green Heron 1**; Black-crowned Night-Heron 4; Black Vulture 2; Turkey Vulture 29; **Snow Goose (white form) 1**; Canada Goose 276; Brant 195; Tundra Swan 2; Wood Duck 1; Gadwall 87; American Wigeon 193; American Black Duck 10; Mallard 815;

Northern Shoveler 38; American Green-winged Teal 16; Canvasback 5; Redhead 105; Ring-necked Duck 52; Lesser Scaup 51; scaup, sp. 50; Surf Scoter 166; White-winged Scoter 18; Black Scoter 20; Long-tailed Duck 90; Bufflehead 853; Common Goldeneye 19; Hooded Merganser 106; Common Merganser 2; Red-breasted Merganser 184; Ruddy Duck 21; Osprey 1; Bald Eagle 9 (8a, 1i); Northern Harrier 9; Sharp-shinned Hawk 4; Cooper's Hawk 2; Red-shouldered Hawk 2; Red-tailed Hawk 17; American Kestrel 5; Merlin 1; Clapper Rail 16; American Coot 29.

Black-bellied Plover 10; Killdeer 37; Greater Yellowlegs 10; **Spotted Sandpiper** 5; Sanderling 217; Western Sandpiper 7; **Least Sandpiper** 8; Dunlin 42; Wilson's Snipe 10; American Woodcock 1; Laughing Gull 7; Bonaparte's Gull 3; Ring-billed Gull 4,644; Herring Gull 300; **Lesser Black-backed Gull** 1; Great Black-backed Gull 165; Rock Dove 1,439; Mourning Dove 658; Eastern Screech-Owl 1; Great Horned Owl 2; Belted Kingfisher 29; Red-headed Woodpecker 2; Red-bellied Woodpecker 42; Yellow-bellied Sapsucker 8; Downy Woodpecker 26; Hairy Woodpecker 3; Northern (Yellow-shafted) Flicker 66; Pileated Woodpecker 5; Blue Jay 99; American Crow 229; crow, sp. 1; Carolina Chickadee 135; Tufted Titmouse 95; White-breasted Nuthatch 4; Brown-headed Nuthatch 2; Brown Creeper 2; Carolina Wren 56; House Wren 1; Marsh Wren 1; Golden-crowned Kinglet 14; Ruby-crowned Kinglet 6; Eastern Bluebird 25; Hermit Thrush 3; American Robin 183; Northern Mockingbird 84; Brown Thrasher 14; European Starling 6,899; American Pipit 1; Yellow-rumped (Myrtle) Warbler 229; Pine Warbler 1.

Eastern Towhee 19; American Tree Sparrow 1; Chipping Sparrow 3; Field Sparrow 1; Savannah Sparrow 19; Fox Sparrow 10; Song Sparrow 123; Swamp Sparrow 8; White-throated Sparrow 359; Dark-eyed (Slate-colored) Junco 215; Northern Cardinal 130; Red-winged Blackbird 687; Eastern Meadowlark 20; Common Grackle 1,697; Boat-tailed Grackle 577; House Finch 115; American Goldfinch 89; House Sparrow 115.

Total species: 118; **Total individuals:** 24,467.

Compiler: Hayes Williams, P.O. Box 95, White Marsh, VA 23183-0095 (joycewms@inna.net).

NORTHERN SHENANDOAH VALLEY. Circle Center: Jct. Crooked Run and Rt. 606 in Frederick County. 39°03'N 78°10'W.

Field data: Count date: 23 Dec 2003. Times in field: 5 a.m. to 6 p.m. Temperature: 24° to 34° F. Wind NW, 5-20 mph. Skies partly cloudy. Still water frozen, moving water open. Field observers: 66 in 23 parties. Nocturnal birding: 4 hours and 18 miles. Total party-hours (excludes nocturnal hours): 189 (47 on foot, 124 by car, 18 by non-motorized boat). Total party-miles (excludes nocturnal miles): 742 (37 on foot, 687 by car, 18 by non-motorized boat).

Species: Common Loon 1; Pied-billed Grebe 5; Double-crested Cormorant 1; Great Blue Heron (blue form) 41; Black Vulture 331; Turkey Vulture 599; Canada Goose 4,078; Mute Swan 1; Tundra Swan 70; Wood Duck 15; Gadwall 7; American Wigeon 14; American Black Duck 48; Mallard 1,068; Northern Shoveler 6; American Green-winged Teal 12; Ring-necked Duck 24; Bufflehead 1; Common Goldeneye

2; Hooded Merganser 10; Common Merganser 3; Bald Eagle 6 (5a, 1i); Northern Harrier 21; Sharp-shinned Hawk 8; Cooper's Hawk 16; Red-shouldered Hawk 9; Red-tailed Hawk 131; Rough-legged Hawk CW; American Kestrel 42; **Merlin 1**; Wild Turkey 21; Northern Bobwhite 3; American Coot 2; Killdeer 16; Wilson's Snipe 9; Ring-billed Gull 4; **Herring Gull 2**; Rock Dove 1,141; Mourning Dove 602; Eastern Screech-Owl 15; Great Horned Owl 4; Barred Owl 1; Northern Saw-whet Owl CW; Belted Kingfisher 26; Red-headed Woodpecker 17; Red-bellied Woodpecker 119; Yellow-bellied Sapsucker 47; Downy Woodpecker 128; Hairy Woodpecker 24; Northern (Yellow-shafted) Flicker 93; Pileated Woodpecker 64; Eastern Phoebe 1.

Loggerhead Shrike CW; Blue Jay 659; American Crow 920; Fish Crow 2; Common Raven 8; Horned Lark 37; Carolina Chickadee 452; Black-capped Chickadee 2; Tufted Titmouse 245; Red-breasted Nuthatch 7; White-breasted Nuthatch 143; Brown Creeper 12; Carolina Wren 112; Winter Wren 8; Golden-crowned Kinglet 63; Ruby-crowned Kinglet 25; Eastern Bluebird 202; Hermit Thrush 17; American Robin 6,442; Northern Mockingbird 150; Brown Thrasher 1; European Starling 32,790; American Pipit 40; Cedar Waxwing 251; Yellow-rumped (Myrtle) Warbler 167; Palm Warbler 3; Eastern Towhee 3; American Tree Sparrow 26; Chipping Sparrow 1; Field Sparrow 103; Savannah Sparrow 27; Fox Sparrow 9; Song Sparrow 387; Swamp Sparrow 6; White-throated Sparrow 1,035; White-crowned Sparrow 247; Dark-eyed (Slate-colored) Junco 1,227; **Dark-eyed (Oregon) Junco 1**; Northern Cardinal 468; Red-winged Blackbird 82; Eastern Meadowlark 4; Rusty Blackbird 181; Common Grackle 56; Brown-headed Cowbird 230; Purple Finch 132; House Finch 276; American Goldfinch 262; House Sparrow 116.

Total species: 96; **Total individuals:** 56,548.

Compilers: Rob and Ann Simpson, 1932 E. Refuge Church Rd., Stephens City, VA 22655 (snphotos@adelphia.com).

PEAKS OF OTTER. Circle Center: Peaks of Otter Visitor Center in Bedford County. 37°27'N 79°36'W.

Field data: Count date: 16 Dec 2003. Times in field: 8 a.m. to 4 p.m. Temperature: 30° to 48° F. Wind S, 2-10 mph. AM mostly clear. PM partly cloudy. Snow depth: 1 inch. Still water partly open, moving water open. Field observers: 11 in 5 parties. Total party-hours: 21 (10 on foot, 11 by car). Total party-miles: 52 (9 on foot, 43 by car).

Species: Black Vulture 2; Turkey Vulture 4; Sharp-shinned Hawk 3; Red-tailed Hawk 2; Wild Turkey 9; Mourning Dove 16; Eastern Screech-Owl 2; Red-bellied Woodpecker 24; Yellow-bellied Sapsucker 26; Downy Woodpecker 29; Hairy Woodpecker 4; Northern (Yellow-shafted) Flicker 11; Pileated Woodpecker 20; Eastern Phoebe 3; Blue Jay 28; American Crow 70; Common Raven 6; Carolina Chickadee 39; Tufted Titmouse 28; White-breasted Nuthatch 26; Brown Creeper 2; Carolina Wren 20; Winter Wren 1; Golden-crowned Kinglet 15; Ruby-crowned Kinglet 8; Eastern Bluebird 30; Hermit Thrush 10; American Robin 19; **Gray Catbird 1**; Northern Mockingbird 2; Brown Thrasher 1; Yellow-rumped (Myrtle) Warbler 4; Eastern Towhee 7; Field Sparrow 3; Fox Sparrow 2; Song Sparrow 14; White-throated

Sparrow 129; Dark-eyed (Slate-colored) Junco 204; Northern Cardinal 36; Purple Finch 2; House Finch 3; Pine Siskin 2; American Goldfinch 59.

Total species: 43; **Total individuals:** 926.

Compiler: Barry Kinzie, P.O. Box 446, Troutville, VA 24175 (woodpeckerridge@mindspring.com).

Participants: Mike Donahue, Charles Hansrote, Melva Hansrote, Eunice Hudgins, John Hudgins, Bill Hunley, Barry Kinzie, Katrina Knight, Dick Miller, R.A. Miller, Kathy Summers.

Compiler's comments: A Gray Catbird, found by Bill Hunley and Mike Donahue, was new to the count. Somewhat rare in our area most winters, but with a very mild November, we have had a fair number of them, as well as Brown Thrashers.

ROANOKE. Circle Center: Oakland Blvd. and Williamson Rd. In Roanoke. 37°18'N 79°56'W.

Field data: Count date: 13 Dec 2003. Times in field: 6 a.m. to 4:15 p.m. Temperature: 26° to 41° F. AM mostly clear. PM mostly cloudy. Snow depth: Some snow on the ground. Still water 95% open, moving water open. Field observers: 29 in 13 parties. Feeder watchers: 5 for 5.5 hours. Total party-hours (excludes feeder hours): 75 (44.5 on foot, 30 .5 by car). Total party-miles: 208 (41 on foot, 167 by car).

Species: Common Loon 7; Great Blue Heron (blue form) 17; Black Vulture 21; Turkey Vulture 68; Canada Goose 124; Gadwall 42; American Wigeon 5; American Black Duck 7; Mallard 490; American Green-winged Teal 44; Canvasback 1; Ring-necked Duck 23; Lesser Scaup 3; scaup, sp. 1; Bufflehead 2; Hooded Merganser 31; Northern Harrier 2; Sharp-shinned Hawk 6; Cooper's Hawk 2; Red-tailed Hawk 19; American Kestrel 6; Ruffed Grouse 1; Wild Turkey 21; American Coot 1; Killdeer 24; Wilson's Snipe 7; Ring-billed Gull 320; Rock Dove 1,584; Mourning Dove 442; Barn Owl 1; Eastern Screech-Owl 4; Great Horned Owl 2; Barred Owl 1; *Selasphorus*, sp. 1; Belted Kingfisher 5; Red-bellied Woodpecker 38; Yellow-bellied Sapsucker 26; Downy Woodpecker 69; Hairy Woodpecker 7; Northern (Yellow-shafted) Flicker 40; Pileated Woodpecker 19; Eastern Phoebe 5; Blue Jay 87; American Crow 481; Common Raven 5; Carolina Chickadee 129; Tufted Titmouse 113; Red-breasted Nuthatch 1; White-breasted Nuthatch 61; Brown Creeper 13; Carolina Wren 111.

Winter Wren 4; Golden-crowned Kinglet 49; Ruby-crowned Kinglet 11; Eastern Bluebird 83; Hermit Thrush 21; American Robin 184; Gray Catbird 3; Northern Mockingbird 59; Brown Thrasher 1; European Starling 1,691; Cedar Waxwing 35; Yellow-rumped (Myrtle) Warbler 80; Pine Warbler 1; Eastern Towhee 17; Chipping Sparrow 2; Field Sparrow 18; Fox Sparrow 2; Song Sparrow 162; Swamp Sparrow 1; White-throated Sparrow 412; White-crowned Sparrow 11; Dark-eyed (Slate-colored) Junco 365; Northern Cardinal 222; Red-winged Blackbird 1; Eastern Meadowlark 11; Rusty Blackbird 1; Brown-headed Cowbird 1; Purple Finch 3; House Finch 165; American Goldfinch 202; House Sparrow 114.

Total species: 81; **Total individuals:** 8,472.

Compiler: Michael Donahue, 147 Southampton Dr., Vinton, VA 24179 (hdonahu@earthlink.net).

Participants: Mary Lou Agee, Mary Lou Barritt, Sid Barritt, Andy Biggs, Gary Brunk, Alma Cunningham, Marshall Daniels, Carol Davit, Mike Donahue, Sarah Donahue, Tad Finnell, Bill Grant, David Holt, Joyce Holt, Eunice Hudgins, John Hudgins, Bill Hunley, Barry Kinzie, Katrina Knight, Mike Laehy; Connie Marsh, Mike Purdy, Alyce Quinn, Tim Quinn, Amber Sewell, Kathy Summers, Anne Tucker, Bill Tucker, and Holly Woodson.

ROCKINGHAM COUNTY. Circle Center: Ottobine in Rockingham County. 38°26'N 79°02'W.

Field data: Count date: 20 Dec 2003. Times in field: 6 a.m. to 4:30 p.m. Temperature: 24° to 33° F. Wind NW, 5-15 mph. Skies partly cloudy, none to light snow. Snow depth: 0-4 inches. Still water partly open, moving water frozen. Field observers: 20 in 2 to 9 parties. Nocturnal birding: 1 hour and 10 miles. Total party-hours (excludes nocturnal hours): 53.75 (13 on foot, 40.75 by car). Total party-miles (excludes nocturnal miles): 417.5 (9 on foot, 408.5 by car).

Species: Great Blue Heron (blue form) 5; Black Vulture 6; Turkey Vulture 337; Canada Goose 219; Mute Swan 4; Gadwall 2; American Wigeon 2; Mallard 394; **Common Goldeneye** 3; Hooded Merganser CW; Bald Eagle 2 (a); Northern Harrier 1; Sharp-shinned Hawk 4; Cooper's Hawk 4; Red-shouldered Hawk 1; Red-tailed Hawk 36; *Buteo*, sp. 2; American Kestrel 29; Ruffed Grouse 9; Wild Turkey 4; Killdeer 10; Wilson's Snipe 1; Ring-billed Gull 1; Rock Dove 630; Mourning Dove 308; Eastern Screech-Owl 5; Great Horned Owl 1; owl, sp. 2; Belted Kingfisher 5; Red-headed Woodpecker 1; Red-bellied Woodpecker 39; Yellow-bellied Sapsucker 8; Downy Woodpecker 30; Hairy Woodpecker 2; Northern (Yellow-shafted) Flicker 19; Pileated Woodpecker 15; Eastern Phoebe 2; Blue Jay 145; American Crow 290; Common Raven 8; Horned Lark 325; Carolina Chickadee 35; Black-capped Chickadee 34; Tufted Titmouse 46; Red-breasted Nuthatch 1; White-breasted Nuthatch 32; Brown Creeper 6; Carolina Wren 28; Winter Wren 3; Golden-crowned Kinglet 10; Eastern Bluebird 98; Hermit Thrush 2; American Robin 74.

Northern Mockingbird 45; Brown Thrasher 2,558; Cedar Waxwing 77; Yellow-rumped (Myrtle) Warbler 9; Eastern Towhee 2; American Tree Sparrow 3; Song Sparrow 79; White-throated Sparrow 349; White-crowned Sparrow 190; Dark-eyed (Slate-colored) Junco 267; Northern Cardinal 122; Eastern Meadowlark 27; Common Grackle 1; Brown-headed Cowbird 45; Purple Finch 26; House Finch 39; Pine Siskin 25; American Goldfinch 186; House Sparrow 214.

Total species: 69; **Total individuals:** 7,544.

Compiler: Chuck Aukerman, 222 West Bank St., Bridgewater, VA 22812 (aucker@aol.com).

SHENANDOAH NATIONAL PARK-LURAY. Circle Center: Hershberger Hill near Stanley in Page County. 38°35'N 78°28'W.

Field data: Count date: 21 Dec 2003. Times in field: 6:30 a.m. to 5 p.m.

Temperature: 19° to 42° F. Wind variable, 0-18 mph. Skies partly cloudy. Snow depth: 2-8 inches. Still water partly open, moving water partly frozen. Field observers: 23 in 10 to 11 parties. Feeder watchers: 8 for 19.5 hours. Nocturnal birding: 2.5 hours and 0.5 mile. Total party-hours (excludes feeder and nocturnal hours): 70 (34.75 on foot, 35.25 by car). Total party-miles (excludes nocturnal miles): 371 (32 on foot, 339 by car).

Species: Great Blue Heron (blue form) 4; **Black-crowned Night-Heron** 7; Black Vulture 191; Turkey Vulture 277; Canada Goose 419; **Tundra Swan** 1; American Black Duck 6; Mallard 187; Northern Shoveler 5; Northern Pintail 3; American Green-winged Teal 21; Hooded Merganser 4; Ruddy Duck 3; Bald Eagle 3 (a); Northern Harrier 2; Sharp-shinned Hawk 4; Cooper's Hawk 3; Red-shouldered Hawk 2; Red-tailed Hawk 41; Rough-legged Hawk 1; American Kestrel 30; Wild Turkey 1; Killdeer 1; Wilson's Snipe 9; Rock Dove 265; Mourning Dove 370; Eastern Screech-Owl 8; Great Horned Owl 2; Belted Kingfisher 12; Red-bellied Woodpecker 39; Yellow-bellied Sapsucker 23; Downy Woodpecker 65; Hairy Woodpecker 5; Northern (Yellow-shafted) Flicker 26; Pileated Woodpecker 27; Eastern Phoebe 1; Blue Jay 161; American Crow 783; Fish Crow 8; Common Raven 24; Horned Lark 35; Carolina Chickadee 216; Tufted Titmouse 200; White-breasted Nuthatch 73; Brown Creeper 9; Carolina Wren 37; Winter Wren 2; Golden-crowned Kinglet 50; Ruby-crowned Kinglet 8; Eastern Bluebird 149.

Hermit Thrush 6; American Robin 213; Northern Mockingbird 50; European Starling 3,692; Cedar Waxwing 53; Yellow-rumped (Myrtle) Warbler 117; Pine Warbler 1; Eastern Towhee 1; American Tree Sparrow 1; Field Sparrow 6; Song Sparrow 87; Swamp Sparrow 1; White-throated Sparrow 383; White-crowned Sparrow 174; Dark-eyed (Slate-colored) Junco 430; Northern Cardinal 153; Red-winged Blackbird 40; Eastern Meadowlark 58; Rusty Blackbird 35; Common Grackle 2; Brown-headed Cowbird 61; Purple Finch 28; House Finch 55; American Goldfinch 109; House Sparrow 89.

Total species: 75; **Total individuals:** 9,668.

Compiler: Mara Meisel, 304 Trenton Ave., Shenandoah, VA 22849 (mara_meisel@nps.gov.)

TAZEWELL. Circle Center: Fourway in Tazewell County. 37°08'N 81°30'W.

Field data: Count date: 29 Dec 2003. Times in field: 7:30 a.m. to 4:30 p.m. Temperature: 21° to 39° F. Wind W, 3-5 mph. Skies partly cloudy. Still water partly frozen, moving water open. Field observers: 11 in 6 parties. Feeder watchers: 2 for 6 hours. Total party-hours (excludes feeder hours): 47 (3 on foot, 44 by car). Total party-miles: 261 (6 on foot, 255 by car).

Species: **Horned Grebe** 4; Great Blue Heron (blue form) 6; Turkey Vulture 2; Canada Goose 123; Wood Duck 3; Gadwall 1; Mallard 89; **Northern Pintail** 1; Lesser Scaup 1; Sharp-shinned Hawk 1; Red-shouldered Hawk 3; Red-tailed Hawk 15; Rough-legged Hawk 1; Golden Eagle 2 (1a, 1i); American Kestrel 8; Killdeer 1; Rock Dove 193; Mourning Dove 97; Belted Kingfisher 9; Red-bellied Woodpecker 15; Downy Woodpecker 14; Hairy Woodpecker 2; Northern (Yellow-shafted)

Flicker 3; Pileated Woodpecker 3; Eastern Phoebe 1; Loggerhead Shrike 1; Blue Jay 79; American Crow 566; Common Raven 7; Horned Lark 25; Carolina Chickadee 60; Tufted Titmouse 36; White-breasted Nuthatch 24; Carolina Wren 21; Golden-crowned Kinglet 2; Eastern Bluebird 18; Hermit Thrush 1; American Robin 18; Northern Mockingbird 4; European Starling 1,052; Eastern Towhee 27; Field Sparrow 16;

Fox Sparrow 1; Song Sparrow 74; Swamp Sparrow 6; White-throated Sparrow 55; White-crowned Sparrow 16; Dark-eyed (Slate-colored) Junco 35; Northern Cardinal 58; Red-winged Blackbird 1; Eastern Meadowlark 13.

House Finch 9; Pine Siskin 6; American Goldfinch 55; House Sparrow 179.

Total species: 55; **Total individuals:** 3,063.

Compiler: Sarah Cromer, PO Box 98, North Tazewell, VA 24630 (scromer@netscope.net).

THE PLAINS. Circle Center: 7 miles northwest of Warrenton on the west side of Watery Mountain along Carter Creek in Fauquier County. 38°48'N 77°52'W.

Field data: Count date: 21 Dec 2003. Times in field: 2 a.m. to 6:30 p.m. Temperature: 25° to 50° F. Skies clear. Field observers: 42 in 11 to 15 parties. Nocturnal birding: 9.5 hours and 46 miles. Total party-hours (excludes nocturnal hours): 150 (105 on foot, 45 by car). Total party-miles (excludes nocturnal miles): 317 (25 on foot, 292 by car).

Species: Great Blue Heron (blue form) 25; Black Vulture 152; Turkey Vulture 461; Canada Goose 9,453; Mute Swan 5; Tundra Swan 18; Gadwall 215; Eurasian Wigeon 1; American Wigeon 148; American Black Duck 113; Mallard 651; Northern Shoveler 2; Northern Pintail 45; American Green-winged Teal 14; Canvasback 2; Ring-necked Duck 1,295; Lesser Scaup 15; Bufflehead 144; Hooded Merganser 92; Common Merganser 287; Ruddy Duck 2; Bald Eagle 16; Northern Harrier 18; Sharp-shinned Hawk 11; Cooper's Hawk 9; *Accipiter*, sp. 1; Red-shouldered Hawk 41; Red-tailed Hawk 88; American Kestrel 18; Merlin 2; Wild Turkey 9; Northern Bobwhite 1; American Coot 1; Killdeer 10; Wilson's Snipe 5; Ring-billed Gull 601; Herring Gull 520; Lesser Black-backed Gull 11; Great Black-backed Gull 61; Rock Dove 255; Mourning Dove 270; Eastern Screech-Owl 10; Great Horned Owl 14; Barred Owl 8; Belted Kingfisher 6; Red-headed Woodpecker 3; Red-bellied Woodpecker 184; Yellow-bellied Sapsucker 81; Downy Woodpecker 132; Hairy Woodpecker 18; Northern (Yellow-shafted) Flicker 111.

Pileated Woodpecker 30; Eastern Phoebe 1; Blue Jay 629; American Crow 904; Fish Crow 55; crow, sp. 12; Common Raven 2; Horned Lark 4; Carolina Chickadee 319; Tufted Titmouse 184; Red-breasted Nuthatch 2; White-breasted Nuthatch 132; Brown Creeper 15; Carolina Wren 117; Winter Wren 7; Golden-crowned Kinglet 53; Ruby-crowned Kinglet 35; Eastern Bluebird 213; Hermit Thrush 25; American Robin 774; Gray Catbird 1; Northern Mockingbird 199; Brown Thrasher 3; European Starling 10,727; American Pipit 2; Cedar Waxwing 392; Yellow-rumped (Myrtle) Warbler 296; Pine Warbler 1; Eastern Towhee 31; American Tree Sparrow 9;

Chipping Sparrow 1; Field Sparrow 92; Savannah Sparrow 5; Fox Sparrow 3; Song Sparrow 481; Swamp Sparrow 25; White-throated Sparrow 1,183; White-crowned Sparrow 77; Dark-eyed (Slate-colored) Junco 1,780; Northern Cardinal 775; Red-winged Blackbird 3,251; Eastern Meadowlark 3; Rusty Blackbird 5; Common Grackle 21,025; Brown-headed Cowbird 42; Purple Finch 46; House Finch 68; American Goldfinch 264; House Sparrow 166.

Total species: 98; **Total individuals:** 60,127.

Compiler: Todd Day, 5118 Beaver Dam Rd., Jeffersonston, VA 22724 (blkvulture@aol.com).

WACHAPREAGUE. Circle Center: Jct. 789 and 715 in Accomack County. 37°40'N 75°42'W.

Field data: Count date: 14 Dec 2003. Times in field: 7:30 a.m. to 4 p.m. Temperature: 43° to 53° F. Wind NE, 20-25 mph. Skies cloudy, heavy rain. Water open. Field observers: 14 in 10 parties. Feeder watchers: 2 for 2 hours. Nocturnal birding: 1 hour and 0.5 mile. Total party-hours (excludes feeder and nocturnal hours): 55 (16 on foot, 39 by car). Total party-miles (excludes nocturnal miles): 331 (13 on foot, 318 by car).

Species: Common Loon 10; Horned Grebe 4; Great Blue Heron (blue form) 26; Great Egret 1; Black Vulture 9; Turkey Vulture 64; Snow Goose (white form) 7,000; Canada Goose 3,622; Tundra Swan 3; Gadwall 16; American Black Duck 30; Mallard 151; American Green-winged Teal 206; Ring-necked Duck 12; Surf Scoter 201; Long-tailed Duck 2; Bufflehead 299; Common Goldeneye 5; Hooded Merganser 63; Common Merganser 2; Red-breasted Merganser 18; Bald Eagle 3 (a); Northern Harrier 4; Sharp-shinned Hawk 3; Cooper's Hawk 3; Red-shouldered Hawk 1; Red-tailed Hawk 5; American Kestrel 8; Merlin 1; Northern Bobwhite 24; Clapper Rail 1; Killdeer 55; Greater Yellowlegs 16; Western Sandpiper 3; Dunlin 220; Short-billed Dowitcher 8; Wilson's Snipe 3; American Woodcock 1; Ring-billed Gull 5,694; Herring Gull 2,279; Great Black-backed Gull 127; gull, sp. 53; Forster's Tern 1; Rock Dove 15; Mourning Dove 373; Eastern Screech-Owl 1; Great Horned Owl 2; Belted Kingfisher 9; Red-bellied Woodpecker 4; Yellow-bellied Sapsucker 1; Downy Woodpecker 5.

Hairy Woodpecker 1; Northern (Yellow-shafted) Flicker 16; Pileated Woodpecker 1; Eastern Phoebe 1; Blue Jay 14; American Crow 346; Fish Crow 222; Carolina Chickadee 57; Tufted Titmouse 14; Brown-headed Nuthatch 2; Carolina Wren 51; Winter Wren 1; Golden-crowned Kinglet 1; Eastern Bluebird 117; Hermit Thrush 3; American Robin 1,428; Gray Catbird 5; Northern Mockingbird 38; Brown Thrasher 1; European Starling 1,169; Cedar Waxwing 7; Yellow-rumped (Myrtle) Warbler 73; Palm Warbler 7; Common Yellowthroat 1; Eastern Towhee 2; Chipping Sparrow 16; Savannah Sparrow 4; Saltmarsh Sharp-tailed Sparrow 7; Fox Sparrow 2; Song Sparrow 25; Swamp Sparrow 1; White-throated Sparrow 306; Dark-eyed (Slate-colored) Junco 586; Northern Cardinal 82; Red-winged Blackbird 1,240; Eastern Meadowlark 59; Common Grackle 23; Boat-tailed Grackle 20; Brown-headed Cowbird 261; small blackbird, sp. 170; Purple Finch 1; House Finch 26; Pine Siskin 1; American Goldfinch 83; House Sparrow 10.

Total species: 94; **Total individuals:** 27,168.

Compilers: Irvin and Marilyn Ailes, 6479 Myrtle Lane, Chincoteague, VA 23336-3825 (imailes@intercom.net).

WALKERTON. Circle Center: 1.5 miles southwest of Walkerton bridge, just west of Whitebank. 37°46'N 77°02'W.

Field data: Count date: 5 Jan 2004. Times in field: 5 a.m. to 5:45 p.m. Temperature: 40° to 73° F. Skies clear. Field observers: 30 in 5 to 10 parties. Nocturnal birding: 6.5 hours and 9 miles. Total party-hours (excludes nocturnal hours): 101.75 (45 on foot, 50.25 by car, 6.5 by motorized boat). Total party-miles (excludes nocturnal miles): 484 (46 on foot, 408 by car, 30 by motorized boat).

Species: Pied-billed Grebe 6; Double-crested Cormorant 38; Great Blue Heron (blue form) 34; **Great Egret** 2; Black Vulture 151; Turkey Vulture 501; Canada Goose 4,278; Tundra Swan 52; Wood Duck 10; Gadwall 38; American Wigeon 10; American Black Duck 92; Mallard 201; Northern Pintail 307; American Green-winged Teal 81; Ring-necked Duck 348; Lesser Scaup 9; Bufflehead 50; Common Goldeneye 5; Hooded Merganser 66; Common Merganser 45; Red-breasted Merganser 4; Ruddy Duck 1; Bald Eagle 35 (27a, 8i); Northern Harrier 7; Sharp-shinned Hawk 8; Cooper's Hawk 2; Red-shouldered Hawk 16; Red-tailed Hawk 32; **Golden Eagle** 1; American Kestrel 13; Wild Turkey 7; Northern Bobwhite 9; American Coot 8; Killdeer 322; Greater Yellowlegs 33; Lesser Yellowlegs 2; peep, sp. 8; Wilson's Snipe 81; American Woodcock 6; Ring-billed Gull 460; Herring Gull 2; gull, sp. 4; Rock Dove 21; Mourning Dove 732; Eastern Screech-Owl 5; Great Horned Owl 2; Barred Owl 7; Belted Kingfisher 23; Red-headed Woodpecker 8; Red-bellied Woodpecker 83.

Yellow-bellied Sapsucker 27; Downy Woodpecker 52; Hairy Woodpecker 26; Northern (Yellow-shafted) Flicker 166; Pileated Woodpecker 38; Eastern Phoebe 14; Blue Jay 142; American Crow 469; crow, sp. 25; Horned Lark 92; Carolina Chickadee 90; Tufted Titmouse 78; Red-breasted Nuthatch 1; White-breasted Nuthatch 26; Brown Creeper 10; Carolina Wren 137; **House Wren** 1; Winter Wren 9; Golden-crowned Kinglet 41; Ruby-crowned Kinglet 29; Eastern Bluebird 166; Hermit Thrush 24; American Robin 1,047; Gray Catbird 4; Northern Mockingbird 52; Brown Thrasher 12; European Starling 517; American Pipit 229; Cedar Waxwing 357; Yellow-rumped (Myrtle) Warbler 150; Eastern Towhee 50; Chipping Sparrow 10; Field Sparrow 29; Savannah Sparrow 55; Fox Sparrow 4; Song Sparrow 352; Swamp Sparrow 36; White-throated Sparrow 1,007; White-crowned Sparrow 5; Dark-eyed (Slate-colored) Junco 762; Northern Cardinal 221; Red-winged Blackbird 8,196; Eastern Meadowlark 161; Rusty Blackbird Common Grackle 23,064; Brown-headed Cowbird 54; blackbird, sp. 5,000; House Finch 16; American Goldfinch 146; House Sparrow 8.

Total species: 97; **Total individuals:** 51,473.

Compiler: Fred Atwood, Flint Hill School, 10409 Academic Dr., Oakton, VA 22124 (fredatwood@yahoo.com).

WARREN. Circle Center: At Keene in Albemarle County. 37°51'N 78°33'W.

Field data: Count date: 21 Dec 2003. Times in field: 6:15 a.m. to 5:30 p.m. Temperature: 19° to 48° F. Skies clear. Water open. Field observers: 26 in 13 parties. Nocturnal birding: 1.25 hours and 6 miles. Total party-hours (excludes nocturnal hours): 100.75 (79.75 on foot, 21 by car). Total party-miles (excludes nocturnal miles): 191 (69 on foot, 122 by car).

Species: Pied-billed Grebe 1; Great Blue Heron (blue form) 5; Black Vulture 76; Turkey Vulture 195; Snow Goose (white form) 7; Canada Goose 2,271; Mute Swan 25; Wood Duck 1; American Black Duck 4; Mallard 21; Ring-necked Duck 5; Common Goldeneye 3; Hooded Merganser 1; Northern Harrier 19; Sharp-shinned Hawk 6; Cooper's Hawk 5; Red-shouldered Hawk 6; Red-tailed Hawk 46; American Kestrel 8; Merlin 1; Wild Turkey 1; Northern Bobwhite 5; Killdeer 12; Wilson's Snipe 1; Rock Dove 165; Mourning Dove 241; Great Horned Owl 2; Barred Owl 1; Belted Kingfisher 7; Red-bellied Woodpecker 83; Yellow-bellied Sapsucker 48; Downy Woodpecker 46; Hairy Woodpecker 7; Northern (Yellow-shafted) Flicker 36; Pileated Woodpecker 24; Eastern Phoebe 4; Blue Jay 185; American Crow 687; Common Raven 9; Carolina Chickadee 129; Tufted Titmouse 74; Red-breasted Nuthatch 1; White-breasted Nuthatch 38; Brown Creeper 7; Carolina Wren 71; Winter Wren 6; Golden-crowned Kinglet 54; Ruby-crowned Kinglet 39; Eastern Bluebird 166; Hermit Thrush 38.

American Robin 715; Northern Mockingbird 81; Brown Thrasher 1; European Starling 1,177; Cedar Waxwing 168; Yellow-rumped (Myrtle) Warbler 193; Eastern Towhee 10; American Tree Sparrow 1; Chipping Sparrow 5; Field Sparrow 127; Savannah Sparrow 2; Fox Sparrow 8; Song Sparrow 458; Swamp Sparrow 43; White-throated Sparrow 1,121; White-crowned Sparrow 52; Dark-eyed (Slate-colored) Junco 698; Northern Cardinal 306; Red-winged Blackbird 2; Eastern Meadowlark 85; Rusty Blackbird 26; Common Grackle 1; Brown-headed Cowbird 42; Purple Finch 50; House Finch 13; American Goldfinch 218; House Sparrow 12.

Total species: 77; **Total individuals:** 10,508.

Compiler: Charles Stevens, 615 Preston Place, Charlottesville, VA 22903.

Participants: Dan Bieker, Peter Brask, Amoret Bruguere, Jim Childress, Bruce Davenport, Boo Dulaney, Peter Dutnell, Ike Eichelkraut, Sonya Eichelkraut, Allen Hale, Ruth Klippstein, Tom Klippstein, Ken Lawless, Leslie Mehring, Peter Mehring, Ryan Mehring, Lynn Merhib, Hewson Michie, Bill Minor, Maureen Minor, Jim Nix, Tim O'Kame, Charles Stevens, Lew Turner, Dave West, and John Zimmerman.

WASHINGTONS BIRTHPLACE. Circle Center: Horners in Westmoreland County. 38°07'N 76°57'W.

Field data: Count date: 20 Dec 2003. Times in field: 5:30 a.m. to 5:45 p.m. Temperature: 25° to 38° F. Wind: N, 10-20 mph. AM clear. PM partly cloudy. Still water partly frozen, moving water open. Field observers: 13 in 7 to 9 parties. Nocturnal birding: 1.75 hours and 6 miles. Total party-hours (excludes nocturnal hours): 48.5 (22 on foot, 22 by car, 4.5 by motorized boat). Total party-miles (excludes nocturnal miles): 310 (14 on foot, 226 by car, 70 by motorized boat).

Species: Red-throated Loon 2; Common Loon 2; Double-crested Cormorant 33; Great Blue Heron (blue form) 16; **Green Heron 1**; Black Vulture 62; Turkey Vulture 136; Canada Goose 7,377; Tundra Swan 298; Wood Duck 24; Gadwall 180; American Wigeon 4; American Black Duck 335; Mallard 635; American Green-winged Teal 4; Canvasback 738; Ring-necked Duck 1; Greater Scaup 10; Lesser Scaup 2,600; Surf Scoter 6; Long-tailed Duck 2; Bufflehead 192; Common Goldeneye 88; Hooded Merganser 106; Common Merganser 123; Red-breasted Merganser 67; Ruddy Duck 796; Bald Eagle 79 (59a, 20i); Northern Harrier 15; Sharp-shinned Hawk 4; *Accipiter*, sp. 1; Red-shouldered Hawk 2; Red-tailed Hawk 28; American Kestrel 3; Wild Turkey 10; Northern Bobwhite **47**; Killdeer 17; Wilson's Snipe 5; Ring-billed Gull 402; Herring Gull 7; Great Black-backed Gull 2; Mourning Dove 266; Barn Owl 1; Eastern Screech-Owl 3; Great Horned Owl 5; Barred Owl 5; Belted Kingfisher 5; Red-headed Woodpecker 2; Red-bellied Woodpecker 40; Yellow-bellied Sapsucker 18; Downy Woodpecker 17; Hairy Woodpecker 5.

Northern (Yellow-shafted) Flicker 54; Pileated Woodpecker 8; Eastern Phoebe 5; Blue Jay 101; American Crow 400; Horned Lark 2; Carolina Chickadee 19; Tufted Titmouse 36; Red-breasted Nuthatch 2; White-breasted Nuthatch 16; Brown Creeper 3; Carolina Wren 34; Winter Wren 3; Golden-crowned Kinglet 45; Ruby-crowned Kinglet 21; Eastern Bluebird 70; Hermit Thrush 7; American Robin 208; Gray Catbird 1; Northern Mockingbird 25; Brown Thrasher 1; European Starling 278; American Pipit 31; Cedar Waxwing 220; Yellow-rumped (Myrtle) Warbler 40; Pine Warbler 1; Eastern Towhee 23; Chipping Sparrow 2; Field Sparrow 20; Savannah Sparrow 19; Song Sparrow 190; Swamp Sparrow 21; White-throated Sparrow 423; White-crowned Sparrow 16; Dark-eyed (Slate-colored) Junco 343; Northern Cardinal 81; Red-winged Blackbird 1,415; Eastern Meadowlark **129**; Common Grackle 5; Brown-headed Cowbird 12; Purple Finch 9; American Goldfinch 59; House Sparrow 2.

Total species: 93; **Total individuals:** 19,227.

Compiler: William Portlock, 23195 Mt. Cloud Rd., Bowling Green, VA 22427 (portlock@bealenet.com).

WAYNESBORO. Circle Center: Sherando at Jct. 610 and 664 in Augusta County. 37°59'N 78°57'W.

Field data: Count date: 3 Jan 2004. Times in field: 7:30 a.m. to 5:45 p.m. Temperature: 45° to 72° F. Wind 0-10. AM clear. PM partly cloudy. Water open. Field observers: 33 in 9 to 10 parties. Hours at feeders: 1. Nocturnal birding: 1.5 hours and 11 miles. Total party-hours (excludes nocturnal and feeder hours): 66.5 (23 on foot, 43.5 by car). Total party-miles (excludes nocturnal miles): 473.5 (14.5 on foot, 459 by car).

Species: Great Blue Heron (blue form) 3; Black-crowned Night-Heron 1; Black Vulture **110**; Turkey Vulture 348; Canada Goose **792**; American Black Duck 6; Mallard 174; American Green-winged Teal 24; Bufflehead 1; Hooded Merganser 1; Northern Harrier 2; Sharp-shinned Hawk 2; Cooper's Hawk 2; Red-shouldered Hawk 2; Red-tailed Hawk 34; American Kestrel 6; Wild Turkey 8; American Coot

3; Killdeer 12; Rock Dove 272; Mourning Dove 329; Great Horned Owl 1; Barred Owl 1; Belted Kingfisher 8; Red-headed Woodpecker 1; Red-bellied Woodpecker 45; Yellow-bellied Sapsucker 12; Downy Woodpecker 30; Hairy Woodpecker 4; Northern (Yellow-shafted) Flicker 26; Pileated Woodpecker 14; Eastern Phoebe 2; Blue Jay 138; American Crow 358; Fish Crow 3; Common Raven 3; Horned Lark 47; Carolina Chickadee 158; Tufted Titmouse 113; Red-breasted Nuthatch 5; White-breasted Nuthatch 56; Brown Creeper 2; Carolina Wren 68; Winter Wren 1; Golden-crowned Kinglet 15; Ruby-crowned Kinglet 13; Eastern Bluebird 47; Hermit Thrush 4; American Robin 58; Northern Mockingbird 52.

Brown Thrasher 1; European Starling 1,108; Cedar Waxwing 217; Yellow-rumped (Myrtle) Warbler 28; Pine Warbler 1; Eastern Towhee 2; American Tree Sparrow 1; Chipping Sparrow 1; Field Sparrow 21; Savannah Sparrow 5; Fox Sparrow 2; Song Sparrow 177; **Lincoln's Sparrow** 2; Swamp Sparrow 13; White-throated Sparrow 344; White-crowned Sparrow 184; Dark-eyed (Slate-colored) Junco 322; Northern Cardinal 156; Eastern Meadowlark 31; Common Grackle 1; Purple Finch 21; House Finch 52; **Common Redpoll** 1; American Goldfinch 126; House Sparrow 203.

Total species: 75; **Total individuals:** 6,437.

Compiler: Crista Cabe, 404 DuPont Ave., Staunton, VA 24401 (ccabe@mbc.edu).

WILLIAMSBURG. Circle Center: Colonial Williamsburg Information Center in Williamsburg. 37°17'N 76°42'W.

Field data: Count date: 14 Dec 2003. Times in field: 7 a.m. to 4:30 p.m. Temperature: 38° to 45° F. Wind W, 10-15 mph. AM cloudy, heavy rain. PM cloudy, light rain. Water open. Field observers: 23 in 9 parties. Total party-hours: 45.25 (24.25 on foot, 21 by car). Total party-miles: 198 (13 on foot, 185 by car).

Species: Common Loon 5; Pied-billed Grebe 17; Horned Grebe 5; Brown Pelican 14; Double-crested Cormorant 679; Great Blue Heron (blue form) 43; Great Egret 17; Black Vulture 1; Turkey Vulture 122; Canada Goose 565; Mute Swan 27; Tundra Swan 35; Gadwall 24; American Wigeon 4; American Black Duck 18; Mallard 148; American Green-winged Teal 16; Canvasback 63; Redhead 2; Ring-necked Duck 698; Lesser Scaup 1; Bufflehead 67; Common Goldeneye 2; Hooded Merganser 245; Red-breasted Merganser 32; Ruddy Duck 1,603; Bald Eagle 10 (a); Northern Harrier 1; Sharp-shinned Hawk 1; Cooper's Hawk 1; Red-shouldered Hawk 5; Red-tailed Hawk 7; American Kestrel 3; Wild Turkey 27; Northern Bobwhite 6; Clapper Rail 1; American Coot 38; Killdeer 10; Greater Yellowlegs 12; Dunlin 1; Wilson's Snipe 1; American Woodcock 1; Bonaparte's Gull 2; Ring-billed Gull 221; Herring Gull 6; Great Black-backed Gull 43; Forster's Tern 5; Rock Dove 254; Mourning Dove 169; Great Horned Owl 2.

Rufous Hummingbird 1; Belted Kingfisher 11; Red-bellied Woodpecker 25; Yellow-bellied Sapsucker 8; Downy Woodpecker 8; Hairy Woodpecker 3; Northern (Yellow-shafted) Flicker 29; Pileated Woodpecker 8; Eastern Phoebe 2; Blue Jay 47; American Crow 85; Carolina Chickadee 47; Tufted Titmouse 39; White-breasted

Nuthatch 19; Brown-headed Nuthatch 3; Brown Creeper 3; Carolina Wren 36; Winter Wren 4; Golden-crowned Kinglet 9; Ruby-crowned Kinglet 35; Eastern Bluebird 70; Hermit Thrush 5; American Robin 229; Northern Mockingbird 31; Brown Thrasher 7; European Starling 738; American Pipit Cedar Waxwing 93; Yellow-rumped (Myrtle) Warbler 83; Eastern Towhee 20; American Tree Sparrow 1; Chipping Sparrow 138; Field Sparrow 35; **Lark Sparrow 1**; Savannah Sparrow 34; Fox Sparrow 42; Song Sparrow 178; Swamp Sparrow 54; White-throated Sparrow 217; Dark-eyed (Slate-colored) Junco 510; Northern Cardinal 128; Red-winged Blackbird 1,494; Eastern Meadowlark 20; Rusty Blackbird 3; Common Grackle 1,557; Brown-headed Cowbird 108; House Finch 18; American Goldfinch 59; House Sparrow 23.

Total species: 98; **Total individuals:** 11,598.

Compiler: Bill Holcombe, 4705 Lady Slipper Path, Williamsburg, VA 23188 (bowljack@aol.com).

WISE COUNTY. Circle Center: At Dorchester in Norton City. 36°57'N 82°39'W.

Field data: Count date: 20 Dec 2003. Times in field: 7:30 a.m. to 4 p.m. Temperature: 20° to 25° F. Wind SE, 0-20 mph. Skies cloudy, light snow. Snow depth: 1 inch. Still water partly frozen, moving water open. Field observers: 11 in 6 parties. Feeder watchers: 1. Total party-hours: 29.75 (13.5 on foot, 16.25 by car). Total party-miles: 114 (10 on foot, 104 by car).

Species: Mallard 2; **Lesser Scaup 6**; Sharp-shinned Hawk 2; Cooper's Hawk 2; Red-shouldered Hawk 3; Red-tailed Hawk 1; American Kestrel 3; Killdeer 3; Bonaparte's Gull 4; Rock Dove 32; Mourning Dove 18; Belted Kingfisher 1; Red-bellied Woodpecker 10; Yellow-bellied Sapsucker 2; Downy Woodpecker 16; Hairy Woodpecker 1; Northern (Yellow-shafted) Flicker 2; Pileated Woodpecker 9; Blue Jay 54; American Crow 549; Common Raven 5; Horned Lark 2; Carolina Chickadee 75; Tufted Titmouse 57; White-breasted Nuthatch 15; Carolina Wren 26; Winter Wren 2; Golden-crowned Kinglet 2; Ruby-crowned Kinglet 3; Eastern Bluebird 6; Hermit Thrush 4; American Robin 37; Northern Mockingbird 8; European Starling 219; Cedar Waxwing 5; Yellow-rumped (Myrtle) Warbler 1; Eastern Towhee 12; Song Sparrow 63; White-throated Sparrow 64; Dark-eyed (Slate-colored) Junco 135; Northern Cardinal 59; Purple Finch 9; House Finch 2; American Goldfinch 83; House Sparrow 35.

Total species: 45; **Total individuals:** 1,649.

Compiler: Randy Stanley, 2432 Egan Rd., Big Stone Gap, VA 24219 (randyst@compunet.net).

COMBINED TOTALS. All counts above are included. Bold face indicates state Christmas count record high counts.

Field data: Field observers: 1,355. Field parties: minimum 478, maximum 555. Feeder watchers: 58 for 127 hours. Nocturnal birding: 689.25 hours and 931.25 miles. Total party-hours (excludes feeder and nocturnal hours): 3,786.25 (2,202.25 on foot, 1,538 by car, 46 hours by boat, [33 by motorized and 13 by non-motorized]). Total party-miles (excludes nocturnal miles): 14,333 (1,571.75 on foot, 12,616.75 by car, 144.5 by boat [119 motorized, 32.5 non-motorized]).

Species: Red-throated Loon 10,267; Pacific Loon 3; Common Loon 968; Pied-billed Grebe 323; Horned Grebe 538; Red-necked Grebe 5; Western Grebe 1; Clark's Grebe 1; Northern Gannet 3,297; American White Pelican CW; Brown Pelican 310; Double-crested Cormorant 5,700; Great Cormorant 85; Anhinga 1; American Bittern 4; Great Blue Heron (blue form) 1,463; Great Egret 180; Snowy Egret 9; Little Blue Heron 1; Tricolored Heron 6; Cattle Egret 1; Green Heron 3; Black-crowned Night-Heron 33; White Ibis 1; Glossy Ibis 1; Black Vulture 2,959; Turkey Vulture 7,256; Greater White-fronted Goose 1; Snow Goose (blue form) 1,384; Snow Goose (white form) 35,499; Ross's Goose 2; Canada Goose 85,697; Brant 6,525; Mute Swan 139; Tundra Swan 3,363; Wood Duck 687; Gadwall 4,021; Eurasian Wigeon 1; American Wigeon 2,303; American Black Duck 5,559; Mallard 15,991; Blue-winged Teal 8; Northern Shoveler 2,033; Northern Pintail 4,165; American Green-winged Teal 2,278; Canvasback 2,321; Redhead 143; Ring-necked Duck 4,727; Greater Scaup 58; Lesser Scaup 13,659; scaup, sp. 197; King Eider 2; Common Eider 11.

Harlequin Duck 2; Surf Scoter 4,903; White-winged Scoter 91; Black Scoter 550; scoter, sp. 520; Long-tailed Duck 317; Bufflehead 6,995; Common Goldeneye 262; Hooded Merganser 2,816; Common Merganser 1,849; Red-breasted Merganser 2,520; Ruddy Duck 8,738; Osprey 11; Bald Eagle 500; Bald Eagle (age) 314a, 140i, 2u, 44x; Northern Harrier 309; Sharp-shinned Hawk 209; Cooper's Hawk 143; *Accipiter*, sp. 10; Red-shouldered Hawk 317; Red-tailed Hawk 1,321; Rough-legged Hawk 8; *Buteo*, sp. 6; large hawk, sp. 2; Golden Eagle 5; Golden Eagle (age) 1a, 3i, 1x; eagle, sp. 1; American Kestrel 454; Merlin 21; Peregrine Falcon 16; Ring-necked Pheasant 1; Ruffed Grouse 17; Wild Turkey 615; Northern Bobwhite 188; Clapper Rail 60; King Rail 32; Virginia Rail 23; Sora 1; Common Moorhen 1; American Coot 745; Black-bellied Plover 239; Semipalmated Plover 3; Piping Plover 2; Killdeer 860; plover, sp. 2; American Oystercatcher 318; American Avocet 1; Greater Yellowlegs 384; Lesser Yellowlegs 49; Willet 61; Spotted Sandpiper 5; Ruddy Turnstone 63; Red Knot 3; Sanderling 2,523; Western Sandpiper 527; Least Sandpiper 9; Purple Sandpiper 80; Dunlin 5,866; peep, sp. 358.

Short-billed Dowitcher 42; Wilson's Snipe 287; American Woodcock 82; Laughing Gull 906; Little Gull 1; Bonaparte's Gull 1,782; Ring-billed Gull 102,476; California Gull CW; Herring Gull 21,757; Iceland Gull 1; Lesser Black-backed Gull 38; Great Black-backed Gull 3,019; **Sabine's Gull 1**; Black-legged Kittiwake 1; gull, sp. 2,009; Royal Tern 4; Forster's Tern 523; Black Skimmer 2; Rock Dove 11,913; **Eurasian Collared-Dove 1**; Mourning Dove 13,434; Barn Owl 8; Eastern Screech-Owl 231; Great Horned Owl 163; Barred Owl 104; Short-eared Owl 8; Northern Saw-whet Owl 3; large owl, sp. 1; owl, sp. 2; **Ruby-throated Hummingbird 1**; Rufous Hummingbird 2; Selasphorus, sp. 3; Belted Kingfisher 576; Red-headed Woodpecker 132; Red-bellied Woodpecker 3,074; Yellow-bellied Sapsucker 849; Downy Woodpecker 2,281; Hairy Woodpecker 439; Northern (Yellow-shafted) Flicker 2,438; Pileated Woodpecker 986; Eastern Phoebe 159; Loggerhead Shrike 14; Blue-headed Vireo 19; Blue Jay 7,604; American Crow 18,248; Fish Crow 1,628; crow, sp. 1,265; Common Raven 190; Horned Lark 1,225; Tree Swallow 131; Carolina Chickadee 6,815; Black-capped Chickadee 110; chickadee, sp. 162; Tufted Titmouse

4,297; Red-breasted Nuthatch 75; White-breasted Nuthatch 2,141; Brown-headed Nuthatch 159.

Brown Creeper 358; Carolina Wren 4,065; House Wren 43; Winter Wren 342; Sedge Wren 24; Marsh Wren 26; Golden-crowned Kinglet 1,540; Ruby-crowned Kinglet 928; Eastern Bluebird 5,254; Hermit Thrush 620; American Robin 39,290; Gray Catbird 89; Northern Mockingbird 2,743; Brown Thrasher 162; European Starling 142,008; American Pipit 1,648; Cedar Waxwing 6,808; Orange-crowned Warbler 14; Yellow-rumped (Myrtle) Warbler 7,887; Pine Warbler 84; Palm Warbler 125; Common Yellowthroat 17; Yellow-breasted Chat 2; Eastern Towhee 934; American Tree Sparrow 184; Chipping Sparrow 818; Clay-colored Sparrow CW; Field Sparrow 1,551; *Spizella*, sp. 1; Vesper Sparrow 8; Lark Sparrow 1; Savannah Sparrow 968; Savannah (Ipswich) Sparrow 11; Nelson's Sharp-tailed Sparrow 15; Saltmarsh Sharp-tailed Sparrow 12; sharp-tailed sparrow, sp. 5; Seaside Sparrow 9; Fox Sparrow 466; Song Sparrow 9,095; Lincoln's Sparrow 4; Swamp Sparrow 1,228; White-throated Sparrow 21,902; Harris's Sparrow 2; White-crowned Sparrow 3,015; sparrow, sp. 35; Dark-eyed (Slate-colored) Junco 1; Dark-eyed (Oregon) Junco 20,873; Lapland Longspur 18; Snow Bunting 4; Northern Cardinal 9,485; Dickcissel 1; Red-winged Blackbird 48,002; Eastern Meadowlark 1,352; Rusty Blackbird 811; Brewer's Blackbird 8; Common Grackle 67,479.

Boat-tailed Grackle 1,510; Brown-headed Cowbird 3,628; blackbird, sp. 6,239; small blackbird, sp. 170; Baltimore Oriole 3; Purple Finch 1,142; House Finch 3,022; *Carpodacus*, sp. 1; Red Crossbill 9; Common Redpoll 95; redpoll, sp. 1; Pine Siskin 123; American Goldfinch 7,060; Evening Grosbeak 3; House Sparrow 4,05.

Total species: 211; Total individuals: 913,383.

THE 2003 BEACH-NESTING AND COLONIAL WATERBIRDS SURVEY OF THE VIRGINIA BARRIER ISLANDS

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For the twenty-ninth consecutive year we completed a beach-nesting and colonial waterbirds survey of all the Virginia barrier islands, with the exception of Parramore Island, from Assawoman Island on the north through Fishermans Island on the south. Field strategies adhered to protocols previously described (Williams et al. 1990). Information gathered during this 15-18 June survey was incorporated into a comprehensive Virginia colonial waterbirds survey coordinated by the Center for Conservation Biology of the College of William and Mary.

The spring of 2003 was widely regarded as the coolest and wettest on record, contributing to late nesting for many of the surveyed species (B. Truitt pers. comm.). Particularly acute were flood tides 13-14 June that inundated marshes and low beaches destroying the breeding attempts of most ground and marsh nesting species. As a result, Truitt observed Laughing Gulls *Larus atricilla* still incubating in mid-July. The effects on the reproductive success of the bird populations from the wet weather systems that persisted throughout the summer remain largely speculative. Table 1 provides an island-by-island summary of the 2003 survey data.

Raccoon depredations of nest sites early in the season were directly responsible for an almost 50% reduction in the number of nesting Brown Pelicans *Pelecanus occidentalis* at their only barrier islands colony site on the northeast corner of Fishermans Island. The previous all time high count of 1892 in 2002 (Williams et al. 2003) was reduced to 952.

Nesting Double-crested Cormorants *Phalacrocorax auritus* were once again found on Chimney Pole Marsh, where they have successfully bred since 1998 (Williams et al. 2000). Observations on 18 June of the 10 nests revealed the following: 3 nests with 3 downy young, 3 nests with 2 downy young, 1 nest with 4 eggs, 1 nest with 2 eggs, 1 nest with 4 eggs and 1 downy young, and 1 nest with 3 eggs and 2 downy young.

For the first time since 1992 (Williams et al. 1993) the survey encountered no Great Blue Heron *Ardea herodias* breeding activity. During this 11-year period barrier islands reproductive efforts for this species were confined to Fishermans Island with maximum numbers of 38 in 1996 (Williams et al. 1997) and 32 in 2000 (Williams et al. 2001b). Numbers for this species had been declining during the previous 2 surveys (Williams et al. 2002, 2003). The history of nesting Great Blue Herons on the barrier islands is unclear at best. Bailey (1913) stated that "Large rookeries of these birds formerly were found on some of the islands off the coast...". That assessment was probably based on two reports, one from May 1875 by H. B. Bailey (1876) that described two Great Blue heronries on Mockhorn Island, one with 50 nests, and another from May 1889 (Richards 1891) which recounts an egg collecting trip in a Great Blue Heron colony in a pine forest on Smith Island, the island immediately north of Fishermans Island. Subsequently, until 1992, there was no further evidence of Great Blue Heron breeding activity within the barrier islands complex.

Numbers of Great Egrets *Ardea alba*, Snowy Egrets *Egretta thula*, Little Blue Herons *E. caerulea*, and Tricolored Herons *E. tricolor* remained consistent with those of recent surveys (Williams et al. 2000, 2001a, 2001b, 2002). Cattle Egrets *Bubulcus ibis*, on the other hand, remained significantly low for a second consecutive year (Williams et al. 2003) with only 4 birds detected compared to 104 counted as recently as 2000 (Williams et al. 2001b). Of interest, were increases in the numbers of Black-crowned Night-Herons *Nycticorax nycticorax* from 158 in 2002 to 368, and Glossy Ibis *Plegadis falcinellus* from 83 to 138 (Williams et al. 2003). Of great interest and curiosity was an adult Great Egret with an all black bill photographed by Via in the Chimney Pole Marsh heron colony 18 June.

The beach-nesting plover species exhibited no changes in their respective count totals from the previous year (Williams et al. 2003). One hundred percent of the Wilson's Plovers *Charadrius wilsonia* were found on the 3 northernmost islands Assawoman, Metompkin, and Cedar. Of the 146 Piping Plovers *C. melodus* observed 131, 90% of the total, were on those 3 islands. An additional 5 were on Ship Shoal Island and 10 were found on Myrtle Island.

American Oystercatchers *Haematopus palliatus* posted a healthy 29% increase over their 2002 totals (Williams et al. 2003) from 422 to 546, a positive trend that hopefully will be sustained.

Laughing Gull figures for this year were the lowest in the survey's history, an obvious result of the immediate effects of the 13-14 June marsh flooding mentioned above. It should be noted that the number of birds of this species nesting on the Hampton Roads Bridge Tunnel this summer increased dramatically (R. Beck pers. comm.). Though Herring Gull *L. argentatus* numbers were consistent with past counts, Great Black-backed Gulls *L. marinus* declined by 29% from their all-time high count of 667 in 2002 (Williams et al. 2003) to 466.

Gull-billed Terns *Sterna nilotica* declined from 200 in 2002 (Williams et al. 2003) to 52, the fourth lowest for this species count in the history of the survey. The species' nesting activities were found only on Cedar and Wreck islands. For the seventh consecutive year no nesting Caspian Terns *S. caspia* were observed. Counts of Royal *S. maxima* and Sandwich *S. sandvicensis* terns were comparable to past surveys. Though the number of Common Terns *S. hirundo* found this year (588) was virtually unchanged from 2002 (581) (Williams et al. 2003) it was significantly less than the 25 year survey mean of 3124 (Williams et al. 2000). The marsh nesting behavior of Forster's Terns *S. forsteri* always presents a challenge for detecting them especially after repetitive episodes of tidal flooding. Thus, it was noteworthy to discover 3 colonies totaling 137 birds on Mink Island, and a group of 5 on Little Cobb Island. After 4 successive years of increases (Williams et al. 2000, 2001a, 2001b, 2002), Least Terns *S. antillarum* took a step backwards declining by 37% from 538 in 2002 to 341.

Black Skimmer *Rynchops niger* numbers remained relatively unchanged from the 2 previous surveys (Williams et al. 2002, 2003), a situation that reinforces a belief this species may have stabilized after a period of significant declines.

The list of notable bird species seen during the survey was highlighted by 7 Lesser Black-backed Gulls *L. fuscus*, 4 adult and 3 second summer individuals, on Fishermans Island 15 June.

The survey also produced observations of a variety of seabirds including a Common Loon *Gavia immer* off Cedar Island 17 June, and 13 Wilson's Storm-Petrels *Oceanites oceanicus*, 10 off Fishermans Island 15 June, 1 in New Inlet between Ship Shoal and Myrtle islands 16 June, and 2 in Sand Shoal Inlet between Wreck and Cobb islands also on 16 June. Northern Gannets *Sula bassana* were noted with 2 off Fishermans Island 15 June, and 3 off Smith Island 16 June. Two dead Northern Gannets were found; 1 immature on Smith Island and one adult on Little Cobb Island. Two scoter species were recorded including 2 Black Scoters *Melanitta nigra* off Myrtle Island 16 June, and 2 Surf Scoters *M. perspicillata* off Smith Island 16 June and 1 off Metompkin Island 17 June. Sightings of Red-breasted Mergansers *Mergus serrator* were as follows: 2 on Fishermans Island 15 June, 2 near Mink Island 16 June, 1 off Chimney Pole Marsh 18 June, and 2 the same day on Sandy Island.

Black-bellied Plovers *Pluvialis squatarola* were widespread and much in evidence attested by the following counts: 6 on Smith Island 16 June, 8 on Myrtle and 12 on Ship Shoal islands the same day, 42 on Cedar Island 17 June, 30 on Hog Island 18 June, and 43 on Sandy Island also 18 June.

It is always a treat to find the cryptically concealed nests of Willets *Catoprophorus semipalmatus*. This year proved to be quite productive in that regard with 1 nest containing 3 eggs 16 June on Cobb Island, 2 nests on Cedar Island 1 with 2 eggs and another with 4 eggs 17 June, two 4-egg nests on Metompkin Island 17 June, and 1 nest with 4 eggs on Assawoman Island 17 June.

Two Whimbrels *Numenius phaeopus* were observed 16 June on Smith Island and 1 was noted on Cedar Island 17 June. Three Marbled Godwits *Limosa fedoa* were on Smith Island 16 June. A total of 39 Red Knots *Calidris canutus* was tallied with 33 on Cedar Island 17 June, 4 on Hog Island 18 June, and 2 on Sandy Island 18 June. A single White-rumped Sandpiper *Calidris fuscicollis* was on Metompkin Island 17 June. Counts of Short-billed Dowitchers *Limnodromus griseus* were: 40 and 13 on Ship Shoal and Mink islands respectively 16 June.

ACKNOWLEDGEMENTS

We are extremely grateful for the exceedingly competent help and support we receive from Barry Truitt before, during, and after the survey work. Anne Truitt was an exceptional host for our Brownsville accommodations. Susan Rice graciously granted us access to Fishermans Island National Wildlife Refuge, and Tom granted us permission to survey Assawoman Island.

Susan Rice graciously granted us access to Fishermans Island National Wildlife Refuge. We are grateful to the staff of Chincoteague National Wildlife Refuge for granting us access to Assawoman and Metompkin Islands, and to Dot Field for allowing us to census Wreck Island.

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Table 1. Census counts of bird species on Virginia barrier islands. Islands listed in the table include Assawoman Island, Metomkin Island, Cedar Island, Dawson Shoals, Parramore Island, Sandy Island, Chimney Pole Marsh, Hog Island, Rogue Island, Cobb Island, Little Cobb Island, Wreck Island, Ship Shoal Island, Godwin Island, Mink Island, Myrtle Island, Smith Island, Fishermans Island. Species abbreviations follow standard USGS Bird Banding Laboratory codes.

Virginia Barrier Islands Beach-nesting and Colonial Waterbirds Survey-15-18 June 2003

	Asa	Metom	Cedar	Das Shl	Parra	Sandy	Chm Pol	Hog	Rogue	Cobb Isl.	Wreck	Shp Shl	Gdwn	Mink	Myrtle	Smith	Fisher	Total
BRPE																	952	952
DCCO							20											20
GBIE																		0
GREG							89			120	77							286
SNEG							60			48	43							151
LBHE										6	51							57
TRIE							51			33	195							279
CAEG							2				2							4
GRHE																		0
BCNH										43	325							368
YCNH										2								2
WHIB										45	32							77
GLJB							42			34	62							138
NOHA																		0
WIPL	10	16	15									5			10			41
PIPL	20	61	50												22	17	52	146
AMOY	9	151	81			31	15	18		20	22	70	38					546
LACU										6	1695							1701
HEGU		46				541	211			233	303	617					773	2724
GBBG		3				53	61			28	54	197					70	466
GBTE											28							52
CATE			24															0
ROTE											203						1855	2058
SATE											4						3	7
COTE	8	21	215			12					332							588
FOTE														137				142
LETE	42	93	96							12	34	34			28	2		341
BLSK	28		1037			2					522							1589

ANNUAL REPORT OF THE VIRGINIA AVIAN RECORDS COMMITTEE

Susan A. Heath
VARCOM Secretary

The following decisions were made by the Virginia Avian Records Committee during calendar year 2003. 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.
- 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.
- Category 4. Records that are judged to be acceptable by historical standards but that may not meet current standards of acceptance. Includes extinct species that once occurred in Virginia, for which there is no clear written or physical evidence (e.g., Eskimo Curlew).
- 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 Mute Swan, Rock Pigeon, House Sparrow, House Finch, and European Starling.

ACCEPTED RECORDS

- Western Kingbird** (*Tyrannus verticalis*), one individual, Culpeper and Fauquier Counties, 10 October 2001, Third Piedmont record, category two [Todd Day].
- Le Conte's Sparrow** (*Ammodramus leconteii*), one individual, Sky Meadows Park, Fauquier County, 21 October 2001. First reported 20 October 2001, Third Piedmont record, category two [Todd Day].
- Bullock's Oriole** (*Icterus bullockii*), one male, Vienna, First reported on 17 March 2002. First state record, category one [Phil Kenny, Kurt Gaskill, George Armistead, Danny Crookston, M.A.Koeneker].
- Clay-colored Sparrow** (*Spizella pallida*), one individual, Manassas National Battlefield Park, Prince William County, 22 December 2001-18 January 2002, First Piedmont record, category one [Todd Day, Marshall Iliff, James Goehring, John Drummond, C. Michael Stinson].
- Mew Gull** (*Larus canus*), one individual, Chesapeake Bay Bridge-Tunnel Island #3, Chesapeake Bay CBC, 26 December 2001, Fourth Coastal Plain record, category one [Edward S. Brinkley].

- Curlew Sandpiper** (*Calidris ferruginea*), one individual, Chincoteague NWR, Accomack County, 25 May 2002, category two [Balduin Fischer].
- Sandhill Crane** (*Grus canadensis*), one individual, Swoope, 15-28 July 2002, category one, Fifth Mountains & Valleys record [Allen Lerner, Yulee Lerner].
- Heermann's Gull** (*Larus heermanni*), one individual, Craney Island, 30 August 2002, category one, First state record [David Clark].
- Eurasian Collared-Dove** (*Streptopelia decaocto*), one individual, Sterling, Loudoun County, 10 March 2001 and other dates until 7 April 2001, category two, Second Piedmont record [Bruce Hill].
- Common Raven** (*Corvus corax*), one individual, Kiptopeke State Park, 26 October 2002, category two, First Coastal Plain record [Zach Smith].
- Swallow-tailed Kite** (*Elanoides forficatus*), one individual, west of Hume, Fauquier County, 9-11 August 2002, category one, First Piedmont record [Erika Wilson, Marie Shiels-Djouadi, Jack Dent, Jr., Marc Ribaud, Rich Rieger, Danny Crookston].
- Great Cormorant** (*Phalacrocorax carbo*), one individual, Beaverdam Reservoir, Loudoun County, 19 November 2001, category two, First Piedmont record [Valerie Kitchens, Scott Michaud].

SUBMISSIONS NOT ACCEPTED

- Henslow's Sparrow** (*Ammodramus henslowii*), one individual, near Gainesville, Fauquier County, Plains CBC, 16 December 2001.
- Franklin's Gull** (*Larus pipixcan*), one individual, near Poquoson, York County, Newport News CBC, 15 December 2001.
- Mississippi Kite** (*Ictinia mississippiensis*), one individual, West Augusta, 26 May 2002.
- Mongolian Plover** (*Charadrius mongolus*), one individual, Chincoteague NWR, Accomack County, 15 September 2001.
- Magnificent Frigatebird** (*Fregata magnificens*), one individual, Claytor Lake, 6 October 1998.
- Yellow-billed Loon** (*Gavia adamsii*), one individual, Snickers Gap, 30 September 2002.
- Black Rail** (*Laterallus jamaicensis*), one individual, Staunton River State Park, Halifax County, 14 October 2001.
- Swallow-Tailed Kite** (*Elanoides forficatus*), one individual, Mendota Fire Tower, Washington and Russell Counties, 16 September 2001.
- Trumpeter Swan** (*Cygnus buccinator*), a flock of 5, Pocahontas State Park, Chesterfield, late December 2001.
- Blue-throated Hummingbird** (*Lampornis clemenciae*), one individual, Herndon, Fairfax County, July 25, 2002.
- Broad-tailed Hummingbird** (*Selasphorus platycercus*), one individual, Turkeycock Mountain, Penhook, Franklin County, August 17, 2002.

ERRATA

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In the published accounts of the 2002-2003 Christmas Bird Counts (Kain, 2003), several errors were noted:

Page 21, Back Bay count: Last paragraph, 3rd line: Eastern Phoebe 31, should be corrected to Eastern Towhee, 31.

Page 28, Cape Charles count: Last paragraph, 1st line: Ruffed Grouse 4, should be corrected to Peregrine Falcon 4.

Page 34, Darlington Heights count: Black-crowned Night-Heron 58, should be corrected to Black Vulture 58.







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.



The Raven

JOURNAL OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

Volume 75

Number 2

2004



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.

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

Editorial queries and comments may be directed to Paul R. Cabe, Biology Department, Washington & Lee University, Lexington, VA 24450.

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The Raven

JOURNAL OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

Editor
Paul R. Cabe



Volume 75, No. 2

Published by
THE VIRGINIA SOCIETY OF ORNITHOLOGY

2004

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ISSN 0034-0146

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AN EVALUATION OF NEST BOX USE BY COMMON BARN OWLS IN VIRGINIA

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INTRODUCTION

The Common Barn Owl (*Tyto alba*) is the most widely distributed owl in the world (Burton 1984). In recent years, many populations of this species in North America have suffered substantial declines (Marti 1988). Recent declines, in part, have followed earlier range expansions. Clearing of forested lands for agriculture, increased use of irrigation, and the availability of man-made structures for nesting have all been cited as factors contributing to earlier range expansions (Stewart 1980, Colvin 1985). Explanations for declining trends vary regionally but include secondary succession on cleared lands, intensification of agricultural practices (Colvin 1985), biocides (Henny et al. 1984, Mendenhall and Park 1980, Mendenhall et al. 1983), and urban development (Rosenburg 1991). The Common Barn Owl appeared on "The Blue List" of the National Audubon Society from 1972 to 1981 because populations were judged to be "down" or "greatly down" and was listed as a species of special concern from 1982 through 1986 (Tate 1986). By the late 1980's, the species appeared on the threatened and endangered species list within fifteen different states (Marti 1988).

The Barn Owl is considered an uncommon to rare resident species throughout the state of Virginia (Kain 1987). Population strongholds continue to be the Shenandoah Valley, the northern Piedmont, and the open marshlands of the Coastal Plain (Rosenburg 1991). From 1976 to 1985 there were 111 known nest sites for Barn Owls in Virginia but only 43 of these sites supported active breeding pairs in 1986 (Byrd et al. 1986). As a result it was recommended that the species be listed as Threatened in the state (Byrd et al. 1986). Due in part to some early success of a state nest box program the number of known active pairs increased to 65 by 1989 and the recommended status for the Barn Owl was downgraded to Special Concern (Byrd et al. 1990). However, recent observations suggest that continued loss of suitable Barn Owl foraging habitat and nest sites may have resulted in a decline in the breeding population to below the level of 1989 (Whalen and Watts, pers. obs.).

Nest boxes are readily accepted by Barn Owls and are the most widely used method for population management (Marti et al. 1979, Marti 1988). The Virginia Department of Game and Inland Fisheries (VDGIF) in association with the College of William and Mary initiated a nest box program for Barn Owls during the breeding season of 1986. From 1986 to 1990, Barn Owls made at least one breeding attempt in 36 of 82 nest boxes established and 58% of all 147 known nest sites were in boxes (Byrd et al. 1990). Nest boxes afford Barn Owls with vital nesting substrate that is frequently lacking near good foraging areas and provide added nest security. Studies have shown that Barn Owl productivity is higher in nest boxes than in other nest sites (Byrd et al. 1986, Colvin 1984). In 1986 Barn Owls in Virginia produced 3.4 young per productive nest in 16 boxes versus 2.8 young per productive nest in 35 other sites (Byrd et al. 1986).

The objective of this project was to resurvey all Barn Owl nest structures established by VDGIF programs between 1986 and 1990 to evaluate the status of structures and their use by breeding owls.

METHODS

A survey of all VDGIF Barn Owl boxes was conducted during the breeding season of 1997. Boxes examined included those installed by Rosenberg (unpublished field notes) between 1986 and 1990 under VDGIF programs. For the majority of sites, status was determined by direct inspection. Landowners were contacted and permission was obtained to inspect nest boxes/trays and associated structures. In a relatively few cases, status could not be determined because landowners would not grant access to the site. Each site was inspected to determine activity status, condition of box/tray, condition of associated structure, and condition of surrounding habitat. Based on observations, sites were categorized as 1) active, 2) available, 3) unusable, or 4) destroyed. Sites that had evidence of use by breeding Barn Owls during the 1997 breeding season were classified as "active". Sites that were not used by breeding owls during the 1997 season but where the nesting structure was in good condition and the surrounding landscape supported ample foraging habitat were classified as "available". Sites where the nest structure was not in a usable condition or where foraging habitat had been substantially altered (e.g. converted to urban development) were classified as "unusable". Sites where the nesting structure had been eliminated (e.g. barn or silo leveled) were classified as "destroyed". Whenever possible, landowners/managers were questioned to evaluate recent history of use.

RESULTS

A total of 67 nest boxes and trays were evaluated throughout Virginia including 28 in the ridge and valley region, 19 in the piedmont, and 20 in the coastal plain (permission was not granted to evaluate 4 boxes, including 2 each in the ridge and valley and piedmont). Twenty-one of 67 (31.3%) VDGIF boxes were found to be active during the 1997 breeding season (Table 1). An additional 26 boxes appear to be available for use but were not used during the 1997 breeding season. Four

Table 1. Summary of evaluations of Virginia Barn Owl boxes by geographic area.

County/Jurisdiction	Active	Available	Unusable	Destroyed	Total
Ridge and Valley					
Augusta	2			2	4
Botetourt	1				1
Clarke	1	2			3
Frederick	2		1	2	5
Montgomery		1			1
Page		2			2
Pulaski				1	1
Roanoke City		2			2
Rockbridge		1			1
Rockingham	2	1		1	4
Tazewell		1			1
Warren	2	1			3
Piedmont					
Albemarle	1			2	3
Brunswick		1			1
Culpepper		2			2
Fauquier	2		1	1	4
Greene		1			1
Halifax				1	1
Loudoun	2	1		1	4
Louisa	1				1
Nottoway		1			1
Powhatan		1			1
Coastal Plain					
Accomack	1	1			2
Charles City			1	1	2
Chesapeake City	1				1
Chesterfield				1	1
Essex	2				2
Hanover		1			1
Henrico	1	2		1	4
New Kent		1	1	1	3
Newport News City			1		1
Northampton		2			2
Prince George		1			1
Total	21	26	5	15	67

of these additional sites had been used in the previous 2 years but not during the 1997 breeding season. A total of 15 of the boxes erected between 1986 and 1990 had been destroyed. These included 6 in the ridge and valley region, 5 in the piedmont region, and 4 in the coastal plain. Five boxes were judged to be currently unusable by nesting Barn Owls. Overall, the rate of occupation by breeding Barn Owls was very similar to that reported in 1989 and 1990, the last two years that nest boxes were monitored (Figure 1). More than 45% of boxes that were judged to be available for use supported active pairs (Figure 2).

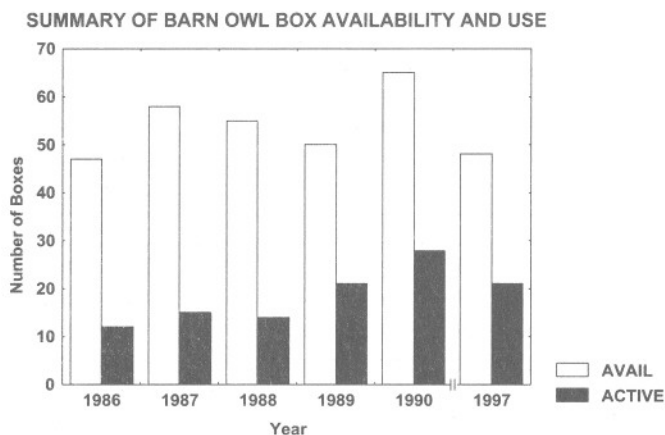


Figure 1. Summary of Barn Owl nest box availability and use in Virginia (VDGIF boxes only). Figure compares the 1997 assessment with historic information.

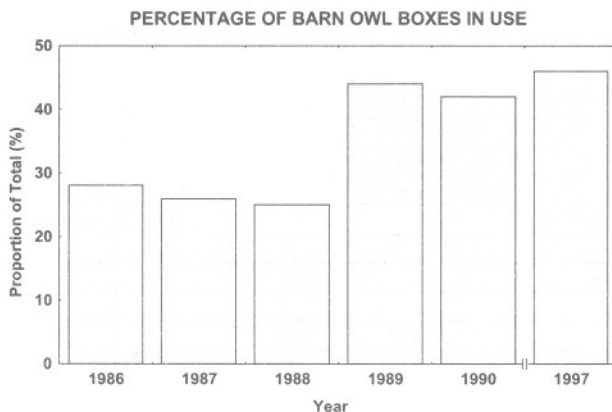


Figure 2. A comparison of Barn Owl nest box use during the 1997 breeding season compared to other historic surveys.

DISCUSSION

Barn Owls require secure nest sites in close proximity to extensive complexes of open habitats for breeding. In coastal Virginia (Rosenburg 1986) and in nearby New Jersey (Colvin 1984) this species has been shown to have home ranges of several hundred ha that contain nearly 100 ha of grasslands. For foraging, Barn Owls require dense grass, lightly grazed pastures, and hayfields (Colvin 1984, Rosenburg 1986). Cultivated fields with the exception of small grain fields, are of little value because of low prey populations or dense protective cover (Rosenburg 1986). The decline of this species within the region has been attributed to the loss of idle grasslands required for foraging, the transition to more intensive farming practices, and the loss of nesting substrate.

The current status, distribution, and importance of grasslands and their relationship to the conservation of open-habitat bird populations such as the Common Barn Owl must be viewed in the appropriate historical context. Prior to European settlement, open grassland habitats were uncommon within the mid-Atlantic region. Such habitats were maintained as relatively small patches within a forested landscape by populations of native Americans (Brush 2001, Walsh 2001). In the years following European settlement, open lands likely increased with the expansion of land development for agricultural use. However, throughout the nineteenth century, broad-scale clearing of forested lands occurred throughout northeastern North America that resulted in a significant wave of open lands. It is likely that this wave of open habitat had a significant and positive impact on the Virginia Barn Owl population. Subsequently, the availability of open lands has declined dramatically throughout the twentieth century. This decline was due initially to secondary succession on lands cleared during the previous century and more recently due to the conversion of remaining farmlands to other human uses. Declines in the Virginia Barn Owl population have reflected these shifts in land use.

Currently, prominent grassland habitats within Virginia are primarily derived from agricultural fields and pasturelands. Some of the most productive grassland habitats within the region are fallow agricultural fields in the early stages of old-field succession. Without regular maintenance to set back succession, these fields will proceed from a mixed stand of grasses and forbs with no woody vegetation to a shrubland dominated by woody shrubs and saplings and eventually to forest. The specific form of these early successional grasslands is influenced by agricultural history, moisture, and soils. Other managed grasslands within the physiographic region include pasturelands, airports, golf courses, military training areas, parks, and recreational fields.

Results from the survey of breeding sites across the state demonstrate that Barn Owls may be successfully managed within areas where foraging habitat appears to be stable by providing safe nesting substrates. Quite a few sites were identified that were apparently used continuously for more than 10 years indicating use by several generations. Since the efforts of the late 1980's several sites have been identified that support breeding Barn Owls in Virginia (Watts et al. unpub. records).

This highlights the need for a broad-based management plan for this species in Virginia that outlines the remaining strongholds for this species and identifies specific locations where management actions would have the greatest probability of success. As demonstrated here, the aggressive use of nesting substrates within appropriate locations could have a significant impact on the future of Virginia's population.

ACKNOWLEDGEMENTS

We thank all of the landowners and managers who provided access to their properties. Keith Cline, Ray Fernald, and Becky Wajda from VDGIF provided logistical support for this project. Carlton Adams, Renee Peace, Lydia Whitaker, Mark Roberts, Cheryl Pope, Bonnie Willard, Anne Womack, and Gloria Sciole from the College of William and Mary provided logistical support. Financial support was provided by the Virginia Department of Game & Inland Fisheries and the Center for Conservation Biology.

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THE FIRST AMERICAN BIRD CHECK-LIST

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INTRODUCTION

Towards the end of the Revolutionary War, the governors of the colonial states received a questionnaire from the French ambassador asking for a summary of the resources contained in their respective states. Only Thomas Jefferson responded, producing his only published book, *Notes on the State of Virginia*, which has provided posterity with a glimpse of the flora, fauna, minerals, geographic features and political structure of late 18th century Virginia. Included in this book is a simple list of 125 bird species he observed in Virginia. Since Jefferson provided neither a written description nor visual depiction of the birds, this list likely represents the first published check-list of birds for a locality in North America.

For any check-list to be truly useful, the popular names utilized by the list author must equate to the understanding of the current user. "Most of us think of the various kinds of birds, certainly of the more familiar ones, in terms of the vernacular rather than in the garb of science. A Song Sparrow is a Song Sparrow more often than a *Melospiza melodia* as well to the ornithologist as to the untechnical wayfarer" (Trotter 1909, p.346). Thus, for those with an interest in ornithological history and a desire to glimpse a snapshot of the avifauna familiar to our third President, I have attempted to translate the popular names used by Jefferson in his *Notes* into names familiar to 21st century birders.

While Jefferson, like modern check-list authors, did not provide drawings, paintings or written descriptions to accompany his bird list, he did, for 97 of the species listed, provide a reference to scientific Linnaean or Catesby designations (Table 1). Thus, in order to decipher the identity of many Jefferson birds, one is compelled to examine the binomial designations used by Carl Linnaeus in his *Systema Naturae* (1758) and the text and paintings produced by Mark Catesby in his seminal work, *The Natural History of Carolina, Florida and the Bahama Islands* (1731).

While the work of Linnaeus needs no explanation, the history of Catesby's book bears a brief mention. Catesby made two extended trips to America between 1712 and 1726. Primarily a botanist (as was Linnaeus), Catesby nevertheless included 109 illustrations of birds in his two-volume work, *The Natural History of Carolina, Florida and the Bahama Islands*, which was published in England between 1731 and 1743. Linnaeus, who never traveled to America, relied in part on Catesby's work in the development of his system of species classification (Stewart, 1997). Many (but not all) of Catesby's paintings were produced from observations made in the field as opposed to the carefully prepared skins utilized by his successors such as Alexander Wilson and John J. Audubon. This may account for comments that "his

Table 1. Species for which Jefferson included designations from Linnaeus or Catesby. The species included are listed in the order used by Jefferson in his Notes on the State of Virginia and not in the order established by the American Ornithologists' Union in Check-list of North American of North American Birds. Additionally, the spelling and punctuation used by Jefferson is retained. For those birds identified with a "****", the reader is advised to consult the text.

Jefferson's Popular Name	Jefferson's Linnaean Designation	Jefferson's Catesby Designation	Modern Common & Scientific Names
Tyrant. Field Martin	Lanius tyrannus	Muscicapa corona rubrâ	Eastern Kingbird (<i>Tyrannus tyrannus</i>)
Turkey buzzard	Vultur aura	Buteo specie GaHo-pavonis	Turkey Vulture (<i>Cathartes aura</i>)
Bald Eagle	Falco leucocephalus	Aquila capite albo	Bald Eagle (<i>Haliaeetus leucocephalus</i>)
Little hawk. Sparrow hawk	Falco sparverius	Accipiter minor	American Kestrel (<i>Falco sparverius</i>)
Pigeon hawk	Falco columbarius	Accipiter palumbarius	Merlin (<i>Falco columbarius</i>)
Forked tail hawk	Falco furcatus	Accipiter caudâ furcatâ	Swallow-tailed Kite (<i>Elanoides forficatus</i>)
Fishing hawk		Accipiter piscatorius	Osprey (<i>Pandion haliaetus</i>)
Little owl	Strix asio	Noctua aurita minor	Eastern-Screech Owl (<i>Otus asio</i>)
Parrot of Carolina. Perroquet	Psittacus Caroliniensis	Psitticus Caroliniensis	Carolina Parakeet (<i>Conuropsis carolinensis</i>)
Blue jay	Corvus cristatus	Pica glandaria, cærulea cristata	Blue Jay (<i>Cyanocitta cristata</i>)
Baltimore bird	Oriolus Baltimore	Icterus ex aureo nigroque varius	Baltimore Oriole (<i>Icterus galbula</i>)
Bastard Baltimore	Oriolus spurius	Icterus minor	Orchard Oriole (<i>Icterus spurious</i>)
Purple jackdaw. Crow blackbird	Gracula quiscula	Monedula purpurea	Common Grackle (<i>Quiscalus quiscula</i>)
Carolina cuckow	Cuculus Americanus	Cuculus Caroliniensis	Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)
White bill woodpecker	Picus principalis	Picus maximus rostro albo	Ivory-billed Woodpecker (<i>Campephilus principalis</i>)

Table 1. Continued

Jefferson's Popular Name	Jefferson's Linnaean Designation	Jefferson's Catesby Designation	Modern Common & Scientific Names
Larger red-crested woodpecker	<i>Picus pileatus</i>	<i>Picus niger</i> maximus, capite rubro	Pileated Woodpecker (<i>Dryocopus</i> <i>pileatus</i>)
Red-headed woodpecker	<i>Picus</i> <i>erythrocephalus</i>	<i>Picus capite toto</i> rubro	Red-headed Woodpecker (<i>Melanerpes</i> <i>erythrocephalus</i>)
Gold winged woodpecker, Yucker	<i>Picus auratus</i>	<i>Picus major alis</i> aureis	Northern Flicker (<i>Colaptes auratus</i>)
Red bellied woodpecker	<i>Picus Carolinus</i>	<i>Picus ventre rubro</i>	Red-bellied Woodpecker (<i>Melanerpes</i> <i>carolinus</i>)
Smallest spotted woodpecker	<i>Picus pubescens</i>	<i>Picus varius</i> minimus	Downy Woodpecker (<i>Picoides pubescens</i>)
Hairy woodpecker. Speck. woodpec.	<i>Picus villosus</i>	<i>Picus medius quasi-</i> villosus	Hairy Woodpecker (<i>Picoides villosus</i>)
Yellow bellied Sapsucker	<i>Picus varius</i>	<i>Picus varius minor</i> ventre luteo	Yellow-bellied Woodpecker (<i>Sphyrapicus varius</i>)
Nuthatch	<i>Sitta Europaea</i>	<i>Sitta capite nigro</i>	White-breasted Nuthatch (<i>Sitta</i> <i>carolinensis</i>)
Small Nuthatch		<i>Sitta capite fusco</i>	Brown-headed Nuthatch (<i>Sitta</i> <i>pusilla</i>)
Kingfisher	<i>Alecedo alcyon</i>	<i>Ispida</i>	Belted Kingfisher (<i>Ceryle alcyon</i>)
Pin Creeper	<i>Certhia pinus</i>	<i>Parus Americanus</i> lutescens	Pine Warbler (<i>Dendroica pinus</i>)*
Humming bird	<i>Trochilus colubris</i>	<i>Mellivora avis</i> Caroliniensis	Ruby-throated Hummingbird (<i>Archilochus</i> <i>colubris</i>)
Wild goose	<i>Anas Canadensis</i>	<i>Anser Canadensis</i>	Canada Goose (<i>Branta canadensis</i>)
Buffel's head duck	<i>Anas bucephala</i>	<i>Anas minor</i> purpureo capite	Bufflehead (<i>Bucephala albeola</i>)*
Little brown duck	<i>Anas rustica</i>	<i>Anas minor ex albo</i> & fusco vario	Bufflehead (<i>Bucephala albeola</i>)*
White face teal	<i>Anas discors</i>	<i>Querquedula</i> Americana variegata	Blue-winged Teal (<i>Anas discors</i>)*

Table 1. Continued

Jefferson's Popular Name	Jefferson's Linnaean Designation	Jefferson's Catesby Designation	Modern Common & Scientific Names
Blue wing teal	Anas discors	Querquedula Americana fusca	Blue-winged Teal (<i>Anas discors</i>)*
Summer duck	Anas sponsa	Anas Americanus cristatus elegans	Wood Duck (<i>Aix sponsa</i>)
Blue wing shoveler		Anas Americanus lato rostro	Northern Shoveler (<i>Anas clypeata</i>)*
Round crested duck	Mergus cucullatus	Anas cristatus	Hooded Merganser (<i>Lophodytes cucullatus</i>)
Pied bill dopchick	Colymbus podiceps	Prodicipes minor rostrum vario	Pied-billed Grebe (<i>Podilymbus podiceps</i>)
Largest crested heron	Ardea Herodias	Ardea cristata maxima Americana	Great Blue Heron (<i>Ardea herodias</i>)
Crested bittern	Ardea violacea	Ardea stellaris cristata Americana	Yellow-crowned Night-Heron (<i>Nyctanassa violacea</i>)*
Blue heron. Crane	Ardea caerulea	Ardea caerulea	Little Blue Heron (<i>Egretta caerulea</i>)
Small bittern	Ardea virescens	Ardea stellaris minima	Green Heron (<i>Butorides virescens</i>)
Little white heron	Axdea æquinoctialis	Ardea alba minor Caroliniensis	Snowy Egret (<i>Egretta thula</i>)*
Brown bittern. Indian hen		Ardea stellaris Americana	American Bittern (<i>Botaurus lentiginosus</i>)*
Wood pelican	Tantalus loculator	Pelicanus Americanus	Wood Stork (<i>Mycteria Americana</i>)
White curlew	Tantalus alber	Numenius albus	White Ibis (<i>Eudocimus albus</i>)
Brown curlew	Tantalus fuscus	Numenius fuscus	White Ibis (<i>Eudocimus albus</i>)*
Chattering plover. Kildee	Charadrius vociferus	Pluvialis vociferus	Killdeer (<i>Charadrius vociferous</i>)
Oyster Catcher	Hæmatopus ostralegus	Hælig; matopus American	Oystercatcher (<i>Hæmatopus palliates</i>)
Soree. Rail-bird	Rallus Virginianus	Gallinula Americana	Virginia Rail (<i>Rallus limicola</i>)*
Wild turkey	Meleagris Gallopavo	Sylvestris Gallopavo	Wild Turkey (<i>Meleagris gallopavo</i>)

Table 1. Continued

Jefferson's Popular Name	Jefferson's Linnæan Designation	Jefferson's Catesby Designation	Modern Common & Scientific Names
American partridge. American quail	Tetrao Virginianus	Perdix Sylvestris Virginiana	Northern Bobwhite (<i>Colinus virginianus</i>)
Pheasant. Mountain partridge		Urogallus minor, or a kind of Lagopus	Greater Prairie Chicken (<i>Tympanuchus cupido</i>)*
Ground dove	Columba passerina	Turtur minimus guttatus	Common Ground- Dove (<i>Columbina passerina</i>)
Pigeon of passage. Wild pigeon	Columba migratoria	Palumbus migratorius	Passenger Pigeon (<i>Ectopistes migratorius</i>)
Turtle. Turtle dove	Columba Caroliniensis	Turtur Caroliniensis	Mourning Dove (<i>Zenaidura macroura</i>)
Lark. Sky lark	Alauda alpestris	Alauda guttata flavo	Horned Lark (<i>Eremophila alpestris</i>)
Field lark. Large lark	Alauda magna	Alauda magna	Eastern Meadowlark (<i>Sturnella magna</i>)
Red winged starling. Marsh blackbird		Stumus niger alis superne rubentibus	Red-winged Blackbird (<i>Agelaius phoeniceus</i>)
Fieldfare of Carolina. Robin redbreast	Turdus migratorius	Turdus pilaris migratorius	American Robin (<i>Turdus migratorius</i>)
Fox coloured thrush. Thrush	Turdus rufus	Turdus rufus	Brown Thrasher (<i>Toxostoma rufum</i>)
Mocking bird	Turdus polyglottos	Turdus minor cinereo albus non maculatus	Northern Mockingbird (<i>Mimus polyglottos</i>)
Little thrush		Turdus minimus	*
Chatterer	Ampelis garrulus	Garrulus Caroliniensis	Cedar Waxwing (<i>Bombicilla cedrorum</i>)
Red bird. Virginia nightingale	Loxia Cardinalis	Coccothraustes rubra	Northern Cardinal (<i>Cardinalis cardinalis</i>)
Blue gross beak	Loxia Cærulea	Coccothraustes cærulea	Blue Grosbeak (<i>Passerina cærulea</i>)*
Snow bird	Emberiza hyemalis	Passer nivalis	Dark-eyed Junco (<i>Junco hyemalis</i>)
Rice bird	Emberiza Oryzivora	Hormlanus Caroliniensis	Bobolink (<i>Dolichonyx oryzivorus</i>)
Painted finch	Emberiza Ciris	Fringilla tricolor	Painted Bunting (<i>Passerina ciris</i>)
Blue gross beak	Tanagra cyanea	Linaria cærulea	Indigo Bunting (<i>Passerina cyanea</i>)*

Table 1. Continued

Jefferson's Popular Name	Jefferson's Linnæan Designation	Jefferson's Catesby Designation	Modern Common & Scientific Names
Little sparrow		Passerculus	*
Cowpen bird		Passer fuscus	Brown-headed Cowbird (<i>Molothrus ater</i>)
Towhe bird	Fringilla erythrophthalma	Passer niger oculis rubris	Eastern Towhee (<i>Pipilo erythrophthalmus</i>)
American goldfinch. Lettuce bird	Fringilla tristis	Carduehs Americanus	American Goldfinch (<i>Carduelis tristis</i>)
Purple finch		Fringilla purpurea	Purple Finch (<i>Carpodacus purpureus</i>)
Crested Flycatcher	Muscicapa crinita	Muscicapa cristata ventre luteo	Great-crested Flycatcher (<i>Myiarchus crinitus</i>)
Summer red bird	Muscicapa rubra	Muscicapa rubra	Summer Tanager (<i>Piranga rubra</i>)
Red start	Muscicapa ruticilla	Ruticilla Americana	American Redstart (<i>Setophaga ruticilla</i>)
Cat bird	Muscicapa Caroliniensis	Muscicapa vertice nigro	Gray Catbird (<i>Dumetella carolinensis</i>)
Black-cap flycatcher		Muscicapa nigrescens	Eastern Phoebe (<i>Sayornis phoebe</i>)*
Little brown flycatcher		Muscicapa fusca	Eastern Wood-Pewee (<i>Contopus virens</i>)*
Red-eyed flycatcher		Muscicapa oculis rubris	Red-eyed Vireo (<i>Vireo olivaceus</i>)*
Blue bird	Motacilla Sialis	Rubicula Americana cærulea	Eastern Bluebird (<i>Sialia sialis</i>)
Wren	Motacilla regulus	Regulus cristatus	Golden-crowned Kinglet (<i>Regulus satrapa</i>)*
Yellow-breasted chat	Motacilla trochilus	Oenanthe Americana pectore luteo	Yellow-breasted Chat (<i>Icteria virens</i>)
Crested titmouse	Parus bicolor	Parus cristatus	Tufted Titmouse (<i>Baeolophus bicolor</i>)
Finch creeper	Parus Americanus	Parus fringillaris	Northern Parula (<i>Parula americana</i>)
Yellow rump	Parus Virginianus	Parus uropygeo luteo	Yellow-rumped Warbler (<i>Dendroica coronata</i>)*

Table 1. Continued

Jefferson's Popular Name	Jefferson's Linnaean Designation	Jefferson's Catesby Designation	Modern Common & Scientific Names
Hooded titmouse		Parus cucullo nigro	Hooded Warbler (<i>Wilsonia citrina</i>)
Yellow-throate creeper Warbler		Parus Americanus guttare luteo	Yellow-throated (<i>Dendroica dominica</i>)
Yellow titmouse		Parus Caroliniensis	Yellow Warbler (<i>Dendroica petechia</i>)
American swallow	Hiauldo Pelasgia	Hirundo cauda aculeate Americana	Chimney Swift (<i>Chaetura pelagica</i>)
Purple Martin. House Martin	Hirundo purpurea	Hirundo purpurpea	Purple Martin (<i>Progne subis</i>)
Goatsucker. Great bat	Caprimulgus Europæus	Caprimulgus	Chuck-will's- widow (<i>Caprimulgus carolinensis</i>)*
Whip-poor Will	Caprimulgus Europæus	Caprimulgus minor Americanus	Common Nighthawk (<i>Chordeiles minor</i>)*
The Royston crow	Corvus cornix		Crow (sp.) *
Crane	Ardea Canadensis		Sandhill Crane (<i>Grus canadensis</i>)
House swallow	Hirundo rustica		Barn Swallow (<i>Hirundo rustica</i>)
Ground swallow	Hirundo riparia		Bank Swallow (<i>Riparia riparia</i>)

colors are often too intense and little details such as tail-markings and wing-bars are omitted" (Stone 1929, p.447). Jefferson was avid admirer of Catesby's work and relied upon it as evident by his use of Catesby's designations in *Notes*, though he too recognized flaws in Catesby's art: "His drawings are better as to form and attitude, than colouring, which is generally too high" (Jefferson 2000, p.192). Thus, some of the confusion in Jefferson's list may be partially explained by the lack of clarity in Catesby's work.

One writer in commenting on Jefferson's bird list stated that "it is a list of Catesby's North American birds, along with thirty-three additional birds that Jefferson himself listed, many of which are duplicates of the ones in Catesby's list... Thus, Jefferson's list has little, if any, importance, and should simply be thought of as Catesby's list reproduced with an addendum of some additional species" (Feduccia 1985, p.10) These observations fall short in three respects. First, logic dictates that Jefferson, an astute observer of the natural world, would not knowingly list a bird twice. Hence, where the popular names used by Jefferson appear to be attributable to the same species, one must investigate further in order to decipher Jefferson's likely

intent. Simply stating that Jefferson repeated himself pays scant acknowledgment to Jefferson's scientific and scholarship abilities. Second, any document that offers an additional glimpse into the ornithological history of North America has value. If we were to accept this statement, then arguably one could state that David Sibley's work is of little importance since he simply painted and described the same birds as Roger Tory Peterson did half a century earlier. Lastly, if Jefferson's list merely replicates Catesby's, albeit with a short addendum, how does one explain the absence of such abundant and obvious species included in Catesby's work such as Laughing Gull and Black Skimmer from the Jefferson list? The explanation is that Jefferson's list is not a duplicate, but rather, a product of his personal observations. The absence of Laughing Gull and Black Skimmer suggest that Jefferson was making his observations along the Virginia shore either during a period when these species are absent, or alternatively, he was unable to make adequate observations of these species to properly identify them using Catesby's work as a reference.

JEFFERSON'S SPECIES LIST

When analyzing the popular names used by Jefferson, a number of interesting problems were noted. The first involved Jefferson's Linnaean designation for the Pinecreeper. Jefferson mistakenly gave this bird the Linnaean (1766) designation of *Certhia pinus* (Blue-winged Warbler), when in fact, the bird in question is the Pine Warbler. (Trotter, 1909). The next bird's that caused confusion are the Buffel's head and Little brown ducks. Knowing Jefferson's reliance on Catesby's work and after reviewing Catesby's paintings, it is clear that these two birds are both Buffleheads, the later being the female of the species. A somewhat similar situation holds true for Jefferson's White face and Blue wing teals. Catesby's painting of the White face teal clearly depicts a male Blue-winged teal in breeding plumage. Feduccia (1985) states that Catesby's Blue wing teal is simply a female, however his painted and written description is also somewhat suggestive of a non-breeding male Blue-winged Teal. In either case, we are safe to conclude that both of Jefferson's birds are one species.

The name Little white heron is one that was given by Catesby for what appears to be a juvenile Little Blue Heron. The name Little white heron has also been used to refer to the Snowy Egret. Thus, we must examine further. Jefferson attributed the Linnaean name, *Axdea aequinoctialis* to his Little white heron, a designation that does not appear attributable to any species. If we assume a minor misspelling, and that Jefferson intended to write *Ardea aequinoctialis*, then we may be able, through a process of deductive reasoning, conclude that Jefferson was referring to a Snowy Egret. *Ardea aequinoctialis* was a name used in 18th century Europe for a bird known as the Little White Heron. Thomas Bewick in his "A History of British Birds" examined a specimen of this "species" and readily concluded that it was a juvenile Little Egret (*Egretta garzetta*). Both the Little Egret and the Snowy Egret are similar in appearance, and share a notable physical feature, yellow feet. From his time in Europe, Jefferson could have likely encountered the Little Egret, and hence, his use of the above designations is understandable. Accordingly, I think it far more likely that Jefferson was listing a Snowy Egret.

Feduccia's (1985) analysis of Catesby's plates for the Crested and Brown Bitterns led him to conclude that both are Yellow-crowned Night-Herons, the later being an immature bird. While Jefferson provided no Linnaean name for his Brown Bittern, he did add the popular name, Indian hen, to this bird. This moniker was commonly used in conjunction with the American Bittern, and thus, we must depart from Catesby and conclude that this is the species Jefferson intended to list. Attempting to discern the identity of Jefferson's Brown Curlew, a reading of Catesby's text makes clear the identification: a juvenile White Ibis.

Though Catesby included the Sora in his work, and, like Jefferson, used the name Soree, I believe Jefferson's Soree is a Virginia Rail (a bird which does not appear in Catesby's work). Jefferson appended the Linnaean designation of *Rallus Virginianus* to his Soree, and based on this designation, I suspect that Jefferson's bird was the Virginia Rail.

Jefferson's Pheasant or Mountain Partridge also required an examination of Catesby's paintings. Catesby's plate for this bird clearly depicts a Greater Prairie Chicken. Presently a bird that we associate with the Midwestern states, a non-migratory population inhabited the Mid-Atlantic States up to New England in Catesby and Jefferson's day (Feduccia 1985). To add additional intrigue, Jefferson provided no Linnaean designation but under Catesby's designation Jefferson wrote, "*Urogallus minor*, or a kind of *Lagopus*." M'Attee (1917) notes that the name Mountain Partridge bears the Linnaean designation, *Lagopus rupestris* – Rock Ptarmigan. Was Jefferson suggesting that Rock Ptarmigan's were perhaps at one time residents of Virginia? Unlikely, but nevertheless, this example shows the difficulty in translating Jefferson's list into useful historic tool.

Jefferson provided only the Catesby designation (*Turdus minimus*) for the Little Thrush. "Although conceivably a Wood Thrush from the description and certain characteristics, Catesby's Little Thrush is simply not identifiable" (Feduccia 1985, p.101). Unfortunately, Jefferson failed to provide us with any additional clues.

In his first listing of the Blue gross beak, Jefferson included the Linnaean designation *Loxia caerulea*. An examination of Catesby's painting for this species leaves no doubt that the bird in question is a Blue Grosbeak. Thus, what are we to make of Jefferson's second listing of Blue gross beak? We know that Catesby included the Indigo Bunting (which he called The Blew Linnet) in his work. Furthermore, Jefferson provided the Linnaean (1766) name *Tanagra cyanea* to his second Blue gross beak, an early designation attributable to the Indigo Bunting. Unfortunately, there seems to be no clear explanation as to why Jefferson would use the same name twice when it's clear he intended to list two distinct species.

The "Little sparrow" is the literal translation of Catesby's designation, *Passerculus*. Jefferson himself offers no additional help as he did not provide a Linnaean name for this bird in *Notes*. To this writer's eye, an examination of Catesby's painting offered little clarification to the identity and thus must remain unidentified.

For the Black-cap flycatcher, Little brown flycatcher and Red-eyed flycatcher, Jefferson provided no corresponding Linnaean name. Thus we are left to rely exclusively on Catesby. The modern names for these three are Eastern Phoebe, Eastern Wood-Pewee and Red-eyed Vireo respectively.

The Linnaean designation applied by Jefferson for the Wren, *Motacilla regulus*, was a name used for the European Goldcrest, a bird that is similar in appearance to our Golden-crowned Kinglet. Catesby's called the bird *Regulus Cristatus* and stated that this species is "an English as well as an American bird."

The longer that time passes from the date a book is published, the greater the difficulty a reader is likely to have in ascertaining the meaning in popular names used by the author. Occasionally however, the oldest names become familiar. In the case of Jefferson's Yellow rump, for much of the last two century's this species was known as the Myrtle's Warbler, a name first employed by Thomas Nuttall in the early 1800's. Not until 1973, when the American Ornithologists' Union lumped the Myrtle's and Audubon Warblers together did the name revert back to the one used by Jefferson and Catesby.

At first blush, it would seem that no great issues are involved in placing names to Jefferson's Goatsucker (Great Bat) and Whip-poor will. Those who have studied Catesby's work extensively have concluded otherwise. As McAtee (1948, p.128) writes, early colonists and naturalists

"were confused as to the number and characteristics of the species *Caprimulgidae* of the region One, the Nighthawk, forced itself on their sight but may not have impressed them with its notes, while two, the Chuck-will's-widow and Whip-poor-will, made the woods resound with their calls but were seldom or never seen. The usual consequence was telescoping the three into two, the attributes of which were mixed in various ways."

McAtee concluded that Catesby's depiction of the Goatsucker of Carolina (reduced by Jefferson to simply Goatsucker) is that of a Chuck-will's-widow, but notes that the text accompanying that painting is referable to the Nighthawk. In contrast, Catesby's Whip-poor will

"may be said to represent the Nighthawk, on account of the white wing-spot, which is very recognizable. Above and below the bill are some long and fantastically arranged bristles, which has led to the belief that the *Antrostomus vociferous* was meant, the more so since Catesby in the text calls the bird 'Whip-poor-will'...Concerning the bristles, we are justified in presuming that they are due to an intended improvement on the part of the artist" (Stejneger 1885, p.179).

Thus, we shall designate Chuck-will's-widow to Jefferson's Goatsucker and Common Nighthawk to his Whip-poor will, bearing in mind the caveat that naturalists in Jefferson's time "were totally confused as to the number of species of goatsuckers and their characteristics." (Feduccia 1985. p.73)

Corvus cornix refers to the Hooded Crow, a European bird that Jefferson was undoubtedly familiar, given the lengthy periods of time he spent on that continent. Furthermore, in overall size, this species is similar to our American and Fish Crow. Thus, while I was unable to find a reference for The Royston Crow, given the Linnaean designation, we can conclude that Jefferson was referring to one these two North American crow species.

Table 2. Species for which Jefferson did not designations from Linnaeus or Catesby. The species included are listed in the order used by Jefferson in his *Notes on the State of Virginia* and not in the order established by the American Ornithologists' Union in *Check-list of North American of North American Birds*. The spelling and punctuation used by Jefferson is retained. For those birds identified with a "*", the reader is advised to consult the text.

Jefferson's Popular Name	Modern Common & Scientific Names
Greatest grey eagle	Golden Eagle (<i>Aquila chrysaetos</i>) *
Smaller turkey buzzard, with a feathered head.	*
Greatest owl, or nighthawk.	Great Horned Owl (<i>Bubo virginianus</i>)*
Wethawk, which feeds flying.	*
Raven	Common Raven (<i>Corvus corax</i>)
Water pelican of the Missisipi, whose pouch holds a peck.	Brown Pelican (<i>Pelecanus occidentalis</i>) *
Swan	Swan (sp.)
Loon	Loon (sp.)
The Cormorant	Cormorant (sp.)
Duck and Mallard	Mallard (<i>Anas platyrhynchos</i>)
Widgeon	American Wigeon (<i>Anas americana</i>)
Sheldrach or Canvas back	Canvasback (<i>Aythya valisineria</i>)
Black head	*
Ballcoot	Surf Scoter (<i>Melanitta perspicillata</i>)*
Sprigtail	Ruddy Duck (<i>Oxyura jamaicensis</i>)*
Didapper or Dopchick	Eared Grebe (<i>Podiceps nigricollis</i>)*
Spoon billed duck	Northern Shoveler (<i>Anas clypeata</i>)*
Water-witch	Horned Grebe (<i>Podiceps auritus</i>)*
Water-pheasant	Northern Pintail (<i>Anas acuta</i>)*
Mow-bird	*
Blue peter	American Coot (<i>Fulica americana</i>)
Water wagtail	Spotted Sandpiper (<i>Actitis macularia</i>)*
Yellow-legged snipe	Yellowlegs (sp.) *
Squatting snipe	Wilson's Snipe (<i>Gallinago delicata</i>)
Small plover	Semipalmated Plover (<i>Charadrius semipalmatus</i>) or Piping Plover (<i>Charadrius melodus</i>)*
Whistling plover	American Golden Plover (<i>Pluvialis dominica</i>) or Black-bellied Plover (<i>Pluvialis squatarola</i>)*
Woodcock	American Woodcock (<i>Scolopax minor</i>)
Red bird, with black head, wings and tail.	Vermilion Flycatcher (<i>Pyrocephalus rubinus</i>) *

The second group of birds, totaling 28 (Table 2) proved far more problematic. For these birds, Jefferson failed to provide any reference to Linnaeus or Catesby. Thus we must apply a bit of deductive reasoning and common sense to our analysis. Five are immediately evident, the Raven, Mallard, Widgeon, Canvas back and Woodcock, being our Common Raven, Mallard, American Wigeon, Canvasback and American Woodcock respectively. The Swan, we can reasonably assign to their appropriate species with the qualifier "sp.", and as to The Loon and The Cormorant later two, the most likely candidates are Common Loon and Double-crested Cormorant.

Given what Jefferson had already listed, and just as importantly, what he had not, we can fairly deduce from the descriptive names that the most likely species Jefferson was referring to for his Greatest owl and Yellow-legged snipe were the Great Horned Owl and Yellowlegs (sp.) (Johnston, 2003). As to the "Water pelican of the Missisipi, whose pouch holds a peck", it's likely appropriate to identify this bird as our Brown Pelican, a bird common to the Southern Mississippi River area.

Jefferson did not have the benefits that we enjoy from modern optics. Hence, it is probably fair to assume that many of his observation were made largely from the naked eye. Thus, assuming that Jefferson's Greatest grey Eagle is intended to be a species distinct from the Bald Eagle, then I believe we can attribute this designation to the Golden Eagle, a bird which in adult plumage could appear completely dark to an observer without binoculars.

Jefferson named our modern Pied-billed Grebe, the Pied bill dopchick. Assuming that Jefferson didn't intend to repeat himself, then what birds are his Didapper, Dopchick and Water-witch? These are all names that have been used in association with the smaller Grebes. In one reference, the local name used for the Horned Grebe was Water-witch. (Bishop, 1889). Johnston (2003), without explanation, has also applied the name Water-witch to the Storm-Petrel's. Could Jefferson have meant to apply Didapper or Dopchick to the Eared Grebe? This I submit is a reasonable assumption.

Jefferson's use of Spoon billed duck is a common nickname for the Northern Shoveler. Catseby's called his shoveler the Blue wing shoveler and his painting and description is suggestive of a female. Given the notable differences between the female and the breeding male, could Jefferson have erred in listing the male and female as two distinct species? Without further information, no other explanation seems logical.

One of Catesby's predecessors to the new world, John Lawson published in 1709, *A New Voyage to Carolina*, based on his 8 years traveling in the Carolinas. Included in that work was his description of over a 100 bird species, including the Black Flusterers or bald Coot. McAtee examined Lawson's work and noted that his written description of this species corresponds to the Surf Scoter. He also suggests the Jefferson's use of Ball coot was "merely abbreviated from Lawson's work" (McAtee 1946, p.243)

In my research, I found the name Sprigtail used as an appellation for both the Ruddy Duck and the Northern Pintail. However, as to Water pheasant, this name

appeared only in reference to the Northern Pintail. Thus, I believe we can safely apply the Sprigtail to the Ruddy Duck and leave Water pheasant for the Northern Pintail.

Johnston (2003) suggests that identity of the Water wagtail is the Spotted Sandpiper. This nickname however has also been applied to the Waterthrushes. I think it more likely that Jefferson was referencing the sandpiper in as much as he listed this bird amongst the other shorebirds and the name he employed is suggestive of a characteristic associated with this species.

Johnston also offers, without explanation, Scaup (sp.) for Black head and Black-headed Gull for the Mow-bird. While arguably the name Black head is somewhat descriptive of a scaup, it is certainly a name that could be also hung on any number of other likely candidates. Thus, I believe that these two birds must remain unidentified.

As to the Small Plover, since Jefferson had already listed Killdeer, the likely candidate for this bird is either the Semipalmated or Piping Plover. Likewise, in the case of the Whistling Plover, we can safely assume that Jefferson was referring to an American Golden or Black-bellied Plover. Johnston also offered Upland Sandpiper, again without explanation, for the possible identity of this species. The use by Jefferson of the term plover is important. Even without the aid of sophisticated optics, Jefferson would have been able to note the characteristic shape and size of a plover bill. By listing the Small and Whistling Plovers together, Jefferson was likely relating these two species together based on similar characteristics.

As for the Red bird with black head, wings and tail, without any additional clues, at best we can simply speculate to the identity. A cursory review of field guides for Eastern North America suggests that the closest bird to Jefferson's descriptive name is the male Vermilion Flycatcher which does show black (or dark gray) extending up the nape of the neck. For some birds however, we are left with no useful clues, their identity must remain a mystery. (i.e. Smaller Turkey Buzzard with a feathered head; Wethawk which feeds flying).

DISCUSSION

For most of North America's avifauna, someone, somewhere, at some time in this continent's inhabited history, employed a bird name different from that which we now employ. In an article by the same title, one writer was able to track down 132 vernacular names for the Flicker (Burns, 1916). If one considers the number of different bird species which either pass through or reside in Virginia and assume that for each species, only 25 times a different vernacular name has been used for each, a true glimpse of enormity of the problem becomes apparent. The task of sifting through various names is further compounded by the fact that many names have been only used by a handful of people, for a short period of time, and those names are now lost to memory. Even with our modern ability to perform complex computer searches, some of Jefferson's names could simply not be correlated to a modern equivalent.

As one can see, attempting to decipher 18th century colloquial names used for bird species 200 hundred years after publication is difficult, and at times,

a fruitless proposition. In an article written in 1947, Ludlow Griscom delved into the problems and complexities associated with periodic review and changes made by the American Ornithologists' Union to the names utilized in the *Check-List of North American Birds*. His insights bear comment. Certainly, he was correct when he wrote that the "growth of knowledge of natural history inevitably makes older vernacular names too local, incorrect, or absurd on one count or another." Yet, I must humbly disagree with his assessment that "common or vernacular names are not necessary for the amateur naturalist, and it is a psychosis to think so." (Griscom 1947, p.131) One cannot now suddenly un-ring the bell. Unless we are willing to ignore the past, we must endeavor to understand our predecessor's meaning in the common names they utilized. To ignore those names would otherwise relegate much of North America's early ornithological history to the trash bin. While the use of the term Sparrow Hawk may now be obsolete, knowing that Jefferson's Sparrow Hawk is Sibley's American Kestrel is important for any current or future student of ornithology. Without that knowledge how otherwise are we to fully understand the changes in avifauna population and distribution?

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AN UNUSUAL PIEDMONT NESTING SITE OF THE COMMON RAVEN (*CORVUS CORAX*) IN VIRGINIA

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INTRODUCTION

The Common Raven is a holarctic species and a permanent resident in most parts of its range, including Virginia, although immature and non-breeding birds may wander widely (Goodwin 1986). Common Ravens in Virginia are part of a disjunct population inhabiting a region of the Appalachian Mountains 80-160 km wide, extending from northern Georgia to northern Pennsylvania (Hooper et al. 1975; Hooper 1977). At one time this population ranged to the Atlantic coast and was in contact with populations to the north and west (Hooper et al. 1975).

In the early 20th Century, the species seems to have been moderately abundant in the Appalachians, being reported as fairly common in certain mountainous areas of North Carolina, where ravens were often seen feeding on waste at slaughtering pens (Gilbert 1917). Murray (1929), however, found ravens to be quite rare in Virginia, reporting a few observations in the Goshen Pass region (Rockbridge Co.). Shortly thereafter, however, Murray (1933) found ravens to be fairly common in Rockbridge County, where he saw as many as 4 at one time and had reports of 7-8 seen together. He estimated that a population of 12-20 birds inhabited the areas around Thunder Hill and House Mountain. In contrast, Jones (1933, 1935) believed that ravens were nearing extinction in Virginia, being confined to a small section of the Clinch Mountains (Russell, Scott, Washington Co.) and White Top Mountain (Grayson Co.), where he located and observed a nest. Clark and Forbes (1934) reported a raven seen near Hawksbill Mountain (Madison Co.) as the only definite record for that area. They also noted that they saw no ravens along any portion of the Skyline Drive during the spring or early summer of 1933, and thought it unlikely that any ravens were breeding there. Freer (1935) recorded only a single personal observation of a raven in 8-9 years of field work, and only 5 additional records from other sources (St. Mary's River, Augusta Co., Peaks of Otter, Bedford Co., and 3 locations in Amherst Co.). Murray (1938), on the other hand, reported ravens as being "not uncommon" in some of the mountainous areas of Virginia, but that the nests were difficult to find. A multi-year search finally yielded 1 nest

in western Rockbridge County (Murray 1938). Finally, Tyrrell (1945) located 3 nests in Shenandoah National Park (2 on Old Rag Mountain, and 1 on Stony Man Mountain), and saw as many as 10 along the Skyline Drive.

More recently, Hooper et al. (1975) conducted a breeding census in a 180 square mile area in the Ridge and Valley Physiographic Region of Virginia. They found a mean nesting density of 1 nest per 15.0 square miles which, while low compared to data from censuses in Britain (Ratcliffe 1962), is much higher than anything reported before 1949 (Murray 1949). It seems safe to conclude that the Common Raven was never entirely extirpated from the more remote areas of the Appalachian Mountain portion of its range, and that its numbers had increased by the middle of the 20th Century. Hooper et al. (1975), however, indicate that there is little evidence to suggest an increase between 1950 and 1975 and, because many apparently suitable nest sites were not being used, raven numbers were probably not at their theoretical or historical maximum.

From 1985 to 1989, The Virginia Breeding Bird Atlas Project (Tollinger et al. 2001) recorded the Common Raven in 30.1% of all blocks atlased in the North Ridge and Valley Region and 21.9% in the South Ridge and Valley Region. Ravens were much less commonly seen in the Piedmont, however (5.7% of blocks atlased in the North Piedmont; 3.4% in the South Piedmont); so the species still is confined largely to the more mountainous areas of the state. Ravens, especially nonbreeding birds, sometimes forage along rivers running east of the mountains, however; and may also follow railroad lines which intersect with these rivers, probably looking for carrion on the tracks (pers. obs.). As a result, corridors exist which may occasionally carry ravens quite far out onto the Piedmont.

Hooper (1977) found that raven nests west of Radford, Salem, and Lexington all were located on cliffs; 64% were at altitudes above 580 m (range for all nests: 335-1130 m). Nests have been reported above 1500 m in Virginia and North Carolina (Jones 1933; Hooper 1977). Suitable nesting locations had an overhang above and a steep rock face below (Hooper 1977). The mean distance between nests was 4.3 km (Hooper et al. 1975). Ravens occasionally nest in trees, but Hooper (1977) found that cliff nests outnumbered tree nests by 17 to 1, while Harlow (1922) reported that in Pennsylvania the ratio was eight to one. Tree nests are hard to find, however, and may be more common than is usually suspected (Hooper 1977). Significantly more young were fledged at nest locations below 580 m; nesting success was also slightly higher at sites located near roads or human dwellings (Hooper 1977).

Most raven nesting attempts are confined the Ridge and Valley Region and Piedmont nestings remain relatively infrequent. Scattered Piedmont nest sites have been recorded in Albemarle, Appomattox, Buckingham, Culpepper, Fluvanna, Goochland, Nelson, and Rappahannock Counties, but until now, no nests have been confirmed from the James River or farther south (Kain 1987).

OBSERVATIONS

In the spring of 2003 we observed a pair of ravens nesting in the Norfolk Southern railroad trestle crossing between Lynchburg and Madison Heights (Amherst Co.). This trestle has been a focal point of raven activity in Lynchburg for many years. Two rail lines cross at this point, the Norfolk Southern, which crosses the trestle (north-south), and the Chesapeake and Ohio, which follows the James River (east-west). Ravens forage for carrion along both lines, and sometimes follow the Chesapeake and Ohio line east as far as the Lynchburg City landfill. They also often forage along the Norfolk Southern line, working their way north into Amherst County, or south into urban areas of Lynchburg. Raven nests on trestles are unusual, although such nesting sites have been reported before (Heinrich 1999).

From 7-11 February, we saw two ravens ritualistically sliding their beaks over thin branches in a treetop overlooking the trestle. Eventually, they broke off branches and carried them to the trestle, flying to the top of a support pillar just under the rail line. On 12 February, we confirmed that the pair had completed a nest on the top girder at the northwestern corner of a trestle support pillar close to the southern end of the trestle and almost directly above the Chesapeake and Ohio rail line. The nest was less than 1 m below the tracks and was partly shielded from above. From 12 February through 19 March, at least one member of the pair could be found in the vicinity of the nest site; sometimes perched on the tracks directly over the nest, at other times perched in the trees on the bluff in Riverside Park on the south side of the James River.

On 29 March, we discovered that the birds had built a new nest on a trestle support pillar on Goat Island, farther north along the Norfolk Southern trestle. As in the case of the previous one, the nest was located on the top girder at the northwestern corner of the pillar. The pair's foraging activity increased at this point, and on 30 March we saw a raven searching for the eggs and young in nests of other bird species in the treetops along Elmwood Avenue (1.5 km south of the nest site). The next day, we found a raven caching food in a patch of tall grass near the Food Lion on Bedford Avenue (1 km south of the nest site). We are uncertain if the raven on Elmwood was one of the pair nesting on the trestle, but the one caching food definitely was. In fact, we soon discovered that the Food Lion dumpster across the street from the cache site was a favored feeding location and often observed ravens flying directly from the dumpster to the nest site.

Typically, one member of the pair arrived at the Food Lion dumpster before 0900 hrs. After scouting the site, often from a telephone pole on Bedford Avenue, the bird usually moved to the Food Lion roof directly above the dumpster. From there it moved to the dumpster and after carefully surveying its surroundings, the bird leaned into the dumpster. On some occasions, the bird actually entered the dumpster, periodically poking its head back out to scan for danger. As the bird gathered food, it generally made several short caching trips, planting food in a landscaped area nearby or in the long grass across the street. Its favored food appeared to be fried chicken from the Food Lion rotisserie. Eventually, the bird would gather as much food as possible into its gular pouch and fly directly back to

the nest site, returning to the cache sites later in the morning. The raven often was bothered by Common Crows (*Corvus brachyrhynchos*) while foraging in this way.

It was difficult to know when the pair's eggs hatched, but from 2 April on, one member of the pair usually could be found in the vicinity of the nest; most frequently perched on the railroad tracks directly above the nest. This bird could be quite aggressive in mobbing approaching Red-tailed Hawks (*Buteo jamaicensis*), Common Crows, or intruding ravens. Somewhat surprisingly, the ravens showed no concern about either Black Vultures (*Coragyps atratus*) or Turkey Vultures (*Cathartes aura*), even on the occasions when several of each species landed on the trestle less than 50 m from the nest. Apparently, one bird took most of the nest defense duty, because as the spring progressed the "guard" bird took on a bronzed hue, presumably from its continual exposure to direct sunlight. This bird usually was watchful, but it also spent time preening and occasionally dozing. Once, both members of the pair sat side-by-side near the nest and indulged in a long bout of allopreening.

The southern end of the trestle was used as a food processing center, and most food items were taken to this location before they were carried to the nest. On one occasion, a raven landed there with the remains of a freshly killed gray squirrel (*Sciurus carolinensis*). Its mate landed next to it, but as they began to pick apart the squirrel, an immature Red-tailed Hawk flew between them and pulled the squirrel away. A prolonged battle developed with the hawk last seen in possession of the squirrel. Given the circumstances and the age of the hawk, it seems likely that the squirrel had been killed by the hawk and later stolen by one of the ravens.

The ravens showed little concern about frequent trains crossing just 1 m above their nest. The bird "on guard" on the trestle generally showed no notice of an approaching train until it was within 50 m. At this point, the bird usually flew to a tree on Goat Island, returning to the trestle or nest soon after the train had passed.

On 28 April, we heard the calls of several young ravens in the nest, and raven foraging flights to Food Lion and to the garbage cans in Riverside Park became even more frequent. Also, the adults began to display increasing signs of alarm when people stood on the overlook in Riverside Park directly above the trestle. On 3 May, a young raven was seen on the ground at the southern edge of Goat Island, and both parents showed considerable concern over it. Unfortunately, this bird, and a second one that left the nest early, probably were lost to predators. On 7 May, three fledglings were seen with the adults on top of one of the trestle pillars. The young birds spent the next three days clambering awkwardly around in the trestle, but by 10 May two of them usually were in the woods at the south end of the trestle. One of the young birds seemed especially slow to develop, however, and this bird was still spending a great deal of time on the trestle as late as 30 May, usually accompanied by an adult.

In 2004, a single raven mobbed a Red-tailed Hawk near the trestle on 5 January, and on 25 January we saw two ravens gathering twigs and taking them to last year's nest site. On 15 February, we again saw the birds gathering twigs

and later that day saw them mating. Unfortunately, we were unable to follow the entire 2004 nesting season, but ravens were active around the trestle through May, so there is reason to think that a pair nested there again.

In recent years, ravens have become more abundant in the Ridge and Valley region of Virginia and, as the nesting we observed shows, now may be extending their breeding range onto the Piedmont. Ravens are vulnerable to human disturbance during the breeding season, because of the often exposed locations of their nests, but it will be interesting to see to what extent this vulnerability is balanced against the foraging benefits of nesting near human habitation. Perhaps, now that human persecution mostly is in the past, the Common Raven in Virginia will increasingly adapt to human-influenced habitats – something that the species already has successfully done in many parts of its holarctic range (Goodwin 1986).

ACKNOWLEDGEMENTS

We thank Ronald Gettinger for his assistance in monitoring the pair of ravens nesting on the James River during the period prior to the fledging of their young.

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SUMMARY OF THE BREEDING BIRD PROJECT AT NINE NATURE CONSERVANCY PRESERVES IN VIRGINIA, 2000 - 2002

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INTRODUCTION

The Nature Conservancy is currently developing and implementing site conservation plans for preserves in Virginia as part of its large scale effort to conserve the full biological diversity within each ecoregion (The Nature Conservancy 1997; Groves 2000). To aid in the development and refinement of these conservation plans and in the implementation of conservation actions, basic data for a preserve on species composition of the faunal and floral assemblages and the presence of high priority species often are needed. Using volunteer assistance, we applied a modified Breeding Bird Atlas methodology (Laughlin et al. 2000) at nine preserves owned or managed by the Conservancy during spring and summer 2000 through 2003. The objectives of this project were to: (1) provide a baseline inventory of bird species breeding within each preserve to aid in site conservation planning; and (2) identify species of concern that may be breeding in preserves. Volunteers collected presence/absence data for bird species and information regarding their breeding status based on behavioral observations. This paper presents the results of the inventory.

METHODS AND MATERIALS

Study areas.— For the first year of this project we focused our efforts on nine Conservancy preserves spread throughout five of the state's six ecoregions (The Nature Conservancy 1997): Central Appalachian Forest (South River Preserve, Falls Ridge Preserve), Chesapeake Bay Lowlands (Cumberland Marsh Preserve, Voorhees Preserve), Mid-Atlantic Coastal Plain (Blackwater Ecological Preserve, North Landing River Preserve), Piedmont Ecoregion (Fraser Preserve, Fernbrook Natural Area), and Southern Blue Ridge (Bottom Creek Gorge Preserve).

Blackwater Ecological Preserve (128 Hectares): This preserve is owned by Old Dominion University and co-managed by the Conservancy and the Virginia

Department of Conservation and Recreation, Division of Natural Heritage. The area features one of the last longleaf pine (*Pinus palustris*) forests left in Virginia and is located in Isle of Wight County in southeastern Virginia. The overstory is dominated by unusually large 100- to 130-year old loblolly pines (*Pinus taeda*), a sub-canopy of scrub oaks (*Quercus* spp.), an understory of blueberries (*Vaccinium* spp.), huckleberries (*Gaylussacia* spp.) and other shrubs. Prescribed fire is used to restore fire-maintained natural communities, such as longleaf pine-turkey oak (*Q. laevis*) flatwoods and longleaf pine savannas. *Bottom Creek Gorge Preserve* (670 hectares): Several mountain streams run through the preserve's gorges including Bottom Creek, which provides critical habitat for rare fish species native to the Roanoke River system. Located in Montgomery County, the area includes mixed hardwoods consisting of tulip poplar (*Liriodendron tulipifera*), maple (*Acer* spp.), oak, hickory (*Carya* spp.), old-growth Carolina hemlock (*Tsuga caroliniana*), and an understory dominated by rhododendron (*Rhododendron maximum*) in ravines. Several old fields are spread throughout in the preserve. A series of waterfalls, including Virginia's second highest at 60 m, are also located here.

Cumberland Marsh Preserve (443 hectares): Cumberland Marsh protects pristine freshwater tidal marshes along the Pamunkey River in New Kent County. A second or third growth hardwood forest borders the marshes and the headwaters of Holt's Creek, the main tributary flowing through the preserve into the Pamunkey River. Rare plants include the sensitive joint vetch (*Aeschynomene virginica*), an annual plant that depends on recurring floods to spread its seeds.

Falls Ridge Preserve (265 hectares): Falls Ridge is on a rugged ridge that rises from the valley of the north fork of the Roanoke River, southeast of Blacksburg, Montgomery County. A geological fault runs through the property resulting in two different major soil associations supporting a diverse flora. The mixed upland forest covers over 50% of the preserve and contains typical species found in the eastern deciduous woodlands including oak and hickory with scattered ash (*Fraxinus* spp.), white pine (*Pinus strobus*), Virginia pine (*Pinus virginiana*), and pitch pine (*Pinus rigida*). Tulip Poplar and hemlock are found in the ravines while sycamores (*Platanus occidentalis*) and American hornbeam (*Carpinus caroliniana*) are closer to the river.

Fernbrook Natural Area (25 hectares): Fernbrook borders the north fork of the Rivanna River in Albemarle County. Mature deciduous hardwoods dominate the tract along with pockets of Virginia (*Pinus virginiana*) and shortleaf pine (*Pinus echinata*). Bottomland hardwoods consist of sycamore, red maple (*Acer rubrum*), black walnut (*Juglans nigra*), tulip poplar, ash, and hackberry (*Celtis* spp.).

Fraser Preserve (90 hectares): This preserve is located in Fairfax County and borders the Potomac River. Fraser contains examples of habitats common to the Piedmont region: mature hardwood forests, floodplain forests, marshes, steep rocky bluffs, springs and seeps, and open meadows. The diversity of habitats support a tremendous variety of herbaceous species (e.g., approximately 300 species of wildflowers).

North Landing River Preserve (3,000 hectares): This Conservancy preserve features large expanses of undisturbed freshwater wind tide marshes and young

bald cypress (*Taxodium distichum*) swamps along the west bank of the North Landing River and is located south of Virginia Beach. The unique wetlands system of the North Landing River harbors the highest concentration of rare species east of the Blue Ridge mountains in Virginia. The preserve is inaccessible by land except along the Conservancy's boardwalk and at the North Landing River Natural Area Preserve, a 1,176-hectare state preserve protecting more of the freshwater marshes, cypress swamps, and high pocosins of this riverine system. This natural area preserve is owned and managed by the Virginia Department of Conservation and Recreation, Division of Natural Heritage. Surveys were conducted only from the accessible areas.

South River Preserve (32 hectares): This preserve abuts the Norfolk and Southern railroad tracks and the South River in Augusta County. The area features a spring-fed wet prairie that represents one of the last few such wetlands remaining in the state. At least 16 plants considered rare in the state are found here.

Voorhees Nature Preserve (295 hectares): Voorhees lies on the northeast bank of the Rappahannock River in Westmoreland County. The preserve is covered by mature coastal plain hardwood forest dominated by oak, beech (*Fagus* spp.), pine, and tulip poplar. A freshwater tidal marsh covers the northwestern portion of the preserve.

Field Survey Methods.—We solicited volunteer participation by announcing the project at key outlets that included the Virginia Society of Ornithology Annual Meeting, the VA-Bird Listserv hosted by the National Audubon Society, and by contacting active birders and Conservancy volunteers near preserves. We selected team leaders for each preserve based on meeting minimum criteria including ability to identify most birds in Virginia by sight and sound. Team leaders coordinated visits with additional volunteers. All team leaders received maps, site descriptions, directions, data sheets, and a description of the modified Breeding Bird Atlas methodology (Laughlin et al. 2000).

The standard Breeding Bird Atlas methodology has been used by volunteers nationwide to collect distribution data on breeding birds within states. Many atlases have been published (e.g. Robbins and Blom 1996) or the data have been made available through online databases (e.g. Virginia Department of Game and Inland Fisheries 2002). Generally states are divided into grids (e.g. 10 km) that are searched for all evidence of breeding birds (Eagles 1990, Eagles and Balser 1990). Instead of using a grid system on the preserves, we asked participants to collect data within preserves as if each preserve was a single grid square to provide us with site specific data. Participants walked along existing trails and recorded the presence of all species and to determine breeding status of bird species detected by recording behavioral cues and other indicators of breeding potential. At North Landing River, volunteers also accessed the preserve by boat. Breeding status for each species at a preserve was classified into one of four categories based on the volunteer data: (1) observed (e.g., species observed flying over), (2) possible breeder (e.g., observed in suitable breeding habitat), (3) probable breeder (e.g., courtship behavior observed), and (4) confirmed breeder (e.g., occupied nest observed). We requested a minimum

of 10 hours in the field from each volunteer from May through July during 2000 and 2001. Participants were asked to make special efforts to document species of conservation concern.

We provided team leaders a draft list of 28 species of concern for the six ecoregions across Virginia (Appendix I). This preliminary list was developed by the Conservancy in collaboration with Partners in Flight (Mehlman and Hanners 1999), a cooperative effort of federal, state, international, and non-governmental organizations that work together to conserve bird populations (Pashley et al. 2000).

Original data sheets were submitted to the lead author and entered into a database and summarized. Once entered, the data were compared to the original data sheets for accuracy by a second person. Status codes were reviewed at the end of the project to ensure that codes were applied appropriately. Team leaders were given an opportunity to review data for accuracy and comment on all data collected throughout this project.

Appropriate sample size was estimated by developing species accumulation curves by graphing the total number of species to a graph after each year of the study. The point at which a curve flattened was considered the minimum sample size (Magurran 1988).

RESULTS

Volunteers made 47 site visits to nine preserves between 9 April and 29 July 2000 and spent over 142 hours in the field. In 2001, volunteers spent 152 hours in the field and visited 8 preserves between 18 March and 20 July. In 2002, volunteers continued the project at six preserves (Blackwater, Bottom Creek, Falls Ridge, Fernbrook, Fraser, and North Landing) and spent an additional 68 hours in the field between 11 April and 13 July. Volunteers identified 114 species in 2000 and added three new species in 2001 followed by seven new species in 2002 (Table 1). The number of species recorded at each preserve varied between the two years of the study.

Fifty species were confirmed breeding in the preserves during 2000. Although only 38 species were confirmed breeding in 2001, 24 new species were confirmed in 2002. By the end of the project a total of 65 species were confirmed breeders. Sixteen species were observed, but not confirmed or documented as a probable or possible breeder. Most of these species were likely transients or migrants that were only recorded once during the breeding season.

Thirteen species were found at all nine preserves including the Ruby-throated Hummingbird (*Archilochus colubris*), Red-bellied Woodpecker (*Melanerpes carolinus*), Downy Woodpecker (*Picoides pubescens*), Great Crested Flycatcher (*Myiarchus crinitus*), Red-eyed Vireo (*Vireo olivaceus*), Blue Jay (*Cyanocitta cristata*), American Crow (*Corvus brachyrhynchos*), Carolina Chickadee (*Parus carolinensis*), Tufted Titmouse (*Baeolophus bicolor*), Carolina Wren (*Thryothorus ludovicianus*), Blue-gray Gnatcatcher (*Poliophtila caerulea*), Northern Cardinal (*Cardinalis cardinalis*), and the Indigo Bunting (*Passerina cyanea*). All were confirmed breeders on at least one preserve and the Cardinal was a confirmed breeder at six of the preserves.

Eight species of concern were documented on the preserves: Brown-headed nuthatch (*Sitta pusilla*), Wood Thrush (*Hylocichla mustelina*), Black-throated Blue Warbler (*Dendroica caerulescens*), Prairie Warbler (*Dendroica discolor*), Prothonotary Warbler (*Protonotaria citrea*), Worm-eating Warbler (*Helmitheros vermivorus*), Louisiana Waterthrush (*Seiurus motacilla*), and Kentucky Warbler (*Oporornis formosus*). The Wood Thrush, was widespread and found in eight of the nine preserves surveyed and confirmed as a breeder at three preserves (Bottom Creek Gorge, Falls Ridge, and Fraser). The Louisiana Waterthrush and Worm-eating Warbler were found at five preserves but confirmed only at Fraser and Falls Ridge, respectively. The Prothonotary Warbler was confirmed at four preserves (Cumberland Marsh, Falls Ridge, Fernbrook, and Voorhees). The Black-throated Blue and Kentucky Warblers were confirmed as breeding on one preserve (Bottom Creek Gorge and Fraser respectively). The Prairie Warbler was documented only as a possible breeding species at two preserves (Blackwater and Bottom Creek Gorge) and as a probable breeder at North Landing River. The Brown-headed Nuthatch was documented as a probable breeder at Blackwater and North Landing River preserves.

Between 2000 and 2001, only three new species were added to the total list. At Blackwater, Falls Ridge, and Fernbrook, only three, two, and five new species respectively, were added in 2001. In contrast, in 2002, seven new species were added to the total species list. Six of the seven new species were documented at North Landing River where 22 new species were identified. Only two new species were added at Falls Ridge and Fernbrook in 2002. At Blackwater, Bottom Creek, and Fraser, only one new species was added in 2002.

DISCUSSION

This study documented presence/absence of bird species during the breeding season and identified their breeding status at nine preserves across Virginia. The results in this study represent the first site specific species lists developed at eight of the nine preserves. Volunteers confirmed or documented probable or possible breeding of 109 species including eight species of concern across the nine preserves during the survey periods.

The study augments data from a similar study conducted Fraser Preserve. Using point counts, the Fairfax Audubon Society (2000) documented 42 species between 1994-1999. The 42 species include seven that were not documented in this study including Double-crested Cormorant (*Phalacrocorax auritus*), Mallard (*Anas platyrhynchos*), Wild Turkey (*Meleagris gallopavo*), Fish Crow (*Corvus ossifragus*), House Wren (*Troglodytes aedon*), Yellow Warbler (*Dendroica petechia*), and House Sparrow (*Passer domesticus*). This study, however, documented 24 additional species at Fraser bringing the total number of observed species during the breeding season at the preserve to 73.

With few exceptions, the documented species have been recorded by Breeding Bird Atlas (BBA) and Breeding Bird Survey (BBS) efforts in the vicinity of the preserves (Virginia Department of Game and Inland Fisheries 2002). Species

No	Common Name	Latin Name	Blackwater (Mid-Atlantic Ecoregion) – 38 hrs.	Bottom Creek (South. Blue Ridge Eco.) – 53 hrs.	Cumberland Marsh (Chesapeake Eco.) – 41 hrs.	Falls Ridge (Central Appalachian Eco.) – 61 hrs.	Fernbrook (Piedmont Eco.) – 22 hrs.	Fraser (Piedmont Eco.) – 67 hrs.*	North Landing (Mid-Atlantic Ecoregion) – 21 hrs.	South River (Central Appalachian Eco.) – 21 hrs.	Voorhees (Chesapeake Eco.) – 38 hrs.
26	Caspian Tern	<i>Sterna caspia</i>							o		
27	Rock Dove	<i>Columba livia</i>								o	
28	Mourning Dove	<i>Zenaidura macroura</i>	po	po	po	pr		po	po	co	pr
29	Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	po	o	po	co	po	pr	pr		pr
30	Great Horned Owl	<i>Bubo virginianus</i>			po			po	o		
31	Barred Owl	<i>Strix varia</i>			po			co	o		pr
32	Whip-poor-will	<i>Caprimulgus vociferus</i>		po							
33	Chimney Swift	<i>Chaetura pelagica</i>	o		o	o		po	pr	o	
34	Ruby-throated Hummingbird	<i>Archilochus colubris</i>	po	o	po	co	po	pr	pr	o	po
35	Belted Kingfisher	<i>Ceryle alcyon</i>		o	o			pr	po		pr
36	Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	po		po				o		
37	Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	pr	po	co	po	pr	co	pr	pr	pr
38	Downy Woodpecker	<i>Picoides pubescens</i>	po	o	po	co	co	co	pr	o	co
39	Hairy Woodpecker	<i>Picoides villosus</i>			po	pr	co	pr	po		pr
40	Northern Flicker	<i>Colaptes auratus</i>	po		po		po	co	po	pr	pr
41	Pileated Woodpecker	<i>Dryocopus pileatus</i>	po	po	co	pr	pr	pr	pr		co
42	Eastern Wood-Pewee	<i>Contopus virens</i>	pr	po	co	pr	pr	pr	po		co
43	Acadian Flycatcher	<i>Empidonax virescens</i>	pr	po	co	co	co	co	pr		co
44	Alder Flycatcher	<i>Empidonax alnorum</i>								pr	
45	Willow Flycatcher	<i>Empidonax traillii</i>								co	
46	Eastern Phoebe	<i>Sayornis phoebe</i>		o	pr	co		o		pr	pr
47	Great Crested Flycatcher	<i>Myiarchus crinitus</i>	po	po	co	co	pr	pr	pr	co	pr
48	Eastern Kingbird	<i>Tyrannus tyrannus</i>			po			co	co		
49	White-eyed Vireo	<i>Vireo griseus</i>	pr		pr		pr	pr	po		o
50	Yellow-throated Vireo	<i>Vireo flavifrons</i>		po	po	pr					pr
51	Blue-headed Vireo	<i>Vireo solitarius</i>		po		pr	pr				
52	Warbling Vireo	<i>Vireo gilvus</i>			pr					pr	
53	Red-eyed Vireo	<i>Vireo olivaceus</i>	co	co	co	co	pr	pr	pr	pr	co
54	Blue Jay	<i>Cyanocitta cristata</i>	po	po	po	po	pr	co	po	co	pr
55	American Crow	<i>Corvus brachyrhynchos</i>	po	co	co	co	pr	po	po	o	pr
56	Fish Crow	<i>Corvus ossifragus</i>			po				co	o	
57	Common Raven	<i>Corvus corax</i>				po					

No	Common Name	Latin Name	Blackwater (Mid-Atlantic Ecoregion) – 38 hrs.	Bottom Creek (South. Blue Ridge Eco.) – 53 hrs.	Cumberland Marsh (Chesapeake Eco.) – 41 hrs.	Falls Ridge (Central Appalachian Eco.) – 61 hrs.	Fernbrook (Piedmont Eco.) – 22 hrs.	Fraser (Piedmont Eco.) – 67 hrs. *	North Landing (Mid-Atlantic Ecoregion) – 21 hrs.	South River (Central Appalachian Eco.) – 21 hrs.	Voorhees (Chesapeake Eco.) – 38 hrs.
58	Horned Lark	<i>Eremophila alpestris</i>			po				po		
59	Purple Martin	<i>Progne subis</i>							po		
60	Tree Swallow	<i>Tachycineta bicolor</i>		o				o	o	po	
61	Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>		co	po			pr	o	co	po
62	Barn Swallow	<i>Hirundo rustica</i>		o	po	o		po	po	co	
63	Carolina Chickadee	<i>Parus carolinensis</i>	pr	pr	co	co	pr	co	pr	pr	pr
64	Black-capped Chickadee	<i>Parus atricapillus</i>				o					
65	Tufted Titmouse	<i>Baeolophus bicolor</i>	pr	o	co	pr	pr	o	pr	pr	co
66	White-breasted Nuthatch	<i>Sitta carolinensis</i>	po	o	co	pr	pr	pr	pr		pr
67	Brown-headed Nuthatch	<i>Sitta pusilla</i>	pr						pr		
68	Carolina Wren	<i>Thryothorus ludovicianus</i>	po	po	co	co	pr	pr	pr	co	co
69	House Wren	<i>Troglodytes aedon</i>		o							
70	Marsh Wren	<i>Cistothorus palustris</i>							pr		
71	Golden-crowned Kinglet	<i>Regulus satrapa</i>		o	po						
72	Blue-gray Gnatcatcher	<i>Poliptila caerulea</i>	pr	po	co	co	pr	co	pr	co	co
73	Eastern Bluebird	<i>Sialia sialis</i>	co		pr			co	po		pr
74	Veery	<i>Catharus fuscescens</i>						po			
75	Gray-cheeked Thrush	<i>Catharus minimus</i>						o			o
76	Swainson's Thrush	<i>Catharus ustulatus</i>					o				
77	Wood Thrush	<i>Hylocichla mustelina</i>	po	co	pr	co	pr	co	pr		pr
78	American Robin	<i>Turdus migratorius</i>	po	o	po			po	po	co	
79	Gray Catbird	<i>Dumetella carolinensis</i>		o				po		co	po
80	Northern Mockingbird	<i>Mimus polyglottos</i>			pr			po	o	pr	
81	Brown Thrasher	<i>Toxostoma rufum</i>		co	po			co	o	pr	po
82	European Starling	<i>Sturnus vulgaris</i>								co	
83	Cedar Waxwing	<i>Bombicilla cedrorum</i>		o	o					co	
84	Northern Parula	<i>Parula americana</i>	po	o	o	po	po	po	po		co
85	Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>									o
86	Yellow-rumped Warbler	<i>Dendroica coronata</i>					o		o		
87	Yellow Warbler	<i>Dendroica petechia</i>				po				co	

No	Common Name	Latin Name	Blackwater (Mid-Atlantic Ecoregion) – 38 hrs.	Bottom Creek (South. Blue Ridge Eco.) - 53 hrs.	Cumberland Marsh (Chesapeake Eco.) – 41 hrs.	Falls Ridge (Central Appalachian Eco.) – 61 hrs.	Fernbrook (Piedmont Eco.) – 22 hrs.	Fraser (Piedmont Eco.) – 67 hrs. *	North Landing (Mid-Atlantic Ecoregion) – 21 hrs.	South River (Central Appalachian Eco.) – 21 hrs.	Voorhees (Chesapeake Eco.) – 38 hrs.
88	Black-throated Blue Warbler	<i>Dendroica caerulescens</i>	co	o							o
89	Black-throated Green Warbler	<i>Dendroica virens</i>	po						o		o
90	Yellow-throated Warbler	<i>Dendroica dominica</i>	po		pr				o		
91	Pine Warbler	<i>Dendroica pinus</i>	co		co	po	pr		pr		
92	Prairie Warbler	<i>Dendroica discolor</i>	po	po					pr		
93	Blackpoll Warbler	<i>Dendroica striata</i>			o	o		o	o		
94	Black-and-white Warbler	<i>Mniotilta varia</i>		pr	o	po	po				
95	American Redstart	<i>Setophaga ruticilla</i>		po	o	po		co			po
96	Prothonotary Warbler	<i>Protonotaria citrea</i>			co			co	co		co
97	Worm-eating Warbler	<i>Helmitheros vermivorus</i>	pr	po		co		po	o		
98	Ovenbird	<i>Seiurus aurocapillus</i>	pr	co	pr	co	pr	co	co		pr
99	Louisiana Waterthrush	<i>Seiurus motacilla</i>		po		pr	pr	co	po		po
100	Kentucky Warbler	<i>Oporornis formosus</i>	pr					co			o
101	Common Yellowthroat	<i>Geothlypis trichas</i>	pr		po			pr	pr	co	pr
102	Hooded Warbler	<i>Wilsonia citrina</i>	pr	co	pr	pr					po
103	Yellow-breasted Chat	<i>Icteria virens</i>			po			po		co	
104	Summer Tanager	<i>Piranga rubra</i>	pr		co						pr
105	Scarlet Tanager	<i>Piranga olivacea</i>	po	pr	po	pr	pr	pr			pr
106	Eastern Towhee	<i>Pipilo erythrophthalmus</i>	pr	co		po	pr	co	o	co	co
107	Chipping Sparrow	<i>Spizella passerina</i>	pr	po	co	po		po	pr	pr	pr
108	Saltmarsh Sharp-tailed Sparrow	<i>Ammodramus caudacutus</i>							po		
109	Swamp Sparrow	<i>Melospiza georgiana</i>							o		
110	Field Sparrow	<i>Spizella pusilla</i>		pr	po					co	pr
111	Song Sparrow	<i>Melospiza melodia</i>		po	pr					co	po
112	White-throated Sparrow	<i>Zonotrichia albicollis</i>									o
113	Dark-eyed Junco	<i>Junco hyemalis</i>									o
114	Northern Cardinal	<i>Cardinalis cardinalis</i>	pr	co	co	pr	pr	co	co	co	co
115	Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>		o						co	
116	Blue Grosbeak	<i>Guiraca caerulea</i>			pr				pr		o

No	Common Name	Latin Name	Blackwater (Mid-Atlantic Ecoregion) - 38 hrs.	Bottom Creek (South. Blue Ridge Eco.) - 53 hrs.	Cumberland Marsh (Chesapeake Eco.) - 41 hrs.	Falls Ridge (Central Appalachian Eco.) - 61 hrs.	Fernbrook (Piedmont Eco.) - 22 hrs.	Fraser (Piedmont Eco.) - 67 hrs. *	North Landing (Mid-Atlantic Ecoregion) - 21 hrs.	South River (Central Appalachian Eco.) - 21 hrs.	Voorhees (Chesapeake Eco.) - 38 hrs.
117	Indigo Bunting	<i>Passerina cyanea</i>	co	pr	co	co	pr	co	pr	pr	pr
118	Red-winged Blackbird	<i>Agelaius phoeniceus</i>		po	pr			po	pr	co	co
119	Eastern Meadowlark	<i>Sturnella magna</i>			po					pr	
120	Common Grackle	<i>Quiscalus quiscula</i>			co			pr	pr	co	o
121	Brown-headed Cowbird	<i>Molothrus ater</i>	po		co	po		pr	pr	co	pr
122	Orchard Oriole	<i>Icterus spurius</i>			co						o
123	Baltimore Oriole	<i>Icterus galbula</i>						po		pr	
124	House Finch	<i>Carpodacus mexicanus</i>						po			
125	American Goldfinch	<i>Carduelis tristis</i>		o	po	pr	pr	pr	po	co	pr
	Summary statistics:	Conservation Concern	5	4	3	3	2	5	6	0	3
		Confirmed	4	12	22	15	3	20	7	25	13
		Probable	17	5	12	13	24	19	29	15	28
		Possible	21	20	37	13	5	19	23	3	11
		Observed	3	20	9	5	5	8	22	13	17
		Total Species	45	61	80	46	37	66	81	56	69

* Hours at Fraser are estimated.

previously undocumented by a nearby BBA and BBS included the Warbling Vireo (*Vireo gilvus*) and Black-throated Blue Warbler at Cumberland Marsh and the Worm-eating Warbler at Blackwater.

Very few new species were added from one year of the study to the next suggesting that the three year study provided an adequate sample size at most preserves to describe the species assemblages. A large number of species, however, were added at from one year to the next only at North Landing River. The increase in documented species was likely due to surveying new areas by boat that were previously inaccessible. While additional surveys may not greatly increase the species lists, more species still can be confirmed as breeders with additional work. The Wood Thrush and Louisiana Waterthrush, for example, were the most

widespread species of concern but were not confirmed breeders everywhere. New species also may be documented if survey techniques were changed. Early breeding species such as some raptors or nocturnal species such as owls or goatsuckers were likely underrepresented by this survey. Special survey techniques, however, are warranted to confirm breeding for these types of species at all preserves.

The preserves surveyed clearly are not representative of all the habitats found within the state. Species of concern including grassland species such as the Henslow Sparrow (*Ammodramus henslowii*) or Dickcissel (*Spiza americana*), and shorebirds such as the Wilson's Plover (*Charadrius wilsonia*), Piping Plover (*Charadrius melodus*) and Willet (*Caloptrophorus semipalmatus*), for example, were not documented by this survey because suitable habitats for these type of birds were not represented within the surveyed preserves. Additional preserves could be included in future surveys to provide a broader snapshot of the Conservancy's contribution to habitat for breeding birds within the six ecoregions found in Virginia.

For all preserves, the data collected by this survey fill significant information gaps for the Conservancy. This inventory has demonstrated that the Conservancy's preserves host a wide variety of breeding birds including species of concern. In addition, this inventory has provided baseline data upon which site conservation planning can begin for breeding bird assemblages. Additional surveys will likely contribute more new information about bird species at Conservancy preserves. Planning efforts for high priority species need to account for well-documented threats for many breeding bird species, such as nest predation, cowbird parasitism, or habitat fragmentation (Faaborg et al. 1992). Long-term monitoring would be essential to evaluate the success of planning efforts and ascertain if the populations of breeding birds on Conservancy preserves are productive and viable.

ACKNOWLEDGEMENTS

We thank John and Wendy Ealding, Kurt Gaskill, Connie Marsh, Eugene Sankey, John Spahr, Peggy Spiegel, Dorothy Tompkins, Jerry Uhlman, and Gary Williamson for coordinating bird surveys at each preserve. Great appreciation is extended to the following people for assisting with one or more surveys: Bob Abraham, Brian Arthur, Crista Cabe, Larry Cartwright, John Coe, Steve Croy, Todd Day, Tad Finnel, Bruce Grimes, Teta Kain, Clyde Kessler, Sarah Koenen, Danny Kwan, Allen Lerner, Sissy Logan, Bill Opengari, Sally and Doug Pfeiffer, Pat Palenty, Alyce and Tim Quinn, Keva Ryan, Gail Sankey, Paula Sullivan, Dorothy Tela, John Votta, and Phyllis Williamson. Steve Bruck coordinated the final year of the survey and entered all of the data. Scott Boven of The Nature Conservancy provided an enormous amount of encouragement and enthusiasm to make this project possible. Gina Pisoni completed the important and time-consuming task of data-entry and provided an essential step in data quality control. We thank Lise Hanners, David Mehlman, Chandler Robbins, and C. Michael Stinson for comments to earlier drafts of this manuscript.

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Appendix I. Species of conservation concern based on ecoregional prioritization schemes developed by The Nature Conservancy in coordination with Partners in Flight.

Species	Cumberland and - Southern Ridge and Valley - Beech Grove Cliff	Southern Blue Ridge - Bottom Creek Grove	Piedmont - Fraser, Fernbrook	Mid-Atlantic Coastal Plain - Blackwater Ecologic Preserve	Cheasapeake Bay Lowlands - Cumberland Marsh	Central Appalachians - South River, Falls Ridge
American Black Duck				X	X	
Swallow-tailed Kite				X		
Black Rail				X	X	
Piping Plover				X	X	
Wilson's Plover				X		
Willet				X		
Saw-Whet Owl					X	X
Chuck-will's Widow	X		X	X		
Red-cockaded Woodpecker	X		X	X		
Brown-headed Nuthatch	X		X	X	X	
Wood Thrush	X	X	X	X	X	X
Golden-winged Warbler	X	X				X
Black-throated Blue Warbler	X	X				X
Prairie Warbler	X	X	X	X	X	X
Cerulean Warbler	X	X				X
Prothonotary Warbler	X		X	X	X	
Worm-eating Warbler	X		X	X	X	X
Swainson's Warbler	X	X	X	X		
Louisiana Waterthrush	X	X				
Kentucky Warbler	X	X	X	X	X	X
Canada Warbler		X				
Painted Bunting				X		
Bobolink						X
Dickcissel	X					
Bachman's Sparrow	X		X	X		
Henslow's Sparrow	X					X
Saltmarsh Sharp-tailed Sparrow				X	X	
Seaside Sparrow				X	X	

THE VIRGINIA SOCIETY OF ORNITHOLOGY 2004 ANNUAL FORAY ON THE NORTHERN NECK

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INTRODUCTION

The 2004 VSO Annual Foray was held in the Northern Neck region of Virginia from June 5-13 and covered parts of King George, Lancaster, Northumberland, Richmond, and Westmoreland counties. The foray headquarters was Longwood University's Hull Springs Farm in Montross, situated within view of Machodoc Creek and the Potomac River. In addition to some sites from the last foray on the Northern Neck (1993), included for the first time were several tracts owned by the Rappahannock River Valley National Wildlife Refuge (RRVNRW, established in 1995), which provided access to previously unavailable areas, particularly for the mid-section of the Northern Neck. Combined with several state-owned parks and natural areas, one private farm, and a few routes and neighborhoods, a diverse and representative array of habitats were surveyed. The most dominant habitat type of all survey sites was forest, followed by early succession and crop field. Morning temperatures ranged from upper 50's to upper 80's (F) and high humidity, low winds, and heavy clouds characterized the week.

METHODS

All survey sites were on the Northern Neck peninsula, a roughly 100-mile long landmass formed by the Potomac River to the north, the Rappahannock River to the south, the Stafford County line to the west, and the Chesapeake Bay to the east. Its area is approximately the size of Puerto Rico. Land use on the Northern Neck is primarily agricultural, pine plantation or other timber, with scattered towns and residential areas.

Eight Refuge tracts were included: these were Island Farm Marsh, Laurel Grove, Mothershead, Peter, Tayloe, Toby's Point, Wilna, and Wright, spanning three

counties (King George, Richmond, and Westmoreland). Other sites in the foray were Belle Isle State Park, Bushmill Stream Natural Area, Caledon Natural Area, Dameron Marsh Natural Area, George Washington Birthplace National Monument, Heritage Park Resort (private), Hickory Hollow, Hughlett Point, Mulberry Point Farm (private), Stratford Hall, Westmoreland State Park, Westmoreland Berry Farm (Private), Voorhees Natural Area, and various neighborhoods and road-side routes (Table 1).

Table 1. Areas (if available), locations by county, and species richness of survey locations.

Survey Site	Area (acres)	County	Total species
Belle Isle State Park	733	Lancaster	70
Bush Mill Stream Natural Area Preserve	103	Northumberland	50
Caledon Natural Area	2,579	King George	56
Cherry Point Neck/Sandy Point Neck	-	Westmoreland	38
Dameron Marsh Natural Area Preserve	316	Northumberland	51
George Washington's Birthplace Nat. Mon.	550	Westmoreland	42
Heritage Park Resort	243	Richmond	26
Hickory Hollow Nature Preserve	254	Lancaster	21
Hughlett Point Natural Area Preserve	204	Northumberland	28
Hull Springs Farm	600	Westmoreland	19
Island Farm (RRVNWR)	840		40
Laurel Grove (RRVNWR)/			
Farnham Creek	463		53
Leedstown Road	-	Westmoreland	82
Misc. road-side sites		Northumberland/	63
Mothershead	227	Lancaster	65
Mulberry Point Marsh	-		74
Northeast Northumberland Co.	-	Northumberland	77
Peter (RRVNWR)/			
Carter's Wharf Rd.	75		42
Stratford Hall Plantation	1,700	Westmoreland	28
Tayloe (RRVNWR)/ Cat Point Creek	1,111		77
Toby's Point (RRVNWR)	365		45
Totusky Creek	-		37
Westmoreland Berry Farm/ Voorhees Nature Preserve	729	Westmoreland	58
Westmoreland State Park	1,300	Westmoreland	46
Wilna (RRVNWR)	987	Richmond	81
Windmill Point	-		28
Wright (RRVNWR)/ Jones Creek Landing	845		59

In general, the habitat types surveyed were forest (upland mixed deciduous and pine, hardwood bottom, riparian, or planted pine); forested seep-fed ravine; early succession (managed grassland, oldfield); crop field; mid-succession (regenerating cut-over); marsh (interior wetlands, tidally-influenced brackish or fresh high and low marsh, saltmarsh); parkland; and beach or open water. Not all habitat types or sites were uniformly surveyed and data may be biased toward accessibility. Most sites were accessed by roads, hiking or logging trails, boardwalks, or pathways, however, interior habitats on four Refuge tracts were more deeply accessed on foot or boat by Refuge personnel conducting breeding bird surveys (Wilna, Wright, Hutchinson, and Laurel Grove). Habitats or distances along driving routes and neighborhoods are not quantified in this report.

Each day participants signed up for different survey sites and were asked to record all birds seen and heard in forest, open, or marsh habitats and to indicate signs of breeding. A total of 22 surveyors participated in the foray. The average number of surveyors per day was 5.5, but this includes one day of 13 and one day of only one. Most days (5) had 5-7 surveyors. Most sites were visited at least twice, although some very remote locations only received one visit, and a few popular sites received multiple visits. If the same survey routes were visited more than once, we included only the highest counts for each species, with the aim of reporting conservative estimates of abundance. The data from two simultaneous breeding bird surveys were included in the count, as they capture sections or habitats not surveyed by other participants. These were the White Stone BBS route (#88029, Patuxent Wildlife Research Center protocol) and the Refuge Landbird Point Counts (FWS protocol).

RESULTS

A total of 132 species were reported during the survey period, representing 15 orders and 43 families (Table 2). Red-winged Blackbirds were most abundant, followed by Common Grackles, Red-eyed Vireos, and Indigo Buntings (Figs. 1 & 2; Table 2). For 13 species, only one individual each was reported. Overall, relative abundances of all species approximated a log-normal distribution, a trend which has been previously observed in a variety of other biological communities, including bird assemblages (Whittaker 1975) (Fig. 2). Indigo Buntings were found on the greatest number of survey sites, whereas approximately half of all species were detected in 10 or fewer locations (Fig. 3; Table 2). The average number of species per survey location was 50 (Fig. 4; Table 1), while the Wilna tract of the RRVNWR was the most species rich with 81 (Table 1). Examples of several notable uncommon species encountered in this year's foray are (all single individuals): Black Tern sighted by Baron on the Potomac River offshore from Caledon Natural Area, female Bufflehead seen by Bose in Northumberland County, Ruddy Duck (Spencer, Cat Point Creek), Pied-billed Grebe (Spencer, Wilna), and Willow Flycatcher (Spencer, Wilna).

Previous breeding records in the Northern Neck region exist for all but nine of the total species reported (Trollinger and Reay 2001). However, direct signs of breeding activity were observed for only 52 species, from sightings of male / female

Table 2. Total counts for and number of survey sites at which each species was reported during the foray.

Common name	Scientific Name	Number of sites reported	Total count
Canada Goose	<i>Branta Canadensis</i>	8	125
Mute Swan	<i>Cygnus olor</i>	2	4
Wood Duck	<i>Aix sponsa</i>	9	29
Mallard	<i>Anas platyrhynchos</i>	13	105
Bufflehead	<i>Bucephala albeola</i>	1	1
Ruddy Duck	<i>Oxyura jamaicensis</i>	1	1
Wild Turkey	<i>Meleagris gallopavo</i>	10	38
Northern Bobwhite	<i>Colinus virginianus</i>	15	49
Brown Pelican	<i>Pelecanus occidentalis</i>	5	36
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	10	71
Least Bittern	<i>Ixobrychus exilis</i>	1	3
Great Blue Heron	<i>Ardea herodias</i>	16	86
Great Egret	<i>Ardea alba</i>	4	4
Snowy Egret	<i>Egretta thula</i>	2	6
Green Heron	<i>Butorides virescens</i>	13	23
Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>	1	1
Black Vulture	<i>Coragyps atratus</i>	9	41
Turkey Vulture	<i>Cathartes aura</i>	18	150
Osprey	<i>Pandion haliaetus</i>	21	210
Bald Eagle	<i>Haliaeetus leucocephalus</i>	19	83
Sharp-shinned Hawk	<i>Accipiter striatus</i>	1	1
Cooper's Hawk	<i>Accipiter cooperii</i>	2	2
Red-shouldered Hawk	<i>Buteo lineatus</i>	7	14
Red-tailed Hawk	<i>Buteo jamaicensis</i>	15	30
American Kestrel	<i>Falco sparverius</i>	1	1
Clapper Rail	<i>Rallus longirostris</i>	1	4
Virginia Rail	<i>Rallus limicola</i>	3	7
Killdeer	<i>Charadrius vociferous</i>	7	17
Greater Yellowlegs	<i>Tringa melanoleuca</i>	1	2
Willet	<i>Catoptrophorus semipalmatus</i>	1	9
Laughing Gull	<i>Larus atricilla</i>	10	182

Common name	Scientific Name	Number of sites reported	Total count
Ring-billed Gull	<i>Larus delawarensis</i>	1	5
Herring Gull	<i>Larus argentatus</i>	4	36
Great Black-backed Gull	<i>Larus marinus</i>	2	12
Caspian Tern	<i>Sterna caspia</i>	1	5
Royal Tern	<i>Sterna maxima</i>	6	32
Common Tern	<i>Sterna hirundo</i>	2	23
Forster's Tern	<i>Sterna forsteri</i>	3	51
Least Tern	<i>Sterna antillarum</i>	1	1
Black Tern	<i>Chlidonias niger</i>	1	1
Black Skimmer	<i>Rynchops niger</i>	1	4
Rock Pigeon	<i>Columba livia</i>	2	3
Mourning Dove	<i>Zenaida macroura</i>	21	171
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	24	77
Barn Owl	<i>Tyto alba</i>	1	1
Eastern Screech-Owl	<i>Megascops asio</i>	2	3
Barred Owl	<i>Strix varia</i>	2	3
Chuck-will's-widow	<i>Caprimulgus carolinensis</i>	1	4
Chimney Swift	<i>Chaetura pelagica</i>	15	71
Ruby-throated Hummingbird	<i>Archilochus colubris</i>	16	48
Belted Kingfisher	<i>Ceryle alcyon</i>	12	21
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	6	13
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	21	87
Downy Woodpecker	<i>Picoides pubescens</i>	16	34
Hairy Woodpecker	<i>Picoides villosus</i>	13	22
Northern Flicker	<i>Colaptes auratus</i>	16	24
Pileated Woodpecker	<i>Dryocopus pileatus</i>	18	35
Eastern Wood-Pewee	<i>Contopus virens</i>	18	85
Acadian Flycatcher	<i>Empidonax virescens</i>	22	159
Willow Flycatcher	<i>Empidonax traillii</i>	2	5
Eastern Phoebe	<i>Sayornis phoebe</i>	10	19
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	20	55
Eastern Kingbird	<i>Tyrannus tyrannus</i>	12	41
White-eyed Vireo	<i>Vireo griseus</i>	19	102

Common name	Scientific Name	Number of sites reported	Total count
Yellow-throated Vireo	<i>Vireo flavifrons</i>	16	34
Red-eyed Vireo	<i>Vireo olivaceus</i>	24	387
Blue Jay	<i>Cyanocitta cristata</i>	19	81
American Crow	<i>Corvus brachyrhynchos</i>	25	292
Fish Crow	<i>Corvus ossifragus</i>	7	14
Horned Lark	<i>Eremophila alpestris</i>	7	12
Purple Martin	<i>Progne subis</i>	9	85
Tree Swallow	<i>Tachycineta bicolor</i>	5	8
Northern Rough-winged Swallow	<i>Stelgidopteryx erripennis</i>	8	20
Bank Swallow	<i>Riparia riparia</i>	1	12
Barn Swallow	<i>Hirundo rustica</i>	18	176
Carolina Chickadee	<i>Poecile carolinensis</i>	18	61
Tufted Titmouse	<i>Baeolophus bicolor</i>	19	122
White-breasted Nuthatch	<i>Sitta carolinensis</i>	11	27
Brown-headed Nuthatch	<i>Sitta pusilla</i>	3	8
Carolina Wren	<i>Thryothorus ludovicianus</i>	23	134
House Wren	<i>Troglodytes aedon</i>	2	2
Marsh Wren	<i>Cistothorus palustris</i>	3	58
Ruby-crowned Kinglet	<i>Regulus calendula</i>	1	1
Blue-gray Gnatcatcher	<i>Poliptila caerulea</i>	18	112
Eastern Bluebird	<i>Sialia sialis</i>	13	52
Wood Thrush	<i>Hylocichla mustelina</i>	20	109
American Robin	<i>Turdus migratorius</i>	13	81
Gray Catbird	<i>Dumetella carolinensis</i>	7	29
Northern Mockingbird	<i>Mimus polyglottos</i>	16	73
Brown Thrasher	<i>Toxostoma rufum</i>	18	50
European Starling	<i>Sturnus vulgaris</i>	14	220
Cedar Waxwing	<i>Bombycilla cedrorum</i>	12	34
Northern Parula	<i>Parula americana</i>	18	68
Yellow Warbler	<i>Dendroica petechia</i>	6	17
Black-throated Green Warbler	<i>Dendroica virens</i>	1	2
Yellow-throated Warbler	<i>Dendroica dominica</i>	16	34
Pine Warbler	<i>Dendroica pinus</i>	21	109

Common name	Scientific Name	Number of sites reported	Total count
Prairie Warbler	<i>Dendroica discolor</i>	13	71
Black-and-white Warbler	<i>Mniotilta varia</i>	5	14
American Redstart	<i>Setophaga ruticilla</i>	1	1
Prothonotary Warbler	<i>Protonotaria citrea</i>	9	17
Worm-eating Warbler	<i>Helmitheros vermivorum</i>	6	15
Ovenbird	<i>Seiurus aurocapilla</i>	22	202
Louisiana Waterthrush	<i>Seiurus motacilla</i>	7	19
Kentucky Warbler	<i>Oporornis formosus</i>	6	10
Common Yellowthroat	<i>Geothlypis trichas</i>	22	278
Hooded Warbler	<i>Wilsonia citrina</i>	16	58
Yellow-breasted Chat	<i>Icteria virens</i>	14	54
Summer Tanager	<i>Piranga rubra</i>	18	61
Scarlet Tanager	<i>Piranga olivacea</i>	15	56
Eastern Towhee	<i>Pipilo erythrophthalmus</i>	11	30
Chipping Sparrow	<i>Spizella passerina</i>	20	155
Field Sparrow	<i>Spizella pusilla</i>	15	94
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	10	85
Seaside Sparrow	<i>Ammodramus maritimus</i>	1	1
Song Sparrow	<i>Melospiza melodia</i>	6	26
Swamp Sparrow	<i>Meolospiza georgiana</i>	1	14
Northern Cardinal	<i>Cardinalis cardinalis</i>	23	248
Blue Grosbeak	<i>Passerina caerulea</i>	19	142
Indigo Bunting	<i>Passerina cyanea</i>	25	384
Dickcissel	<i>Spiza americana</i>	2	11
Bobolink	<i>Dolichonyx oryzivorus</i>	1	1
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	21	507
Eastern Meadowlark	<i>Sturnella magna</i>	7	21
Common Grackle	<i>Quiscalus quiscula</i>	22	428
Boat-tailed Grackle	<i>Quiscalus major</i>	1	1
Brown-headed Cowbird	<i>Molothrus ater</i>	15	74
Orchard Oriole	<i>Icterus spurius</i>	18	56
Baltimore Oriole	<i>Icterus galbula</i>	3	5
House Finch	<i>Carpodacus mexicanus</i>	9	31
American Goldfinch	<i>Carduelis tristis</i>	19	148
House Sparrow	<i>Passer domesticus</i>	7	73

pairs to active nests containing viable nestlings (Table 3). While active nests were seen for eighteen species, the greatest number of such reports was for Osprey (Table 3). Although an estimate of the total Osprey nest count was difficult to ascertain from data forms returned by survey participants, the highest single count was 10 at Morattico (Nasca). Accounts suggest that the total number of Osprey nests observed was well over 100.

Table 3. Evidence of breeding activity reported by VSO foray participants. Figures do not represent absolute numbers of each activity reported, but numbers of accounts (e.g. several nests of one species reported at a single site were counted as one report). Not all surveyors quantified each sign of breeding activity that they observed.

Species	Sign of breeding activity		Nests	Nestlings	Juveniles/ Immatures	Paired/ Courtship	Misc./ Unspecified
	Carrying Food	Carrying Nest Material					
American Crow					3	1	
American Goldfinch						2	
American Robin	3						
Bald Eagle			4	1	11	1	
Barn Swallow			6				
Barred Owl					1		
Black Vulture			1				
Blue Grosbeak	2		1	1	1	5	
Blue-gray Gnat-catcher					1	4	
Brown Thrasher			2	1			
Brown-headed Cowbird					2		
Canada Goose					1		

Species	Sign of breeding activity		Nests	Nestlings	Juveniles/ Immatures	Paired/ Courtship	Misc./ Unspecified
	Carrying Food	Carrying Nest Material					
Carolina Chickadee			1		2	1	
Carolina Wren					1		
Cedar Waxwing						3	
Chipping Sparrow			1		5	2	
Common Grackle	1				1		
Common Tern					1		
Common Yellow-throat	2						
Dickcissel						1	1 (song)
Downy Wood-pecker						1	
Eastern Bluebird			1		3		
Eastern Kingbird		1				1	
Eastern Phoebe					1		
Eastern Towhee	2					1	
European Starling					2		
Field Sparrow	1						
Grass-hopper Sparrow	1	1					
Great Black-backed Gull					1		

	Sign of breeding activity						
	Carrying	Carrying					
Species	Food	Nest Material	Nests	Nestlings	Juveniles/ Immatures	Paired/ Courtship	Misc./ Unspecified
Great-crested Flycatcher		1	1			1	
Herring Gull					1		
House Wren			1				
Indigo Bunting	1		1			1	
Killdeer						2	
Laughing Gull					1		
Louisiana Water-thrush	1					1	
Mallard						2	
Northern Cardinal		1			3	4	
Northern Flicker			1			3	1
Northern Mocking-bird					2		
Orchard Oriole					1	4	
Osprey	1	1	12	4	2	2	
Ovenbird					2		
Pileated Wood-pecker					1		
Pine Warbler					2		
Prairie Warbler					2	1	
Purple Martin			2			1	

	Sign of breeding activity						
	Carrying	Carrying					
Species	Food	Nest Material	Nests	Nestlings	Juveniles/ Immatures	Paired/ Courtship	Misc./ Unspecified
Red-bellied Woodpecker			1	2			
Red-headed Woodpecker			2			2	
Red-shouldered Hawk			1		1	1	
Red-tailed Hawk			1	1			
Red-winged Blackbird	3	1			1	1	
Royal Tern						1	
Ruby-throated Hummingbird							1
Swamp Sparrow	1						1 (song)
Summer Tanager						2	
Wild Turkey					2	1	
Wood Duck					1		

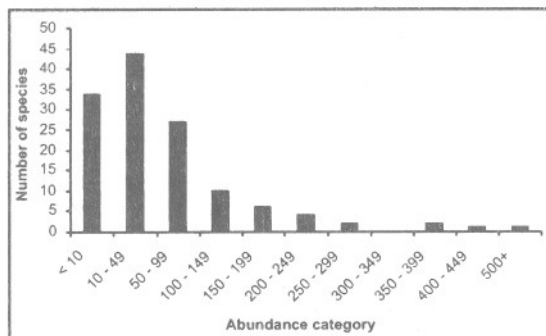


Figure 1. Frequency distribution of absolute abundances of all species reported.

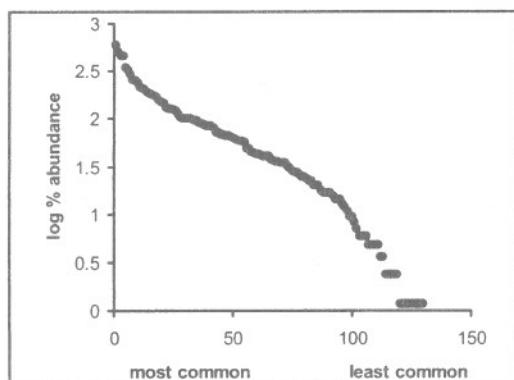


Figure 2. The logarithms of relative abundances of all species ranked from most common to least common. This figure closely approximates the relative abundance distributions observed for other biological communities (Whittaker 1975).

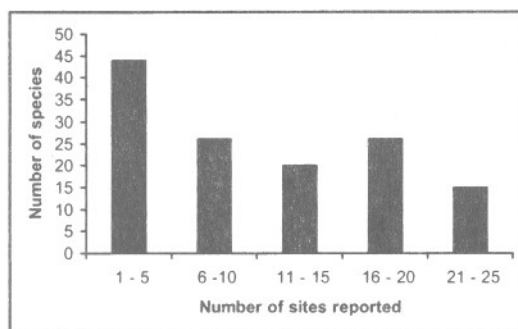


Figure 3. Frequency distribution of the number of sites at which each species was reported.

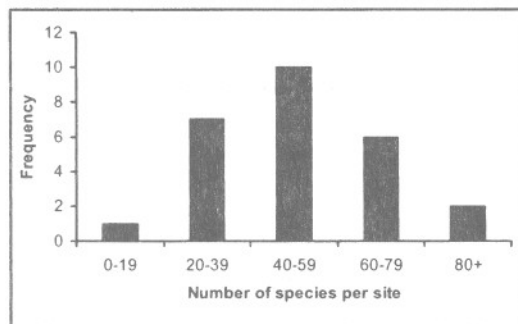


Figure 4. Frequency distribution of the number of species reported at survey locations. The average number of species reported per site was 50.

Nestlings or juveniles were recorded for 32 species (Table 3). Aside from Osprey nestlings, among the highest counts of hatch-year or immature birds were Drummond's observation of eight juvenile Wild Turkeys at Laurel Grove, 14 juvenile Canada Geese at Windmill Point (Bose), and 12 juvenile Common Terns at Cherry Point Neck (Nasca). Also notable was Bald Eagle breeding activity, with 11 accounts of immatures or juveniles and four nest sightings (Table 3).

DISCUSSION

The pattern of species diversity revealed by this foray is by and large consistent with expectations based on previously published survey data for the Northern Neck region (Watson 1968; Watson 1969; Dalmás 1994; Trollinger and Reay 2001) and avian community survey data in general (Whittaker 1975). Owing to imperfect detection probabilities of some species (Kéry and Schmidt 2004) and our inability to survey large tracts of private property, some species that are known to occur on the Northern Neck may not have been detected. Detectability may have differed among species based on such factors as vegetation density, differences in each species' song properties and singing persistence, and each species' tolerance of roadsides, trails, and other routes of access used by surveyors. The relative abundances of other species, such as Common Grackles, may have been overestimated because they tend to form large flocks and/or spend a large percentage of their time in open habitat. Sites differed in their size, habitat diversity, accessibility, and the number of person-hours that surveyors dedicated to them. Such factors undoubtedly contributed to the variation in species richness observed among them.

Previous VSO forays were conducted in the Northern Neck region in 1968, 1969, and 1993 (Watson 1968; Watson 1969; Scott 1969; Dalmás 1993). The total number of species reported in the 2004 closely matches that of the 1993 Tappahannock foray, the most recent prior survey that covered sections of the Northern Neck (Dalmás 1994). The 1993 foray, which included Richmond County, as well as parts of Westmoreland, Northumberland, and Lancaster Counties, tallied 133 species (Dalmás 1994). Excluding a handful of species that received only one report, several species that were seen in 1993, including Seaside Sparrows, Vesper Sparrows, Henslow's Sparrows, Broad-winged Hawks, Spotted Sandpipers, and Whip-poor-wills, were not observed in 2004. On the other hand, a number of species reported in 2004 were not sighted in 1993: Willet, Willow Flycatcher, Snowy Egret, Greater Yellowlegs, Brown-headed Nuthatch, Brown Pelican, Black Skimmer, and Bank Swallow. The majority of these species, though, were observed in locations not covered in the 1993 survey (e.g. Dameron Marsh, Mulberry Island, and extreme northeastern Northumberland County), and most were present during the 1969 foray (Scott 1969).

Although a total species count comparable to the current foray was obtained in 1969 (119 species; Watson 1969), substantially more species were detected in 1968 (165 species; Watson 1968). The 1968 foray, however, was conducted in late May when more transient migrants may have been present. Several species that were

present in substantially greater numbers in the 1960s, but which were either not reported or were reported in sharply reduced numbers in 2004 include Little Blue Herons, Forster's Terns, Whip-poor-wills (heard in 2004 outside the Foray time-frame, however; Spencer), Bank Swallows, Marsh Wrens, and Seaside Sparrows (Scott 1969). For example, a high count of 49 Seaside Sparrows was tallied at Dameron Marsh in 1968 (Scott 1969), but only one individual was possibly detected acoustically in 2004. The Little Blue Herons seemingly began its decline during the late 1950s and early 1960s, according to Scott (1969), and has not been sighted during a V.S.O. foray since that time.

Dickcissels are one notable exception to this general trend toward decline. Only two reports of this grassland species were recorded in each of the previous surveys, whereas a high count of seven was obtained for the Wilna Tract in 2004. The other four individuals were sighted in the Laurel Grove Tract of the RRVNWR. Perhaps recent action by refuge staff to augment attractive grassland habitat has facilitated more consistent annual returns of this species to refuge property. Continued monitoring will reveal the long-term impact of habitat management on all grassland species in the refuge.

Fewer species known to breed on the Northern Neck were recorded in the 1993 foray (109; Dalmas 1994) compared to 2004 (122). Whether this difference represents a biologically significant increase is uncertain. The wide-spread breeding activity observed in Ospreys and Bald Eagles, relative to other species, may be partially explained by their overall detectability and the conspicuousness of their nests. Despite sharp mid-twentieth century declines in Osprey productivity owing to DDT contamination, it has remained relatively stable in the Northern Neck Region (Scott 1969, Dalmas 1993). The breeding Bald Eagle population of Virginia's coastal plain has been targeted intensively by conservation efforts during recent decades and has undoubtedly benefited from active management and protection (Watts 2000).

One unexpected breeding population may be indicated by Atwood's report of 14 singing Swamp Sparrows in Mulberry Point Marsh. The Virginia Breeding Bird Atlas, comprising data from 1985 through 1989, shows only one sighting of this species in Northern Virginia during the breeding season, and no sign of breeding has been previously reported on the Northern Neck. This population warrants additional monitoring during future breeding seasons.

In comparison with all previous VSO forays, the 2004 Northern Neck foray ranks among the highest with respect to total species reported. Only four out of 27 former foray locations exceed the species count obtained in this one, and only the Accomack Co. (1981) and Northhampton Co. (1999) forays surpassed it by more than ten species. Its comparative species richness suggests that the Northern Neck may be a relatively important region for Virginia's avifauna. Comparisons with earlier forays must be made with caution, since consistent survey methods have not been uniformly applied and observation effort has varied from year to year. Numbers of participants in each of the three Northern Neck forays are similar, however, and all three surveys were conducted within the same calendar date range, which

provides greater confidence that fluctuations captured by the Northern Neck forays approximate true population trends for this region. Finally, a substantial number of the species reported by surveyors have been identified as species of conservation concern by the Virginia Department of Game and Inland Fisheries, the U.S. Fish and Wildlife Service, or Partners in Flight (Table 4). Given its high species diversity and presence of vulnerable avian species, the Northern Neck region deserves continued careful monitoring.

ACKNOWLEDGEMENTS

The data reported in this manuscript were contributed by the following foray participants: Bob Ake, Fred Atwood, Scott Baron, Paul Bedell, Arun Bose, Jack Carroll, John Drummond, Larry Glassco, Marjorie Glassco, Paige Guilliams, Teta Kain, Paul Nasca, Tom Pendleton, Tom Saunders, John Spahr, Sandy Spencer, Mike Stinson, Larry Valade, Thyra Valade, and Bill Williams. Thanks also to the staff of the Rappahannock River Valley National Wildlife Refuge and Nina Cox and Anita Tuttle of Caledon Natural Area. We are indebted to the proprietors of Stratford Hall, Westmoreland Berry Farm, and Heritage Park Resort for access to their private property.

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Table 4. Table 2: 2004 Foray Birds observed on state, federal and PIF birds of conservation concern lists. 30 species out of 70 observed (43%) on State list; 9 out of 32 species on Federal list (28%); 8 out of 39 species on PIF list (20%). Acronyms used: BCC (Birds of Conservation Concern), BCR (Bird Conservation Region, established by North American Bird Conservation Initiative, a partnership of several bird conservation entities, BCR 30 is New England/Mid-Atlantic Coast), DMBM (Division of Migratory Bird Management, Fish and Wildlife Service), ESA (Endangered Species Act), PIF: (Partners in Flight 2003), USFWS (United States Fish and Wildlife Service).

Scientific Name	Common Name	VA 2004 BCC List & Tier*	USFWS DMBM 2002 Nat'l List (for BCR 30)**	PIF 2003 Threatened and Declining
<i>Haliaeetus leucocephalus</i>	Bald eagle	II		
<i>Ixobrychus exilis</i>	Least bittern	III		
<i>Nycticorax nycticorax</i>	Black-crowned night heron	III		
<i>Sterna hirundo</i>	Common tern	III	X	
<i>Tyto alba</i>	Barn owl	III		
<i>Ammodramus savannarum</i>	Grasshopper sparrow	IV		
<i>Caprimulgus carolinensis</i>	Chuck wills widow	IV		
<i>Caprimulgus vociferous</i>	Whip poor will***	IV	X	
<i>Chaetura pelagica</i>	Chimney swift	IV		
<i>Cistothorus palustris</i>	Marsh wren	IV	X	
<i>Coccyzus americanus</i>	Yellow billed cuckoo	IV		
<i>Colinus virginianus</i>	Northern bobwhite	IV		
<i>Contopus virens</i>	Eastern wood peewee	IV		
<i>Dendroica discolor</i>	Prairie warbler	IV	X	X
<i>Dendroica petechia</i>	Yellow warbler	IV		
<i>Dumetella carolinensis</i>	Gray catbird	IV		
<i>Helmitheros vermifera</i>	Worm eating warbler	IV	X	X

Scientific Name	Common Name	VA 2004 BCC List & Tier*	USFWS DMBM 2002 Nat'l List (for BCR 30)**	PIF 2003 Threatened and Declining
<i>Hylocichla mustelina</i>	Wood thrush		X	X
<i>Icterus galbula</i>	Baltimore oriole	X		
<i>Melanerpes erythrocephalus</i>	Red headed woodpecker		X	X
<i>Mniotilta varia</i>	Black and white warbler	IV		
<i>Opornornis formosus</i>	Kentucky warbler		X	X
<i>Pipilo erythrophthalmus</i>	Eastern towhee	IV		
<i>Piranga olivacea</i>	Scarlet tanager	IV		
<i>Protonotaria citrea</i>	Prothonotary warbler	IV		X
<i>Rallus limicola</i>	Virginia rail	IV		
<i>Rallus longirostris</i>	Clapper rail	IV		
<i>Seiurus aurocapillus</i>	Ovenbird	IV		
<i>Seiurus motacilla</i>	Louisiana waterthrush	IV		
<i>Sitta pusilla</i>	Brown-headed nuthatch	IV		X
<i>Spiza Americana</i>	Dickcissel		X	
<i>Spizella pusilla</i>	Field sparrow	IV		
<i>Stelgidopteryx serripennis</i>	Northern rough winged swallow	IV		
<i>Sterna antillarum</i>	Least tern		X	
<i>Sterna forsteri</i>	Forster's tern	IV		
<i>Tyrannus tyrannus</i>	Eastern kingbird	IV		
<i>Vireo flavifrons</i>	Yellow-throated vireo	IV		

* Tier Ranking Key: I = Critical Conservation Need; Tier II = Very High Conservation Need; Tier III = High Conservation Need ; Tier IV = Moderate Conservation Need. ** National list excludes gamebirds, peripheral species to the U.S. (<1%); endangered or threatened species subject to provisions of the ESA; and non-native species. *** Observed outside of the foray time period.

A RECENT BREEDING RECORD OF THE SALTMARSH SHARP-TAILED SPARROW IN GLOUCESTER COUNTY VIRGINIA

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OBSERVATIONS

The Saltmarsh Sharp-tailed Sparrow (*Ammodramus caudacutus*) has recently been listed as a species of highest conservation concern in the mid-Atlantic (Watts 1999) and Southern New England (Dettmers 2000) physiographic areas. This designation recognizes their relatively small global population, their very restricted geographic range, and the tenuous state of their breeding habitat. Distribution, abundance, and natural history information is currently needed to better refine conservation objectives. Here I describe a recent observation of breeding for the Saltmarsh Sharp-tailed Sparrow in Gloucester County Virginia and discuss this observation relative to the southern range limit throughout their breeding range.

During the spring and summer of 1992 and 1993 I conducted a study of area-sensitivity in birds using salt marshes along the lower western shore of the Chesapeake Bay (Watts 1992, 1993). The study area included the shoreline arc between Grandview Beach in Hampton to Newpoint Comfort in Mathews County. Marshes were chosen for the study based on access, location, and vegetational composition. Patches were saturated with a combination of point counts and line transects and were each surveyed 4 times between 6 May and 18 July. A total of 142 detections of Sharp-tailed Sparrows were made during the study primarily by flushing birds along line transects. Due to the constraints of the study, there was no opportunity to evaluate plumages enough to determine populations of origin. However, virtually all of the birds migrated out of the area in the late May to early June period. Only 14 observations were made after 10 June and nearly all of these birds left after this date.

A single pair of Saltmarsh Sharp-tailed Sparrows remained throughout the entire study period. On 2 June, 1992 while walking a line transect in Four Points Marsh, a Sharp-tailed Sparrow was flushed from a nest near the ground. The bird flew less than 5 m into a patch of black needlerush (*Juncus roemerianus*). The nest was built in a dense mixed stand of saltmeadow hay (*Spartina patens*) and saltgrass (*Distichlis spicata*) and was positioned against a patch of black needlerush along the edge of a tidepool. The nest was made of dry grasses with a fine lining and contained 4 eggs. The nest entrance was partially concealed by overhanging grass. It was not possible to closely monitor this nest but two additional surveys of this marsh were conducted and the nest was checked during those visits. On 18 June, the pair was

detected in the area but the nest was empty and young were not located. On 8 July, the pair was once again detected but young could not be located. It seems likely that the nest failed during the early June period.

Four Points Marsh is located in Gloucester County and is one of the best examples of a short-grass marsh in the lower Chesapeake Bay. The marsh is approximately 125 ha in area and the surface is dominated (>80%) by saltmeadow hay and saltgrass with scattered black needlerush and saltbush (*Iva frutescens*). This marsh supported the highest density of Sharp-tailed Sparrows during the early rounds of survey with 33 birds detected during the 17 May, 1992 survey. The marsh was not included in the 1993 study. Of all marshes surveyed during the two-year period, this marsh appeared to support the best habitat for this species.

DISCUSSION

Historically, there has been considerable confusion over the southern range limit for breeding in the Saltmarsh Sharp-tailed Sparrow. Since 1957 and continuing to the present, the American Ornithologists' Union (AOU) Checklist of North American Birds has indicated that this form breeds from Maine south to Pea Island North Carolina (AOU 1957). The placement of the southern range limit was apparently based on a nestling collected by Paul Bartsch on 2 July, 1938 from Pea Island (Montagna 1942a). Examination of this material later revealed that the specimen had been mislabeled/misidentified and was relabeled as a Seaside Sparrow (*Ammodramus maritimus*) (Wetmore 1944). Subsequent attempts by numerous investigators to locate breeding populations in coastal North Carolina have not been successful (e.g. Montagna 1942b, Hill 1968) suggesting that the southern range limit occurs in coastal Virginia.

Recent treatments of distribution in the Saltmarsh Sharp-tailed Sparrow have placed the southern range limit within the Virginia portion of the Delmarva Peninsula (Greenlaw and Rising 1994, Rising 1996). The species breeds within the extensive marshes of northern Accomack County but is suggested to be common only near Chincoteague on the seaside and Saxis on the bayside (Kain 1987, Wilds 1991). However, the southern extent of breeding along the Delmarva has not been well defined. Within the seaside marshes the species occurs within the extensive high marshes landward of Wallops Island (Kinsie and Scott 1981, Vaughn 1993) and likely further south within this same marsh complex. A four-egg clutch was collected by DeGroot in 1935 from Rogue Island which extends breeding considerably further south to approximately 8 km into Northampton County (Clapp 1997). During the Accomack foray in 1981, birds were detected in the marshes along the Machipongo River (Kinsie and Scott 1981). During the 1999 Northampton Foray, a singing individual was detected on Brick House Neck south of Red Bank (Brinkley 2000). Both of these recent observations were approximately as far south as the nest located by DeGroot. Along the bayside, Sharp-taileds are known to occur within several of the large marshes that extend south from Saxis Marsh (Rottenborn, Unpublished Data). The exact southern limit along the bayside is not currently known. Breeding has also been documented within the complex of islands (i.e. Tangier, Smith,

Great Fox) in the upper Chesapeake Bay of Accomack County (Watts personal observation). A nest with eggs was located by Huppman on 12 May, 1976 in the Great Fox Island complex (Clapp 1997).

Bailey (1913) indicates that during his era, Sharp-tailed Sparrows bred more abundantly along the upper western shore of the Chesapeake Bay than along the Delmarva Peninsula. This vague statement is difficult to interpret but suggests the existence of a breeding population along the western shore possibly in the extensive marshes of Gloucester, Mathews, Middlesex, and Northumberland Counties. Although there is no recent evidence of this population in Virginia, Stewart and Robbins (1947, 1958) document a breeding population along the western shore of the Bay just to the north in Maryland that extended from Cobb Island on the north Shore of the Potomac north along the Bay to Sandy Point. By the time of the Maryland breeding bird atlas (1983-1987), this population had disappeared with only a single bird observed near Sandy Point (O'Brien 1996).

Bailey collected a four-egg clutch on 16 May, 1911 from Buckroe in Hampton (Clapp 1997). This appears to be the southernmost evidence of breeding throughout the species range. Since that time, the Gloucester record reported here is the southernmost breeding record throughout the range. It is possible that the pair on Four Points Marsh is a remnant of a once broader population along the western shore in Virginia as indicated by Bailey. There are several extensive marshes remaining within this region with appropriate habitat (e.g. Plumtree Island, Bethel Beach, Dameron Marsh) that could support breeding. However, During the 1992 and 1993 breeding seasons, I worked in 78 marsh patches within the lower western shore and had no indication of resident birds other than the pair in Four Points Marsh. Further work is needed to improve our understanding of breeding distribution within the marshes of Mathews, Middlesex, and Northumberland Counties along the western shore, as well as, within Accomack and Northampton Counties along the Delmarva Peninsula.

ACKNOWLEDGEMENTS

Funding for field projects in 1992 and 1993 was provided by the U.S. Environmental Protection Agency and by the Coastal Program of the Virginia Department of Environmental Quality. I thank the Sinclair family for access to Four Points Marsh and the many landowners that provided access to other marsh patches.

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VSO ANNUAL MEETING

April 30-May 2, 2004

Lynchburg, Virginia

FRIDAY, APRIL 30, 8 PM, RAMADA INN

Acknowledgement - Thelma Dalmus opened the meeting by thanking the Lynchburg Bird Club for hosting the meeting. She recognized this year as the 75th anniversary of the Society and pointed out that the 25th and 50th anniversaries had also been held in Lynchburg.

Special Announcement - Thelma announced that Ian Sinclair, the speaker for the banquet, would be unable to come to the meeting due to illness. In his place Dick Peake would speak about birds of South Africa.

Acknowledgement - Teta Kain, VSO President, also thanked the Lynchburg Bird Club for their efforts in organizing the meeting.

Treasurers Report: Sue Thrasher gave the treasurer's report for the 2003 calendar year:

Beginning Balances

General Fund	\$56,489.20
Restricted Funds	90,747.13
Total Receipts	36,497.53
Total Disbursements	28,521.50

Ending Balances

General Fund	-
Restricted Funds	49,159.59
Murray Fund Balance*	106,052.77
Ending Balance	43,200.26
	\$155,212.36

*Part of Restricted Funds

Nominating Committee Report: presented by Teta Kain in place of Chair Larry Lynch.

Teta Kain, President
 John Spahr, Vice President
 Jennifer Gaden, Secretary
 Barbara Sue Thrasher, Treasurer
 Linda Fields and Alan Schrek, Co-newsletter Editors
 Paul Cabe, Raven Editor

New Board Members
 Joe Coleman, Northern VA
 Tom Teeple, Kilmarnock
 Paul Bedell, Richmond

There were no nominations from the floor. The slate was elected.

Nominating Committee members: Larry Lynch, Chair, Bill Portlock, Rick Reynolds, Steve Rottenborn

Teta recognized members leaving the Board.

Roving Ravens – Bob Ake introduced the current team: Linda Fields, Alan Schrek, Bob Ake, Kurt Gaskins. Last year's team placed eighth in the World Series of Birding competition in New Jersey. The competition is a fund raiser for the sponsoring organization, VSO, which will use the money raised for the Important Bird Areas.

Other Announcements

Grassland Studies - Sandy Spencer spoke about the Grassland studies and asked for volunteers with good birding skills.

Lights on DC Buildings – Ellen Paul (not a VSO member) asked if the Maryland Ornithological Society and the VSO would like to take on the project of contacting management of buildings which might pose a hazard to migrating birds in the DC area to see if they would turn off some off their lights. Persons interested should contact Ellen Paul at ellen.paul@verion.net. (Teta instructed her to contact local chapters in her area as being better atuned to helping out on such a project than the state-wide VSO organization would.)

Red Knot studies – Help track the spring migration of Red Knots by reporting all sightings of this species, particularly during May and early June, including information on flock sizes, composition of flocks and color-banding information. Send reports to: Mike Shanahan at mikejs96@att.net or Mandy Dey at Amanda.dey@dep.state.nj.us.

Field Trips -Thelma introduced Susan Stanton who introduced the field trip leaders of the following trips:

Red Hill/Patrick Henry National Memorial

Old City Cemetery

Ruskin Freer Memorial Walk at Blackwater Creek

Warbler Road

Poplar Forest

Percival's Island and Old City Cemetery

Appomattox Court House National Historical Park

Claytor Nature Study Center

Fleming Mountain/James River Overlook

Murray Award -Teta introduced Charles Clarkson, one of the Murray Award recipients, because he would be unable to attend the banquet when the formal announcement would be made.

Introduction of Speaker - Gene Sattler, President of the Lynchburg Bird Club, introduced Randy Thrasher who gave a presentation on Birds of Central Virginia.

SATURDAY, MAY 1, 8 PM - BANQUET MEETING, RAMADA INN

Announcements:

Jackson Abbot Conservation Award - After acknowledging the hosts of the banquet Teta presented the Jackson Abbot Conservation Award to the Virginia Coastal Reserve. It was accepted by Barry Truitt, Chief Conservation Scientist at The Nature Conservancy.

Murray Award - Teta announced the Murray Award. The recipients were Charles Clarkson from Virginia Commonwealth University and Rachel Loveday from Longwood. The Northern Neck Audubon Society contributed funds to the award.

Special Recognition - Thelma recognized YuLee Larner as the unofficial historian of the VSO and presented her with a copy of The History of Ornithology in Virginia.

Fifty-Year Members Awards - Thelma presented the 50-year member awards to the following people.

Ernest P. Edwards	1938
Evelyn Watkins	1939
Robert J. Watson	1940
Charles E. Stevens	1944
Royster Lyle, Jr.	1946
Robert O. Paxton	1946
Harry Jopson	1947
Max Carpenter	1948
John M. Irvine, Jr.	1949
Stephen M. Russell	1949
W. F. Rountrey	1950
Walter P. Smith	1951
Doris Smith	1951
Laura Bliss	1952
Stanwyn G. Shetler	1952
Paul W. Sykes, Jr.	1952
Richard H. Peake	1953
Susan Eike Spalding	1954
John W. Terborgh	1954
Josephine Wood	1954

Special Reading - Thelma read an amusing letter written some years ago by Jerry Via to Dot Silsby about the reasons he was late for a field trip.

Field Trips - Susan Stanton announced the field trips for Sunday.

Door Prizes - Sue Thrasher facilitated the distribution of door prizes.

Acknowledgements - Thelma acknowledged members of the annual meeting planning and field trip committees.

Introduction of Speaker - Gene Sattler introduced Dick Peake who presented a program on Birds of South Africa.

Respectfully submitted,
Jennifer Gaden



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.

