The Raven

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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, the VSO Newsletter, published quarterly, containing current news items of interest to members and information about upcoming events and pertinent conservation issues.
5. Study projects (nesting studies, winter bird population surveys, etc.) aimed at making genuine contributions to ornithological knowledge.

In addition, some local chapters of the Society conduct their own programs of meetings, field trips and other projects.

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Loggerhead Shrike Nesting Productivity and Associated Notes in the Shenandoah Valley of VA

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ABSTRACT

Loggerhead shrikes nesting in Virginia (VA) are becoming increasingly rare. An active shrike nesting territory in northern Rockingham County was closely monitored in 2010 and 2011, during which 6 shrikes were successfully fledged. The nesting structure was deliberately destroyed in late 2012 and no shrikes have nested there since. Observations regarding shrike nest productivity, nesting and foraging structures, habitat characteristics, adult and fledgling behaviors, and provisioning of fledglings are presented.

INTRODUCTION

The Loggerhead Shrike (*Lanius ludovicianus)* is a predatory passerine that hunts and kills prey such as arthropods, amphibians, small reptiles, mammals and birds (Yosef 1996). Shrikes frequently impale prey on thorns or barbed-wire fences (Bent 1950). Shrike habitat is grassland, open woodlands and other open areas. Loggerhead Shrikes breed across most of the United States, Mexico and southern Canada (Yosef 1996). In general, shrikes are migratory in the northern part of their range but are non-migratory further south. Throughout Delaware, Maryland, West Virginia (WVA) and VA shrikes were once considered to be regular winter residents, but have undergone dramatic declines or disappeared entirely since the 1970s (Pruitt 2000).

Decades ago the Loggerhead Shrike was considered "abundant" (Miller 1931 and Bent 1950). By 1972 it was on the National Audubon Society's Blue List of declining species (Arbib 1972). Despite its wide distribution, the Loggerhead Shrike is one of the few North American passerines whose populations have persistently declined continent-wide for decades (Yosef 1996). Breeding Bird Survey (BBS) data shows current decreases of 3.5 to 5% annually throughout its range (Robbins 1986, Droege and Sauer 1990). Only Colorado, Montana, North and South Dakota, Louisiana and Texas had stable or increasing BBS shrike populations (Peterjohn and Sauer 1995). Christmas Bird Counts (CBC) corroborate downward trends for Loggerhead Shrikes (Morrison 1981). No states showed a significant CBC increase in shrike populations, but 14 states showed significant declines, particularly in North and South Carolina, Maryland and VA. The USFWS designated the loggerhead shrike as a Migratory Nongame Bird of Management Concern in the United States in 1987 due to rangewide population decline. Loggerhead Shrikes are now extirpated from most of the Northeastern U.S., and nearly so in Minnesota, Wisconsin, and Michigan. Loggerhead Shrikes are listed as "endangered" in New York (last confirmed nesting in 1988), Pennsylvania (last confirmed nesting in 1998, last shrike seen 1999) and Maryland (last two breeding pairs reported in 1995). In WVA shrikes are a "species of highest concern" (in 2014 it had only 5 confirmed breeding pairs; personal communication, R. Bailey, WV DNR Wildlife Diversity Unit); in VA Loggerhead Shrikes are listed as "threatened" (Pruitt 2000).

Loggerhead Shrikes were never evenly distributed within the Commonwealth. A check-list by Murray (1952) states that shrikes were "uncommon in mountains to fairly common in the piedmont and rare in coastal areas of VA". The loss of Loggerhead shrikes has been well documented in VA. During 50 years (1959 — 2008) of counts in Lynchburg, shrikes were found annually until 1982, followed by a maximum of one per year until 1988, none from 1988 to 1998, one per year from 1998 to 2000, and from then through 2009 none were recorded (Bruno and Farmer 2009). In 2009 Ealding stated; "The Loggerhead Shrike has declined precipitously statewide since the 1970's, particularly in this part of state" (Greenville and Sussex Counties; Ealding 2009). By 2010 Kain wrote "Reports from the far western VA counts seem to be the only hope of maintaining any level of this dwindling population"; commenting on the CBC shrike count of 14 for the Commonwealth (Kain 2010). Two years later Kain wrote, "... the species hangs on precariously, with the total around the state this year at 12, two under the average of 14 birds counted yearly over the past 16 years" (Kain 2012). Scott Baron reported the last confirmed breeding Loggerhead Shrikes in Fauquier County was 2007, Herbert Larner reported the last confirmed breeding Loggerhead Shrikes near Smithleigh Lake Augusta County was 2012, and Laura McGranaghan documented the last breeding shrikes in Loudoun County in 2009 (pers. comm.). The most recent Bath-Highland County Foray reported one breeding pair of Loggerhead Shrikes in Bath County and three pairs in Highland County in 2003 with no reports of breeding pairs since (Birds of Bath and Highland Counties 2004). The

most recent sightings published by the VSO (VA Society of Ornithology) for June-July 2014 report only one shrike each in Loudoun and Pulaski counties and confirmed a five year absence of shrikes breeding in south central VA (VA Birds 2015). During a one day wintering raptor survey of the Shenandoah Valley Raptor Study Area (SVRSA, described below), no Loggerhead Shrikes were observed, although two shrikes had been sighted within the SVRSA earlier in the winter of 2014-2015 (unpub. obs.). Sightings of loggerhead shrikes have been reported on ebird (ebird.org 2015) during May and June 2015 in Warren, Fauquier, Pulaski, Bedford and Isle of Wight counties of VA and just north of the state line in Jefferson County, WVA. Two adult shrikes were reportedly feeding 2 juveniles in Warren County on 13 June 2015.

Ornithological research on nesting Loggerhead Shrikes in VA has been sporadic. For a span of almost 20 years, 1965 - 1984, only 16 nestling Loggerhead Shrikes were banded in 5 nests (data from USGS Bird Banding Laboratory). From 1985 to 1987 two VA Polytechnic Institute and State University (VA Tech) researchers banded 236 nestlings in the Shenandoah Valley of VA (Luukkonen 1987; Blumton 1989). In the following 21 years only 1 nest with 6 young was banded in northern VA. No other nestling shrikes were banded in VA until the bandings in 2010 and 2011 of the fledglings described in this report. Presented herein is research on the remnants of the local breeding population of Loggerhead Shrikes in the Shenandoah Valley of VA, which were the northernmost breeding pair documented in the Mid-Atlantic region at the time. Understanding nesting, foraging, and provisioning behaviors, as well as habitat requirements, is crucial to successful conservation efforts.

STUDY AREA

Shenandoah Valley Raptor Study Area (SVRSA)

A Loggerhead Shrike's nesting territory was located in the SVRSA, which encompasses approximately 38,300 hectares of northern Rockingham and southern Shenandoah Counties and is centered approximately on Timberville, VA. The SVRSA is 19.3 km wide, east to west across the Shenandoah Valley, and is defined by treeline at the base of Massanutten Mountain on the eastern side and treeline at the base of North Mountain on the west side. The northern (UTM 4288000.00 m N, zone 17) and southern (UTM 4268000.00 m N, zone 17) borders of the study area are 20 km apart. The Shenandoah Valley in western VA is situated on a northeast by southwest axis and is geographically part of the Great Appalachian Valley. Temperature extremes average low of -5.6° C in January and a high of 30.6° C in July with an average annual precipitation of 90 cm (http://www.usclimatedata.com/climate/timberville/VA/united-states/usva0767). Major waterways are Smith Creek, Linville Creek and the North Fork of the Shenandoah River. The SVRSA is comprised of a variety of land uses: row crops, livestock pastures, hayfields, commercial fruit orchards, scattered patches of woods and wooded ridges with widely scattered residential/commercially developed areas. Elevation, in meters above sea level as per Google Earth (GE), varies throughout the SVRSA; the highest point, 523 m, is near the southwest corner and lowest point, 268 m, is near the northeast corner where the Shenandoah River exits the SVRSA. There are approximately 516 km of roads within the SVRSA including interstate highway I-81 that transects the SVRSA in a northeast by southwest direction. The SVRSA is located in one of the core areas of VA Polytechnic Institute and State University's Loggerhead Shrike nesting studies conducted in the mid 1980s (Luukkonen 1987; Blumton 1989).

METHODS

Nest Monitoring and Fledgling Banding

Long-term scientific research on Barn Owls (*Tyto alba*; Morrow 2009) and American Kestrels (*Falco sparverius*; Morrow and Morrow, manuscript in preparation) has been ongoing in the SVRSA for several years. Most of the 516 km of roadways within the SVRSA are driven several times a year during which special efforts are made to locate Loggerhead Shrikes. After initially finding the shrike nest in 2010, the territory was visited multiple times to determine the following: presence of shrikes, if and where, shrikes were nesting, when and how many eggs were laid, date and number of when and how many young hatched and fledged. The shrike nestlings were banded on 18 May 2010 and 2011 with USGS aluminum bird bands at approximately 8-13 days of age.

Observations of Fledglings and Adult Hunting/Provisioning

Hunting and provisioning activities of an adult shrike during a timed period were recorded using a watch and 10 x 42 binoculars.

RESULTS AND DISCUSSION

Shrike Nesting Territory, Habitat Characteristics, Nest and Nesting Structure

On 30 March 2010 a lone Loggerhead Shrike was observed hunting from a utility wire over a hayfield within the SVRSA. Several weeks later, after observing a shrike perched atop a blackberry thicket, a brief search located a Loggerhead

Shrike nest within the thicket on 25 April 2010. The nest was approximately 610 m SW from where a shrike was first observed in March. The shrike nesting territory was a pasture for cattle and/or hay production of approximately 21.5 hectares in northern Rockingham County. Throughout the pasture were scattered honey locust trees (*Gleditsia tricanthos*) 2-3 m in height and multiple areas without vegetation due to flat rock outcroppings ranging from 1 - 15 m^2. The locust trees were utilized by the shrikes as hunting perches and it's thorns for impaling the shrike's prey. The pasture's perimeter was defined on all four sides by barbed wire fences which the shrikes used as a hunting perch and impaled prey on the barbs of the top strand. Proximal to the fence on two sides were lightly traveled gravel roads. The Loggerhead Shrike nesting territory was located 3.2 km north of Timberville, VA (Zone: 17 S Easting: 693258.98 m E, Northing: 4281835.16 m N) at an elevation of 350 m above sea level.

Nesting / escape cover structures utilized by the shrikes were 2 large blackberry thickets approximately 3 m tall. Shrike nests were approximately 12 cm in diameter, constructed of small sticks and grasses interwoven and lined with deer hair, consistent with other descriptions (Yosef 1996). Nests were approximately 1.2 m above the ground near the centers of the thickets. During 2010 and 2011 the larger of the two blackberry thickets held successful nests; with shrikes reusing the same nest. The thicket was oval and measured approximately 8 m by 12 m. In 2012 shrikes constructed a nest in the other blackberry thicket within the same pasture. The thicket was located 107 m from the 2010/2011 nesting structure, 119 m from the gravel road and the nearest fence and measured approximately 8 m in diameter.

The use of a blackberry thicket for Loggerhead Shrike nesting appears to be unique in VA. During VA Tech's intensive Loggerhead Shrike studies of the mid 1980s, conducted in VA's Shenandoah Valley, researchers found 75 active nests located in ten types of trees, shrubs and vines but none in blackberry bushes (Luukkonen 1987 and Blumton 1989). A study in southwest Oklahoma in the late 1980s found 133 Loggerhead Shrike nests in 23 woody species of plants; but none in blackberry bushes (Tyler 1992). Only in Florida have blackberry bushes been used for shrike nests, where 60% of the 152 nests recorded were in blackberry bushes (Yosef 1994).

In addition to providing UTM locations, elevations and distances within SVRSA, Google Earth (GE) provides historic images of the pasture that can be examined retrospectively to year 1989. The blackberry nesting patch was barely visible on GE in October 2008. By April 2011 the blackberry patch seen on GE covers a larger area. Probably sometime in late 2012, but definitely by October 2013, the blackberry thickets and small trees in the pasture were deliberately destroyed by what appears to be a combination of fire and/or herbicides and mowing. Brown patches or bare earth are visible on GE at the former nest site thereafter.

Clutch Size and Egg Hatching Rates

In both 2010 and 2011 the shrike nest contained 5 eggs (Table 1). During the mid 1980s, the VA Tech study found that 57 nests had an average of 5.1 eggs per clutch (Luukkonen 1987). The mean for New York historical records is 5.4 eggs per clutch in which 5 egg clutches were produced 23% of the time (Novak 1989). In 2010, 3 of 5 shrike eggs hatched on (or before) 6 May 2010. One egg had disappeared prior to hatching and the unhatched egg that remained in the nest had cracked. In 2011, 4 out of 5 shrike eggs had hatched by 11 May 2011 with 1 egg again disappearing prior to hatching. These SVRSA hatching dates were five calendar days apart in 2 successive years and fall within the peak times of Luukkonen's weekly clutch initiation dates for the 60 Shenandoah Valley Loggerhead Shrike nests found in 1985-1986 (Luukkonen 1987). Over these 2 years, in the SVRSA nesting shrikes averaged a 70% hatch rate (defined as percentage of eggs laid that hatch = 7 out of 10 eggs). This hatching success rate was slightly below most previously reported. Reported hatching rates were 79.5% in Colorado (Porter 1975), 84.3% in Oklahoma (Tyler 1992), 84.7% in Alabama (Siegel 1980), 91% in Iowa (DeGeus 1990), 94.7% in S. Carolina (Gawlik 1988), 52.2% in Indiana (Burton 1990), 82.6% in s. Idaho (Woods 1994).

Reproductive Success

Table 1 summarizes the nest productivity in the SVRSA from 2010 - 2012. In 2010 the shrike nest fledged 2 young while the 2011 nest successfully fledged 4 young. In 2012 the shrikes built a new nest but eggs were never observed in it. In the winter of 2012 the shrike's nesting structures were effectively destroyed so the all subsequent years to present have had no shrike nests, no eggs and no productivity. Destruction of the blackberry thickets and small trees adjacent to the nests correlated precisely with loss of nesting shrikes in this location. From early 2013 through mid-2015 multiple searches for shrikes at the former nesting habitat were performed but no shrikes were observed there at any time of year.

"Successful nesting" is defined as: at least one young fledged from a nest. By this definition, both 2010 and 2011 shrike nests were successful and the 2012 nest was not. When the young shrikes in the nest during 2010 were approximately 12 days of age, the intervention(described below) occurred when the three nestlings exhibited sighs of hypothermia, of which 1 succumbed. If intervention had not occurred, and all the young shrikes had died in 2010, the overall shrike nesting success rate over two years would have been 50%. This rate is similar to that recorded in Florida (55%), Alabama (43%) and California (51%) as summarized by Yosef 1996. Because of the intervention 2 nestlings that probably would have died under natural circumstances survived, skewing both the overall nest success rate over 2 years and the fledging rate for 2010.

Table 1. Loggerhead Shrike Nesting Productivity 2010- 2012 in the SVRSA

Year	2010	2011	2012
Nest constructed	yes	yes	yes
# Eggs laid	5	5	0
# Eggs hatched	3	4	na
Hatch rate (% eggs laid that hatched)	60%	80%	na
# Young banded	2	4	na
# Young fledged	2	4	na
Fledge rate (% eggs hatched that fledged)	66%	100%	na

Banding with USGS Bands

The shrike nestlings were banded on the 18 of May both years: 2 birds in 2010 and 4 in 2011. All 6 banded young survived to the second stage of fledging as described below. To date none of these 6 banded shrikes have been reencountered; this result was expected as only 1 out of 438 (0.23%) shrikes banded in VA during the past 55 years has been recovered (data online from USGS Bird Banding Laboratory).

Weather and Nestlings

On 18 May 2010 there was concern for the health of the young shrikes in the nest since the area had been experiencing unusually cold daytime temperatures with rain over the past week. The nest was soaked with rainwater and the young shrikes were wet, cold and listless. The decision was made to intervene; 3 nestlings were taken from the wet nest to the vehicle to warm and dry them. Within the hour the coldest and wettest of the young shrikes had died but the other 2 nestlings were alert and hungry. When their feathers had dried, the 2 shrikes were banded and returned to the nest. They fledged at a later date. Without the intervention, it is probable that all 3 shrike nestlings would have succumbed to hypothermia. Adverse weather conditions have been documented as a major factor in losses of nestling shrikes, by directly damaging the nest or reducing food availability or overexposure of nestlings to cold and/or dampness (Porter 1975, Craig 1978). In Missouri frequent storms, rain and cold temperatures near the time of fledging was associated directly with total loss of 8 broods and brood reduction in 9 other nests (Kridelbaugh 1983). Although the SVRSA blackberry thicket served well to deter predators, both aerial and ground based, and was a suitable structure for supporting and concealing the shrike nest, the blackberry leaves and canes did not offer much protection from rain or cold temperatures.

External Parasites

On 18 May 2010, during the intervention warming and drying of the shrike nestlings, maggots [probably blowfly larva (Diptera: *Calliphoridae* of genus *Protocalliphora*)] were found attached to, and burrowed under, the skin of the nestlings (Fig. 1).

FIGURE 1. Subcutaneous maggot in wing of nestling Loggerhead Shrike on 18 May 2010. The dark mark on shrike's head is where another maggot departed previously. (Photo by L. Morrow)

The maggots were approximately 4 mm long and had pierced the skin to burrow into various areas on the shrikes' heads near the eyes and ears, into the lower mandible and on the wings where the primaries were emerging. Five maggots were removed from one nestling and 2 from the

other nestling by application of gentle pressure to remove the parasite from beneath the skin. The nestling that had died from exposure was also infested with 5 maggots. There were signs that other maggots had already departed, leaving a dark hole in the skin which was missing feathers. Several days later similar marks were found on the 2 surviving young shrikes where maggots had been removed on 18 May; these holes appeared to be healing with no signs of infection. Upon subsequent visits in 2010 these two young shrikes with previous larval infestation were able to fledge. The 2011 brood showed no signs of blowfly parasitism.

Others have documented Loggerhead Shrike nestling infestations with blowfly larvae (Woods 1994). The parasite's entry points were consistent with blowflies that infest Eastern Bluebirds (*Sialia sialis*; Mason 1936). In a study involving 324 Eastern Bluebird nests, researchers concluded that blowfly parasites caused no statistical differences in survival or rate of development of parasitized versus un-parasitized nestlings (Wittman and Beason 1992). In American Kestrels using nest boxes in New Jersey it was demonstrated that removal of ectoparasites, including maggots, did not increase nesting success (Lesko and Smallwood 2012).

Reuse of Existing Nest

In 2011 shrikes used the same nest that had been successful the previous year. Shrikes have been known to reuse existing nests (Yosef 1996). At 69% of sites reoccupied in Indiana for a second consecutive nesting season, nests were in same location as the prior year (Burton 1990). As Burton noted, in a third of these cases, the old nest was relined and reused or was used as a foundation for a new nest. It appeared the SVRSA shrikes added deer hair, relining the 2010 nest for reuse in 2011.

Second Nestings

In both 2010 and 2011 only one adult shrike was observed feeding recently fledged young. The adult provisioning the fledglings was likely the male parent, as the female probably had left the immediate area to start another nest with another clutch of eggs (Yosef 1996). Only the female shrike has been known to construct the nest and incubate eggs (Miller 1931 and Collister 1994). Females may desert their mates once young of the first brood have left the nest, while she raises a second brood in nearby area with another male (Haas and Sloane 1989). In VA Luukkonen (1987), reported 4 of 12 (33.3%) pairs in 1985 and 14 of 19 (73.7%) pairs in 1986 with successful first nests had initiated second nests. A search for a second nest in the SVRSA was not done but, in hindsight, this was a missed opportunity.

Adult shrike nest defense in the SVRSA was limited to intermittent raspy calls and bill clicking from atop the thicket containing the nest. As we approached the nest to within 20 meters, the adult shrike flew to a remote perch and watched us approach the nest. The adult shrike usually continued to shriek from its new perch for a minute or two then went silent, still watching. On 28 May 2011, when the nestling shrikes were 18 days old, they left the nest. In both 2010 and 2011 young Loggerhead Shrikes were observed during 2 stages of fledging. The first stage is the young leaving the nest and, for the next few days, they perch within the blackberry thicket using it as escape cover (Fig. 2).

FIGURE 2. Four banded Loggerhead Shrikes in first stage of fledging in blackberry thicket on 30 29May 2011. (Photo by L. McGranaghan)

During this stage fledglings would meet the adult shrike at a small opening in the thicket to greet the adult and receive food in a bill to bill transfer. During this first fledging period the young exhibited escape /concealment behavior when approached, as described by Pittaway (1993). This behavior consisting of initially vocalizing then hiding from view within the thicket but, after a variable time of 2-15 seconds of concealment, the fledglings would hop in and out of view within the thicket trying to get a glance at us. Shrikes at this stage appear to be both instinctively cautious and intensely curious.

As soon as the fledglings could accomplish the flight, they left the thicket flying across the pasture 80 meters to perch in several tall (approximately 17 m) black locust trees (*Robinia pseudoacacia)* alongside the gravel county road, thus beginning the second stage of fledgling. During this stage the young shrikes no longer reacted to the approach of people and the adults ceased defending the nest site, instead

defending the locust trees now occupied by fledglings. When the trees containing fledglings were approached by humans, the adult shrike would initially come closer and vocalize but soon decided there was no immediate threat so returned to foraging and provisioning the fledglings. On 4 June 2011 while observing and photographing the fledged shrikes, it was noted that when another Loggerhead Shrike appeared, the adult promptly chased the other shrike from the area. The fledglings lingered in the upper halves of the trees flitting from branch to branch watching the adult hunting. Whenever the adult shrike arrived at the upper branches of the locust trees with food the fledglings, anticipating arrival of the adult, met them with open mouths, mobbed the adults while vocalizing the begging call and aggressively competing for the prey item (Fig. 3).

FIGURE 3. Adult Loggerhead Shrike (on right) being mobbed by second stage fledgling in locust tree; note USGS band on fledgling's right leg. (Photo by L. McGranaghan).

The fledgling shrikes stayed in the large locust trees with adult provisioning them for about a week while the young birds practiced foraging forays, flying to the ground after an insect or attempting to capture prey in the air. This two stage fledging behavior was consistent with that previously described (Yosef 1996).

Midday Food Procurement for Recently Fledged Young

On 30 May 2011 approximately one hour was spent taking photographs and verifying survival of 4 banded Loggerhead Shrikes in their first stage of fledging (Fig. 2). During the following 1 hour period, from 12:09 PM to 1:09 PM EDT, prey procurement and other activities of a lone adult shrike were documented from the gravel road located 80 m from the blackberry thicket that containing four 19 day old fledglings (Table 2). During the 1 hour observation period the weather conditions were: 29.4° C, 42% relative humidity, hazy with a slight breeze. The pasture had not been mowed or grazed recently so the grass was, on average, 1.2 m tall.

The data collected during the 1 hour timed observation period is summarized in Table 2. The shrike's behavior can be divided into several distinct activities. The first time period, 34 minutes and 17 seconds in duration, was dedicated to catching prey and feeding the fledglings in the thicket 20 times (behavior is described in detail below). A hunting cycle is defined as the time it takes for the shrike to leave the hunting perch, capture prey and, either feed prey to fledglings or consume prey, until its return to a hunting perch. The mean duration of hunting cycles during the first provisioning session, totaling 20 prey items, was 1 minutes and 43 seconds.

After nearly 35 minutes, the adult shrike abruptly flew approximately 360 m WSW from the observation post and hunted from the fence that defines the southwestern border of the pasture. During this time, 9 minutes and 21 seconds, the adult was foraging for itself and made 7 attempts to capture prey (the distance was too great for us to determine hunting success). We assumed the shrike consumed all prey captured at the remote site. During this time (15.6% of the hour), when the shrike foraged for itself, the mean hunting cycle was shortest: 1 minute and 20 seconds. The shorter hunting cycle is due, in part, to zero time spent flying to and feeding the fledglings and the shrike took shorter aerial pursuits, possibly due to higher prey availability at the remote location. Foraging for itself, including the time that the adult took to fly to and from the remote site, the shrike spent a total of 12 minutes and 18 seconds away from the nest site during which no food begging calls were made by the fledglings.

Lastly the shrike returned to the original perch beside the nesting structure and resumed provisioning fledglings for the remainder of the hour, 13 minutes and 25 seconds. During this latter provisioning session, 5 prey items were provided and the mean hunting cycle was longest at 2

Table 2: Midday Hunting by Adult Shrike.

Duration	Activity	Number of hunting cycles	Mean duration of hunting cycle	Range of hunting cycles (minimum to maximum)
34 min. 17 sec.	Provisioning young	n = 20	1 min. 43 sec.	28 sec. to 3 min. 48 sec.
0 min. 43 sec.	Flies to new location 360 m away	na	na	na
9 min. 21 sec.	Adult hunting for self	n = 7	1 min. 20 sec.	37 sec. to 2 min. 3 sec.
2 min. 14 sec.	Returns to renew provisioning young	na	na	na
13 min. 25 sec.	Provisioning young	n = 5	2 min. 41 sec.	48 sec. to 6 min. 20 sec.

minutes and 41 seconds. The shortest hunting cycle while feeding fledglings was 28 seconds and the longest cycle was 6 minutes 20 seconds. During this provisioning session the shrike appeared to be resting and cooling after the 300+ m flight after returning from hunting for itself on the far fence. During the 1 hour period, the shrike spent 79.5% of the hour feeding fledglings a total of 25 times during 2 provisioning sessions.

Notes on Shrike Foraging Behavior

During the timed observation period described above, the adult shrike was conspicuously perched unless actively pursuing prey or feeding the fledglings. The shrike's primary hunting perch was at the top of a 2.2 m honey locust tree which was located about 1 m from the edge of the blackberry thicket that contained the shrike's nest but it also spent time hunting for itself at a fence that marks the southwest boundary of the pasture. The observation distances, from 80 m at the tree adjacent to the nest up to 360 m at the southwest fence, were too great to allow us to discern what types of prey items were captured by the shrike but they appeared to be 100% invertebrates. While provisioning fledglings, the majority of prey items were captured in the air whereupon the shrike immediately flew to the nest site in the blackberry thicket to feed the hidden fledglings. It was obviously obvious when the adult shrike had successfully captured a prey item because it immediately flew to the thicket to feed the fledglings who vocalized upon seeing the approaching adult. Presumably (tall grass partially obscured the view) as soon as the shrike delivered the prey item to one of the fledglings, the food begging calls abruptly ceased and the adult would return to its hunting perch to resume scanning. However, when the shrike was foraging for itself at the far fence, it was not obvious when a prey item was captured and eaten due to the 300+ m distance. We surmised that the shrike flew far from the nest site to feed itself because of higher prey availability and/or a more suitable hunting perch or perhaps the supply of prey nearest the nest had become temporarily depleted. All flights to capture prey during this time were either from a barbed wire fence or a fence post and all were less than 3 m in distance with direct flights angling steeply downward into the tall grass. In instances when the shrike appeared to lose sight of the prey in the tall grass it hovered briefly, less than 2 seconds, then darted down into the grass attempting to capture its prey. During the hour long observation period the adult shrike appeared to be overheated by exertion, stress, and/or humidity and was perched with its beak open about 90% of the time. Although there was ample opportunity for the shrike to seek shade, it did not do so. The shrike did not leave the pasture during the timed observation period except when hunting for itself where it foraged on both sides of the boundary fence. Each hunting cycle appeared to be a single prey item; this observation is consistent with the single prey loading as documented by others (Bohall-Wood 1987 and Yosef 1996).

While hunting, the adult shrike constantly swiveled its head horizontally, presumably visually scanning for prey. When prey was sighted the shrike would pursue it in direct flight. The longest hunting flight was approximately 70 m, the shortest less than 1 m, with the majority around 5 m. The shrike did not capture prey on every attempt. We estimated the shrike's overall foraging success rate (defined as prey captured/total hunting attempts) to be 60-70%. The capture rate is similar to other reports of Loggerhead Shrikes in California during the breeding season (64%) (Morrison 1980).

During the time observations on foraging were made, only one adult shrike was providing for the fledglings, presumably the male parent. Others have noted that both male and female shrikes take part in feeding the young in the nest (Applegate 1977 and Gawlik 1991) however; frequently the male provides food for the fledglings while the female is attempting a second nest (Kridelbaugh 1983). Although the vegetation in this shrike's hunting territory was over 1 m tall, the adult shrike was able to effectively capture prey items at a rate of at least 32/hour (Table 2). This rate of capture was much higher than reported previously for Loggerhead Shrikes (Yosef and Grubb 1993) reported 8.3 to 9.3 successful hunting attempts per hour in Florida but that was for a pair of breeding adults. Gawlik (1991) reported 3 to 17 prey deliveries per hour varying by time of day (96% were invertebrates). The rate of prey captured observed in the SVRSA was 0.52 captures per minute (31 captures total per hour). This rate is much greater than the rate of breeding shrikes recorded at 0.14 captures/minute by Morrison (Morrison 1980) who made observations from 1-5 hours post sunrise in California. It has been reported that Loggerhead Shrikes in Florida concentrate hunting in the morning (Howery 1991); while in California during the winter shrikes hunt primarily in the afternoon (Craig 1978). Although there are numerous published reports of shrike foraging success rates, they are not directly comparable for many reasons: observations were performed during winter months so birds are not provisioning young, and/or reports are from different regions with vastly different habitats, prey types and prey availability. For example, provisioning rates of Mississippi Kites in a study area in Texas (*Ictinia mississippiensis*) differed substantively from 2010 to 2011 due to extreme drought and temperature extreme heat,decreasing the preferred insect prey availability (Welch 2015). Additional factors found to influence Mississippi Kites' provisioning rates were: temperature, time of day and nestling age.

No prey were impaled or dismantled during the hour of observation on 30 May 2011 and no impaled prey in the vicinity of the shrike nest were found that day. This was probably due to the high food demand by the fledglings at this developmental stage (19 days old). In addition the small size of captured prey items was conducive to direct consumption rather than large prey which require impalement and/or dismemberment. During previous visits to the site, especially during nest construction and incubation time periods, various types of insect prey were found impaled on the barbed wire fence and in the small scattered honey locust trees adjacent to the nest in the pasture (Fig. 4).

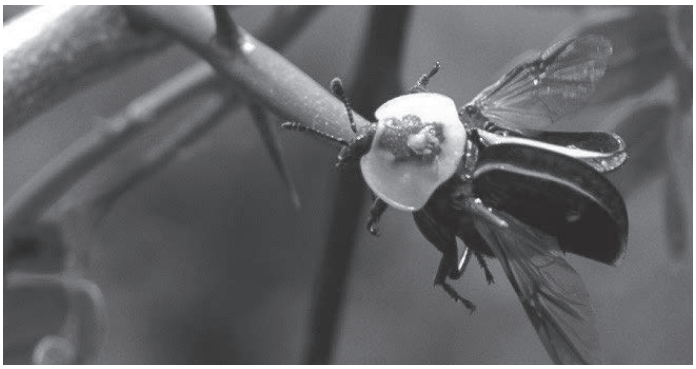

FIGURE 4. Carrion beetle *(Necrophila americana)* impaled on spine of a locust tree at the shrike's nesting territory. (Photo by L. Morrow)

Impaling appears to have multiple advantages for shrikes. One reason for impaling prey items is to cache food for future use. Impaling may serve as a way to attract mates and allows shrikes to handle large prey items for dismemberment since they have relatively small feet and talons. Shrikes are known to consume chemically noxious insects after being impaled for a couple days prior to consumption which presumably allows poisons to dissipate (Yosef and Whitman 1992).

We have documented foraging behavior and prey capture rates which may be used for comparison to Loggerhead Shrikes in other locations in the SVRSA or in the same location if the shrikes return. The data may be useful to compare to shrikes known to be exposed to various chemicals in their prey or environment such as DDT and dieldrin/aldrin, chemicals known to alter avian behavior. Young shrikes exposed to dieldrin have been shown to attack and kill prey more slowly than unexposed birds (Busbee 1977). Blumton's research in the Shenandoah Valley from 1985-1988 reports that samples of unhatched shrike eggs and/or shrike tissues contained detectable residues of organochlorines (0-100%), organophosphates (0-43%); carbamates (0-14%) and PCB (0-63%) (Blumton 1989). Fran Hamerstrom (pers. comm. 1975) stated that prior to the worst DDT years, 1965-1968, the harriers (*Circus cyaneus*) in her study area were extremely aggressive in nest defense, sometimes striking her while she was banding the young (Hamerstrom 1985). In contrast, during the DDT years she was able to document the harrier's nest defense was virtually non-existent, presumably due to the neurological effects of DDT causing aberrant behavior.

The American Kestrel diet mirrors the dietary needs of the Loggerhead Shrike, requiring predominately invertebrates during the spring breeding and summer fledging seasons

before switching to predominately vertebrates during fall and winter (Sherrod 1978 and Yosef 1996). Since the American Kestrel is a common wintering and breeding raptor sharing habitat with shrikes within the SVRSA, we concur with others (Smallwood 2002) that the kestrel could be a sentinel organism for monitoring environmental contaminants. American Kestrels within the SVRSA are exhibiting aberrant behavior that we hypothesize are due to environmental contaminants. Aberrant behavior by a wintering male kestrel in the SVRSA has been documented and published (Morrow 2014). This kestrel was not properly cleaning it's talons after eating which resulted in large accumulations of debris on its talons. At least 2 different female kestrels in the SVRSA have laid full clutches of eggs in nest boxes, commenced incubation, abandoned the first clutch, switched to different SVRSA nest boxes and repeated the aberrant nesting/abandonment cycle with the second clutch (unpub. obs.). Since shrikes and kestrels partially overlap in habitat requirements and prey consumption (Yosef 1996), observations of aberrant behavior in congeners should be closely examined.

Assessment of Shrike Habitat in SVRSA

The Loggerhead Shrike nesting territory described was one of the best locales for nesting shrikes in VA, and in the 1980s, this general area was selected by VA Tech ornithologists Luukkonen and Blumton for Loggerhead Shrike research (Luukkonen 1987 and Blumton 1989). In the 30 years since the VA Tech research, the shrike habitat in the SVRSA has been degraded. In the 1980s the study area was described as: "...grain and hay crops, and pasture land for livestock are primary economic resources. Small hardwood woodlots and old fields are interspersed throughout the Valley" (Blumton 1989). Today one of the most important components of quality shrike habitat that has strikingly changed from 30 years ago; the "old fields" have disappeared from the landscape in the Valley (pers. obs.).

Open areas with well spaced trees or other hunting perches are critical for foraging shrikes (Yosef 1996). Open areas enable the shrike to see and safely capture prey on the ground. The SVRSA territory had multiple open areas of flat rocks plus two lightly traveled country gravel roads that were probably used by foraging shrikes although it was not observed. In the past fifty years much has happened to these gravel roads, none to the advantage of shrikes. Many county roads are now paved and carry more traffic at a higher rate of speed. In VA, Blumton (1989) noted that shrike mortality due to collisions with motor vehicles was second only to predation by raptors in fall and winter months. Other researchers have concluded the exponential increase in roads and traffic since the 1940s could be a major factor in shrike population declines (Flickinger 1995). To further the degradation of shrike habitat in VA, vegetation on roadsides and along fence lines is regularly sprayed with herbicides and/or mowed, decreasing prey abundance for shrikes and exposing shrikes to toxins and disturbance. Similarly to the deliberate act that caused the loss of nesting shrikes reported herein, H. Larner observed the "spraying of the fence line" coincided with the loss of the breeding pair of shrikes in 2012 in Augusta County (pers. comm.).

For decades the Shenandoah Valley has seen a gradual conversion from pastures and hayfields to row crops with a concomitant increased usage of herbicides, pesticides and fertilizers (USGS 2012). These widely used environmental contaminants act in at least 2 ways that negatively affect shrikes. Firstly, these toxins have direct deleterious effects on shrike behavior (Busbee 1977) and secondly, they reduce prey species and abundance. The shrike's decline in the U.S. began with the introduction of organochlorines in the 1940s (Yosef 1996) and these persistent organic pollutants continue to negatively impact people and wildlife. During the summer of 2005, insects within the SVRSA study area were collected. After viewing our collection, local entomologist J. Coffman, stated that the same effort 20 years ago (1985) would have provided five times the diversity of what had been collected in 2005. To our knowledge, no one has published data correlating insect abundance and/or diversity with Loggerhead Shrike populations. However, since there is a parallel between introduction of organochlorine pesticides in the 1940s with decreasing shrike populations rangewide, the subject merits further scrutiny (Yosef 1996). Recently neonicotinoid pesticides have been implicated in 3.5% annual declines in insectivorous birds (Hallmann et al. 2014). In addition, secondary effects of rodenticides, brodifacoum in particular, used in fruit orchards within the SVRSA could also be a problem, not only for shrikes, but many other wildlife species that feed on field voles, *Microtus sp*. (Erickson 2004 and Merson 1984).

RECOMMENDATIONS

It is possible, within a few years, that Loggerhead Shrikes will no longer be breeding in the Commonwealth of VA. The Commonwealth's listing of Loggerhead Shrikes as threatened rather than endangered and the absence of any substantive conservation activities, highlights the general lack of concern for this species.

Reintroduction is a catchword for this era and has been successful only after intense habitat and predator

management, as in the case of endangered San Clemente Island Loggerhead Shrikes (*Lanius ludovicianus mearnsi*) (USFWS 2009). We cannot recommend Loggerhead Shrike reintroduction in VA without first fully investigating the reasons for this species' decline and taking corrective measures. To our knowledge, shrikes in VA have not been tested for environmental contaminants since Luukkonen's 1987 thesis. The non-migratory shrikes in VA are continually exposed to pesticides, herbicides and in some cases, rodenticides; all possibly contributing to shrike population decline. The effects of brodifacoum, a commonly sprayed orchard rodenticide, on voles and raptors has been studied in VA (Merson 1984) and its use has been prohibited on San Clemente Island due to its deleterious effects on their endangered shrike (Erickson 2004). Banning the usage of chemicals known to adversely impact shrikes is a sensible and effective conservation measure the Commonwealth should consider.

The deliberate destruction of the blackberry thickets and the hunting perches in the SVRSA pasture was not surprising and was due to a lack of proactive conservation for shrikes. It is unlikely this particular field will be converted into row crops due to multiple rocks which make plowing difficult. Perhaps with a few years of minor habitat modifications such as replanting shrubs and trees within the pasture and no spraying of chemicals, the shrikes may return to breed again at this site. The loss of shrike nesting territory in the SVRSA exemplifies the loss of suitable breeding and wintering habitat that is pervasive throughout this species range. While VA still retains a remnant population of Loggerhead shrikes, the Commonwealth should immediately list this species as endangered and begin a multi-pronged campaign to prevent extinction of this species. Since most of VA's shrikes are non-migratory (Blumton 1989), the Commonwealth of VA and other states with non-migratory shrikes have an opportunity to conserve this species that is not possible for the migratory shrike populations of, for example, Canada.

Historically, governmental support for shrike conservation in Canada has been impressive. The Wildlife Preservation Canadian website has information for citizens to learn about Loggerhead Shrikes with suggestions on how to enhance their habitat (http://wildlifepreservation.ca/2014/wp-content/uploads/2015/05/2015-Shrike_LandownersGuide.pdf). Shrike recovery efforts in Ontario include funding and implementation of habitat protection and improvements, a captive breeding program that has successfully released over 700 fledgling shrikes, some of which migrate south and return to breed in Ontario, genetic research on population dynamics, and the use of many techniques to track and monitor shrikes including annual nest surveys, banding, color marking, geolocators and telemetry (http://wildlifepreservation.ca/loggerheadshrike). However, the Canadian shrike recovery team has concluded; " ...it has become clear that the biggest factors driving shrike declines must lie outside Ontario" (http://wildlifepreservation.ca/2014/wp-content/uploads/2015/05/2015-Spring-Newsletter.pdf) and all Federal funding for the program has been cut beyond 2015.

In conclusion, we agree with Loggerhead Shrike researcher Arlene Blumton who, nearly 3 decades ago stated "Shrike populations in VA have declined to a level that justifies this species being added to the state's Endangered Species List" (Blumton 1989). Recommendations include implementing an ecosystem based conservation approach by the Commonwealth to promote awareness, incentivize habitat restoration and discourage deleterious activities such as removal of potential nesting structures, hunting perches and use of harmful chemicals. Of course, all current shrike breeding territories should be documented and maintained to the advantage of shrikes.

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NOTE ADDED IN PROOF: Color versions of Figures 1 through 4 are available at <http://landjmorrow.com/loggerhead_shrike>

GROUND-NESTING BALD EAGLES ON THE VIRGINIA BARRIER ISLANDS

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As with all other sea eagles (Brown and Amadon 1968), Bald Eagles (*Haliaeetus leucocephalus*) are tree nesters throughout most of their breeding range and the use of tree species for nesting substrate varies geographically according to availability (e.g., Robards and Hodges 1976, McEwan and Hirth 1979, Andrew and Mosher 1982, Anthony and Isaacs 1989, Dzus and Gerrard 1993). Ground nests are found in treeless regions in the desert Southwest, within the high latitudes of Alaska and Canada and on offshore islands along the Pacific Coast. Grubb and Eakle (1987) found 9 of 17 nests in Arizona placed on cliffs. Sherrod et al. (1976) working on Amchitka Island along the Aleutian chain found nests on coastal sea stacks, ridges and hillsides. Historic Bald Eagle nests on the Channel Islands were placed on outcrops, cliffs and islets (Kiff 1980).

Ground nests within the forested portions of the breeding range are extremely rare. Hines and Lipke (1991) found eagles nesting on the ground on a small island in Minnesota. Burton (2010) found a nest on Vivian Island, a small treeless island in the Strait of Georgia, British Columbia. Curnutt and Robertson (1994) found 3 ground nests in Florida Bay on isolated mangrove keys. In the late 1800s, 2 ground nests were found on low-lying islands near Corpus Christi, Texas (Bent 1937). No ground nests have been described along the Atlantic Coast.

The Bald Eagle breeding population within Virginia and the broader Chesapeake Bay reached a low in the early 1970s (Abbott 1974) but has been growing exponentially over the past three decades with an average doubling time of less than 8 years (Watts and Byrd 2002, Watts et al. 2007, 2008). Bald eagles in Virginia nest almost exclusively in trees, including primarily loblolly pines (*Pinus taeda*) and various hardwoods (Jaffee 1980, Watts 2005). In recent decades, nesting substrates have broadened to include artificial structures such as transmission towers, water towers and cell towers (Watts and Byrd, unpublished data). Here, we describe two nests built on the ground along the Virginia Barrier Islands.

On 26 April 2013 while flying shorebird surveys along the barrier islands, Bryan Watts and Barry Truitt discovered an eagle nest on the north end of Little Cobb Island in Northampton County (Figure 1).

Figure 1. Ground nest of Bald Eagle on Little Cobb Island, Northampton County, Virginia. Photo by Bryan Watts.

The nest contained 2 chicks that were attended by an adult and were approximately 35 days old. The nest was built between 3 overturned wax myrtle (*Myrica cerifera*) stumps that had washed up on the island and was surrounded by seaside goldenrod (*Solidago sempervirens*). The nest was disc-shaped (shallow and wide). The base of the nest was made of coarse sticks and filled with wrack and fresh marsh grass. Visible in the nest was scattered diamondback terrapin (*Malaclemys terrapin*) shells, bird remains and fish remains. During the last flight of the season on 6 June 2013, the two young were observed flying around the island. In mid-March of 2014 an incubating adult was observed in the nest, but by the first week in April the nest was abandoned and no evidence of eggs or young was found in or near the nest structure.

The nest located on Little Cobb Island was a replacement nest for one that was initially built on the roof of a small shack in 2006 (Watts and Byrd 2006). Both the shack and nest were lost in Superstorm Sandy on 29 October 2012. The replacement nest was built on the ground because there were no remaining structures on the island.

On 5 June 2013 while conducting surveys for beach-nesting birds, Ruth Boettcher discovered an eagle nest built on the ground on Cedar Island in Accomack County (Figure 2).

Figure 2. Ground nest of Bald Eagle on Cedar Island, Accomack County, Virginia. Photo by Ruth Boettcher.

The nest contained two young, approximately 40 days old with both adults present. The nest was built in low dunes around an uprooted red cedar tree (*Juniperus virginiana*) that was washed up on the island. The base of the nest was made of coarse sticks that were covered with wrack and marsh grass. Similar to the nest on Little Cobb Island, the nest was disc-shaped but elevated slightly on the log. Diamondback terrapin shells and fish remains were scattered on the nest surface. Both young were observed flying the last week in May. In early April of 2014, a two-week old nestling was discovered in the nest with both adults present. The chick fledged in mid to late May and remained in the area until late July.

The situations of the two Bald Eagle nests in Virginia are very similar to descriptions of other ground nests. Little Cobb and Cedar are both treeless islands near abundant food resources that are isolated from mammalian predators. Most ground nests that have been described to date occur on offshore islands with no ground predators. Sherrod et al. (1976) suggest that the occurrence of arctic foxes (*Vulpes lagopus*) is one of the primary determinants driving the distribution of breeding eagles nesting along the Aleutian Islands. The lack of suitable nesting substrate is also a key element leading to ground nesting. Bald Eagles nest on other Virginia Barrier Islands including Assateague, Wallops, Parramore and Hog. However, on these islands the pairs are nesting in available trees.

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VIRGINIA CHRISTMAS BIRD COUNTS: 2014-2015 SEASON

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While wild weather raged all around us, Virginia once again squeaked through the 2014-15 Christmas count season relatively unscathed. The only "victim" was Dismal Swamp NWR. Heavy rains a few days before appointed day rendered the Swamp impassable and the count had to be cancelled, bringing the total number of Virginia counts to 51 for the 2014-15 season. This is the second time in six years the Dismal Swamp count could not be conducted, understandable because the road system throughout the preserve is susceptible to treacherous driving conditions in wet, icy, or snowy conditions.

Most counts throughout the state reported fairly mild conditions, many (22) experienced some form of precipitation, from light to heavy rain or light snow. Quite a few enjoyed mostly clear weather. The temperatures were well within the normal range (20° to 74°) for the season. Winds were not really a factor, the strongest being reported at Back Bay with 35 mph gusts. That is par for the course on that count as the winter winds often arrive there unimpeded, straight off the Atlantic Ocean.

With such relatively mild conditions, as compared to surrounding states, one might expect an impressive array of unusual species to invade Virginia, but such was not the case. In fact, the total species count for the state was only 204, significantly lower than the average total of 218 over the past three years. Nevertheless, there were some very nice finds in many parts of the state.

Among the waterfowl, there were some unusual numbers. Great White-fronted Geese (*Anser albifrons*) were present with the highest total ever (9). All were at Hopewell. The second highest total of Cackling Geese (*Branta hutchinsii*) (30) was reported by eight counts. Sightings will undoubtedly continue to increase. This species was probably present in larger numbers in years gone by, but perhaps not as carefully sorted out, because they were not deemed a full-fledged species until about 10 years ago.

The most Wood Ducks (*Aix sponsa*) in four years (406) appeared on 26 counts with the highest total (127) occurring at Hopewell. Overall, numbers of Gadwall (*Anas strepera*) were not noteworthy, but this species showed up in places where it is not usually found - Mathews County with 5, Darlington Heights with 24, Calmes Neck with 9, and Gordonsville and Charlottesville with one each. Eurasian Wigeon (*A. penelope*) equaled the all-time high of six birds statewide in 2008, with four at Chincoteague and one each at Little Creek and Nansemond River. Those at Chincoteague were the first found there on a count day since 1999. American Wigeons (*A. americana*) were somewhat unusual at both Warren and Lynchburg.

Blue-winged Teal (*A. discors*), as always, are very scarce in Virginia in the winter. Only seven were found state-wide. One was at Nassawaddox, a first for that count, four at Hopewell, the only ones found there in nine years, and two at Walkerton, where it seems to occur more often than in most other count circles, except Fort Belvoir, where at least a few are found most years. This year, however, there were none there.

Northern Shoveler (*A. clypeata*) sightings were somewhat unusual occurrences for Shenandoah NP-Luray and Glade Spring. Walkerton has been leading the pack with sightings of Northern Pintail (*A. acuta*) for a few years now. From 2009 to the present, birders there have chalked up around a thousand individuals each year as they raft up on the Mataponi River. This year the count was 1,050.

For three of the last four years, Canvasback (*Aythya valisineria*) numbers have barely reached over the 1,000 mark. In the last two centuries this was one of the iconic birds of the Chesapeake Bay, with counts numbering in the tens of thousands, but numbers of this magnificent duck have dwindled alarmingly over the past 20 years.

Tazewell chalked up 18 Redheads (*A. americana*) this year. It's only the second occurrence for that count. The previous record was one bird in 1975. Speaking of Tazewell, observers there enjoyed a cornucopia of waterfowl this season, among them, 18 Redheads, 9 Ring-necked Ducks (*A. collaris*), 6 Greater Scaup (*A. marila*), one Lesser Scaup (*A. affinis*), 25 Bufflehead (*Bucephala albeola*), 9 Hooded Mergansers (*Lophodytes cucullatus*), 9 Red-breasted Mergansers (*Mergus serrator*), and 8 Ruddy Ducks (*Oxyura jamaicensis*). The Redhead sighting was only the fourth for Shenandoah NP-Luray. The last record there was in 2000. Warren birders were also lucky to find this species. Their last sighting was in 1982.

Twenty-four Common Eiders (*Somateria mollissima*) constituted the second highest state total with 11 at Nassawaddox, 10 on the Chesapeake Bay bridge-tunnel Islands, 2 at Cape Charles and one at Little Creek. There was some speculation that some of these birds could have been double-counts. The last time such numbers were tallied was in 1997 when 34 were at Little Creek and the same number at Chesapeake Bay, along with two individuals at Wachapreague and one at Chincoteague.

One Surf Scoter (*Melanitta perspicillata*) at Fort Belvoir was the first there since 2006. A White-winged Scoter (*M. fusca*) seen during count week was a major happening for Williamsburg observers. Another scoter was seen on count day, and was, perhaps, the same bird seen during count week. Unfortunately, birders could not pick out critical details so it could be identified only as scoter sp. Sightings of white-wings are becoming quite rare in the region and the total of 18 state-wide was the lowest number recorded since that same number was found in 1964. That year only 24 counts were conducted as opposed to this year's total of 51. On the other hand, the 3,304 Black Scoters (*M americana*) found around the state was the highest overall total since 2002. It is ironic that in 1964, when White-winged Scoters had such a poor showing, Black Scoters totaled a record high of just over 16,450.

Common Merganser (*Mergus merganser*) numbers were the second lowest in two decades. Ruddy Ducks (*Oxyura jamaicensis*), on the other hand, were recorded in the highest numbers since 2002.

In all of Virginia, only two Ruffed Grouse (*Bonasa umbellus*) were seen on this year's counts. That equals the number found at Blacksburg in 1944. In its heyday back in the 1970s, 80s, and early 90s, the grouse was a common occurrence. More than 50, and sometimes 100 grouse were found on counts all over the Piedmont and western environs of Virginia. It is also painful to report that the 42 Northern Bobwhites (*Colinus virginianus*) found on only six counts is the lowest state total since 1930 when 37 were recorded on 3 of the 5 counts conducted that year. It is also interesting to note that all the birds seen this year were on counts only in the eastern part of the state - Wachapreague, Back Bay, Nansemond River, Williamsburg, Walkerton, & Washington's Birthplace. Count week birds were detected at Cape Charles and Hopewell. Wild Turkeys (*Meleagris gallopavo*), on the other hand, have enjoyed an unprecedented resurgence. This year's state total of 1,068 is only half of last year's astounding all-time high of more than 2000 birds, but it is still an impressive number and certainly points to the success of the state's restocking program.

This year's seven Great Cormorants (*Phalacrocorax carbo*) represented a precipitous drop in numbers. They were first discovered on Christmas counts at the Chesapeake Bay Bridge Tunnel islands in 1970 with a mere handful of individuals counted for the next 15 years. After that numbers skyrocketed with a peak count of 155 found in 1994. The population began to taper off around 2005 and has been dropping ever since. Though not firsts, Banister River and Calmes Neck had impressive totals of 21 and 12 Double-crested Cormorants (*P. auritus*) respectively.

Two Great Blue Herons (*Ardea herodias*) were the first to be found at Peaks of Otter in eight years. It's only the second sighting of this species in that count's 57-year history. This is a high-altitude count where herons are not expected to be found. Records are usually of fly-overs as this one was. The state total of Great Egrets (*Ardea alba*) was only 124 this year. Rarely do their numbers fall below 150. Two at Nokesville were a first for that count since it was re-established in 2007.

With the weather being somewhat milder than that of previous count seasons of the past few years, one might expect there to be a few more Tricolored Herons (*Egretta tricolor*) around in 2014, but instead, there were less than normal. Only eight were at Cape Charles, and two at Little Creek. Alas, no Little Blue Herons (*E. caerulea*) could be found anywhere in the state this year, only the second time this species has been absent from the counts since 1964.

Around 1968, Cattle Egrets (*Bubulcus ibis*) suddenly started appearing on Eastern Shore and Southside Virginia counts with numbers swelling to as many as 47 in 1975. After that, their numbers slowly tapered off until they were very seldom around during count seasons. From 1998 to the present, only one bird was recorded on the Chesapeake count in 2003, so it was a surprise when birders discovered 12 individuals at Back Bay this year.

White Ibis (*Eudocimus alba*) numbers continue to climb dramatically with Back Bay observers finding 510 individuals, setting an all-time high for both that circle and the state. From 1996 through 2010, Cape Charles held the lion's share of White Ibis sightings, but starting in 2011, Back Bay seemed to be the preferred stopover with 91, 155, 210, and 510 birds counted the next four years.

Black Vultures (*Coragyps atratus*) set a state all-time high count of 5,909 birds. Blacksburg helped swell those numbers with a whopping 781 individuals. Nineteen other counts tallied 3-digit figures. Both Nokesville and Fort Belvoir reported one Osprey (*Pandion haliaetus*) each, somewhat unusual sightings for both counts. Cooper's Hawk (*Accipiter cooperii*) was at an all-time state high of 265, surpassing the previous record of 240 set in 2010.

Only three Rough-legged Hawks (*Buteo lagopus*) were found this year, one being an unusual sighting at Mount Rogers-Whitetop. A bird at Mathews Count was thought to be this species, but details of the sighting were not complete enough to verify the sighting.

It's not surprising that Bald Eagles (*Haliaeetus leucocephalus*) broke another all-time high state record with 1,224 birds found this year. Their numbers have been steadily increasing every year. There are only four counts in the state that have not found this species in the past seven years. They are either far western or high altitude sites. A Golden Eagle (*Aquila chrysaetos*) at Nassawaddox was a first for there. Brooke birders found the second Peregrine

Falcon (*Falco peregrinus*) for that count. The first record was one bird 45 years ago in 1979.

Virginia Rail (*Rallus limicola*) numbers were up considerably this year, with 45 overall, the most in 19 years. Glade Spring birders discovered of a patch of habitat that's just perfect for this species, and they have found from two to five rails at that site in the last three years. Back Bay had an unusually high number of Soras (*Porzana carolina*) (10) which jacked the total up the highest its been since 1975. Nansemond River and Williamsburg were the only other two counts reporting them. Fort Belvoir detected an unusally large number of American Coots (*Fulica americana*) over 11,000. Along with that increase, Banister River helped augment the overall total with a surprising 410 individuals.

As in most years, the only circle reporting American Avocet (*Recurvirostra americana*) was Nansemond River, with five individuals. For the past nine years, Nansemond River has been the only place where this species has occurred during the count season. That count holds the state record of 18 individuals found in 1996.

Cape Charles birders recorded 804 (Eastern) Willets (*Tringa semipalmata semipalmata*), the highest ever for any single count, but the state total of 1,063 reported on six counts was only the third highest. Lesser Yellowlegs (*T. flavipes*) were scarce. Birders detected only 15 individuals found on five separate counts, the lowest total since 1983, when only eight were recorded on three Eastern Shore counts. Marbled Godwits (*Limosa fedoa*) were also scarce. The 112 on four Eastern Shore counts was the lowest total number in eight years. Four Whimbrel (*Numenius phaeopus hudsonicus*) were present, all at Cape Charles.

After last year's total count of over 1,000 Western Sandpipers (*Calidris mauri*), this year's numbers dropped back to the usual triple digits. Hopewell used to be one of the most consistent sites to find Least Sandpipers (*C. minutilla*), but it occurrence there has been sporadic for the past 18 years, with none there this year. Even so, the 47 at Nansemond River raised the state total to 54, the most since 2004. Always a speciality of Cape Charles, Chesapeake Bay and Little Creek, Purple Sandpipers (*C. maritima*) did not fail birders, appearing on all three counts with a total of 52, falling well within the yearly average. Dunlin (*C. alpina*) came through in big numbers with the 32,000+ birds, the highest state total since 1973. Nassawaddox numbers almost tripled from last year total.

The only Parasitic Jaeger (*Stercorarius parasiticus*) found in three years was at Chesapeake Bay. Another semi-rare species is the Black-headed Gull (*Chroicocephalus ridibundus*). Two individuals were at Little Creek. The majority of Bonaparte's Gulls (*Chroicocephalus philadelphia*) were at Chesapeake Bay with more than 3,400 in and around the bridge-tunnel islands.

Hard to identify and occurring only occasionally on Virginia counts, two Thayer's Gull (*Larus thayeri*) were spotted, one at Chesapeake Bay and another at Little Creek. In the past six years, Ring-billed Gull (*L. delawarensis*) Christmas count numbers have noticeably dropped at all their major hangouts. This year's total was off by about 4,000 compared to numbers tallied six or seven years ago. Both Cape Charles and Chesapeake Bay counts have realized a considerable drop. Iceland Gulls (*L. glaucoides kumlieni*) reached a state high count of four birds. Good photographs left no doubt as to their identity. One was at Chesapeake Bay, two at Little Creek and one at Nokesville.

It is difficult to remember back in the early 1970s when it was an major event to find even one Lesser Black-backed Gull (*L. fuscus graellsii*) on the Chesapeake Bay bridge-tunnel islands. Today is a different story. Their penchant for Virginia's numerous regional dumps has increased Lesser Black-backed numbers to the point that they have been counted in triple digits on counts around the Chesapeake Bay for six of the past eight years. Though not a record, Little Creek's 84 birds topped the list this year. Eight counts from Chincoteague to Fort Belvoir chalked up 176 individuals. Last, but not least in the gull department, here's a combination not reported on the counts before - a herring x lesser black-backed gull hybrid. One was carefully studied on the Chesapeake Bay count.

Never a sure bet that we'll see them every year, Little Creek observers managed to come up with 10 Black Skimmers (*Rynchops niger*). That's the most recorded on a Virginia Christmas count since 32 were found in 2001. That doesn't begin to approach the all-time high count of 78 occurring at Little Creek and Back Bay in 1984. When none showed up anywhere last year, it seemed as though the great influx of Razorbills (*Alca torda*) that occurred the two previous years had melted away, but two were present this year, one at Chesapeake Bay, the other at Back Bay.

After last year's unprecedented invasion of Snowy Owls (*Bubo scandiacus*), it was hoped that another bonanza of these spectacular arctic visitors would occur in 2014, but that did not happen. Only one turned up the Washington's Birthplace count. A great photo of a Short-eared Owl (*Asio flammeus*) perched in a tree, made for a very special first sighting for Breaks Interstate Park count observers. At Cape Charles, birders lingered to find a Short-eared Owl hawking over the marshes just at twilight. The Plains participants were also victorious, chalking up this species for the third year in a row. The only Northern Saw-whet Owl (*Aegolius acadicus*) sighting was one on the Northern Shenandoah Valley count.

There was only one Rufous Hummingbird (*Selasphorus rufus*) about, an individual at Williamsburg. That is a far cry from the five or more on numerous counts the previous two years.

This was quite a year for Red-headed Woodpeckers (*Melanerpes erythrocephalus*). Not only was the previous state total smashed, but several counts enjoyed outstanding numbers of this species as well. Giles County recorded its first occurrence; Lexington had two, the only sightings for that count since 1998; Shenandoah-Luray had its first record of five since 2006; Northern Shenandoah Valley birders racked up a record total of 51, eclipsing their previous high of 28 set in 2007; Red-headeds were on all but six of the 16 Coastal Plains counts; and record high counts were broken by The Plains, Central Loudoun, and Williamsburg.

Yellow-bellied Sapsuckers (*Sphyrapicus varius*) were abundant statewide. The thousand or more tallied on all but four counts was the second highest total ever. Downy Woodpeckers (*Picoides pubescens*) also appeared in great numbers. The 2,976 birds constitute the second highest count for the state. Hairy Woodpeckers (*P. villosus*) seem to be faring well, as the record high of 550 individuals attests. Northern (Yellow-shafted) Flickers (*Colaptes auratus*) also broke an all-time high record, coming in with 3,507 birds found on every count except Chesapeake Bay, where it would not be expected to occur. Pileated Woodpeckers (*Dryocopus pileatus*) numbers too, have remained high, in the 4-digit category almost every year since 1993.

Blackford and Glade Spring each had five Loggerhead Shrikes (*Lanius ludovicianus*). Calmes Neck, Rockingham County, Mount Rogers-Whitetop and Bristol each had one. The only White-eyed Vireo (*Vireo griseus*) in the state was a count week bird at Fort Belvoir.

The record high of Blue Jays (*Cyanocitta cristata*) was missed by just nine birds for a total of 13,014 individuals. Northern Shenandoah Valley's 1,212 jays contributed heavily to that high number. The all-time record of 13,023 was set in 1988. This years total of 322 Common Ravens (*Corvus corax*) was not unusual, but it is interesting to note that this species keeps occurring further and further to the east. The numbers are not startling but they steadily creep upwards and their appearance in the Fort Belvoir, Manassas-Bull Run, Brooke, and Lake Anna areas is fairly regular now. This was not the case 10 years ago when it was a rare thing to see ravens on any of those counts.

The Bristol count is considered a Tennessee count and is listed by Audubon as such, but because the greater part of that circle lies within Virginia, it is also published with the Virginia counts in *The Raven*. A Northern Rough-winged Swallow (*Stelgidopteryx serripennis*) was reported there, but it occurred in the Tennessee sector of the circle and cannot be included as a Virginia count species. Nevertheless, Virginia did have a nice number of Tree Swallows (*Tachycineta bicolor*). They were heavily concentrated in Southside Virginia, with Little Creek and Back Bay reporting 405 and 251 respectively. It was nice to see Nansemond River weigh in with an impressive 435 individuals. Only one Tree Swallow had ever been seen on that count previously and that was way back in 1996.

This was not a year for Black-capped Chickadees (*Poecile atricapillus*). Only three sites reported them: Shenandoah (4), Lexingon (12), and Giles County (9). There were 50 that were identifiable only as chickadee sp. For the second year in a row, Red-breasted Nuthatches (*Sitta canadensis*) were very scarce. Only 49 were found throughout the region. Most were found on the Coastal Plain counts. Never common on Virginia's Eastern Shore, it was interesting to see that 13 White-breasted Nuthatches (*S. carolinensis*) were counted at Chincoteague, a significant increase over past years. For the second year in a row, Cape Charles had none at all, unusual because observers there usually turn up a few most years. Roanoke and Blacksburg continue their tenuous hold on Brown-headed Nuthatches (*S. pusilla*), with two at Roanoke and one at Blacksburg. This is the sixth year in a row that this species has appeared on one or both of those counts. They had never been recorded on either of those counts before 2007.

Numbers of Carolina Wrens (*Thyrothorus ludovicianus*) around the state appear to be holding steady in spite of adverse weather conditions. Back in the 1970s, during a prolonged period of severe weather, these wrens suffered heavy losses, especially in the western part of the state. It took years for them to recover. So far, they don't seem to be affected by the odd weather patterns, but it is something that bears watching. House Wrens (*Troglodytes aedon*) turned up in some unusual places. Four at Glade Spring constituted the first sighting there since 2005, and three were new to the Calmes Neck count. The remainder of were on the Coastal Plain which is their usual haunt. Only one Blue-gray Gnatcatcher (*Polioptila caerulea*) was present this year, that one at Nassawaddox.

Thrushes were certainly in evidence this season. Blackford came up with 111 Eastern Bluebirds (*Sialia sialis*), double the numbers of previous years. Charlottesville birders found 123 Hermit Thrushes (*Catharus guttatus*), eclipsing the previous high of 78 found in 2011. The overall state total of American Robins (*Turdus migratorius*) was well within the average yearly range. The Plains observers augmented the total with a record 6,900, and although the 7,000+ robins at Back Bay was an impressive number, it pales in comparison to the 23,900 recorded there in 1994.

Gray Catbirds (*Dumetella carolinensis*) were somewhat scarce. The total number of 115 state-wide was the lowest in eight years. It is interesting to see how consistent the number of Northern Mockingbirds (*Mimus polyglottos*) found on the counts has been over the past 30 years. The average of about 3,450 is very close to this year's total of 3,394. It is curious, however, that even though the

totals have varied very little, the number of counts have steadily increased from 39 to 51. The number of observers has increased from around 850 to 1660. The 226 Brown Thrashers (*Toxostoma rufum*) found this year continues an increase in numbers of this species over the past five years when the totals have exceeded 200.

There were hardly any American Pipits (*Anthus rubescens*) around, only 411 state-wide. It's not really a cause for alarm, however. Occurrences of this species fluctuate dramatically from year to year.

There were very few unusual warbler reports. One Orange-crowned Warbler (*Oreothlypis celata*) that turned up at Chincoteague was the first for that count in six years. The only Pine Warbler (*Setophaga pinus*) seen that was not on the Coastal Plain was a bird at Blacksburg. Except for the usual sightings on the Coastal Plain, the only other Palm Warbler (*Setophaga palmarum*) records were one at Fincastle, their first in 11 years, and four at Roanoke, which was an all-time high for that count. The three Black-and-white Warblers (*Vermivora cyanoptera*) at Hopewell were the only ones found anywhere in the state. Common Yellowthroats (*Geothlypis trichas*) were slightly more numerous this year with seven counts reporting 11 birds. Probably the most unexpected warbler was a Yellow-breasted Chat (*Icteria virens*) at Charlottesville. Only two previous sightings of this species has been reported there, one in 1984 and the other in 2007.

Certainly unexpected was a Scarlet Tanager (*Piranga olivacea*) reported by a Little Creek observer. It would be the first Virginia Christmas count record of this species, if it is accepted by VARCOM. As of this writing, it is still under review. And as strange as it is, for the fourth year in a row, that Western Tanager (*Piranga ludoviciana*) was again feasting at the compiler's backyard feeding station in Williamsburg. For the first time in six years, Eastern Towhee (*Pipilo erythrophthalmus*) numbers topped 1,000 state-wide.

Sixteen American Tree Sparrows (*Spizella arborea*) were present at Wachapreague which brought the state total up to 54. They have been scarce on Eastern Shore for the past 25 years or more, but in the early 1990s rather respectable numbers, upwards of 30 or more, were present almost every year at Wachapreague. Very low counts of Chipping Sparrows (*S. passerina*) at Fort Belvoir, Manassas-Bull Run, Banister River, Mathews, Back Bay and other sites brought the state total down to 958. It's the first time in eight years that totals have been less than 1,000. The single sighting of a Clay-colored Sparrow (*S. pallida*) was at Fort Belvoir.

Chincoteague's one and Cape Charles's seven Vesper Sparrows (*Pooecetes gramineus*) were normal for Eastern Shore, but a single individual at Newport News was the only sighting for there since 1980. It was a good year for Savannah Sparrows (*Passerculus sandwichensis*), except for the mountain region where they seemed a little more scarce than usual.

The only count reporting Seaside Sparrows (*Ammodramus maritimus*) was Nansemond River with six individuals. Surprisingly, none were reported on any Eastern Shore count, the first time they have been totally absent from those counts in 57 years. In fact, Cape Charles birders found Seasides every single year until 2013. Sometimes exceptionally large numbers were counted, especially in the 1970s and 80s, with the all-time high of 165 found there in 1973.

Fox Sparrow (*Passerella iliaca*) numbers were the highest in four years, with 216 at Cape Charles pushing the state total to 492. One lonely Song Sparrow (*Melospiza melodia*) was a first for the Chesapeake Bay count. Passerines visit the bridge-tunnel complex during migration, but finding a sparrow on those barren, wind-swept, man-made islands on a Christmas count is an unusual occurrence indeed. Lincoln's Sparrows (*M. lincolnii*) were at Chincoteague, Cape Charles, Fort Belvoir, and Hopewell. Nice photos were obtained of the bird at Fort Belvoir.

Only two Lapland Longspurs (*Calcarius lapponicus*) appeared state-wide this year, but they turned up at Newport News where they are rarely found. There was one other Lapland, a bird at Cape Charles, but it was a count-week sighting only. Another nice find for Newport News birders was 14 Snow Buntings (*Plectrophenax nivalis*), the only ones found this year and the only sighting for that count since 2008.

A Rose-breasted Grosbeak (*Pheucticus ludovicianus*) showed up at Williamsburg. Unfortunately, it was a count-week-only bird. Nevertheless, it is the fourth time in seven years that this species has been present somewhere in Virginia during the Christmas count season. The other sightings were all in the Mountains and Valleys region of the state - Calmes Neck, Rockingham County and Augusta County.

A Blue Grosbeak (*Passerina caerulea*) was observed by a couple on the Central Loudoun count. They viewed it through a scope, but were unable to obtain a photograph. Documentation was submitted, but VARCOM members felt that more details were needed to confirm the sighting.

Where have all the Boat-tailed Grackles (*Quiscalus major*) gone? This year's count of 463 echoes the dismally low numbers of the past six years. Only four times since 1961 has the count of Boat-tails fallen down to the 3-digit category. All other years have registered between two and four thousand, with the total one year (1974) skyrocketing to 9,700. Even though Rusty Blackbirds (*Euphagus carolinus*) are never numerous, they continue to appear around the

state in consistent numbers. This year's 629 birds nearly doubled last year's amount. It was a good year for Baltimore Orioles (*Icterus galbula*). Five were at Hopewell, single birds were at Cape Charles, Nansemond River, Williamsburg, and Blacksburg and two showed up at Brooke.

The 3,536 House Finches (*Haemorhous mexicanus*), found on all but four counts, were well within the range of the yearly average over the past decade. In the late 1980s and early 1990s this invasive species mushroomed in numbers. During that period, the normal statewide tally easily reached over 10,000 birds each year. Since those days, the population was struck with a devastating disease that decimated thousands of finches. Things finally stabilized and numbers have has leveled off to two to five thousand birds a year. Purple Finches (*H. purpureus*) showed up on 32 counts and a couple of count week birds were also observed at Glade Spring and Rockingham County feeders. Like Purple Finches, Pine Siskins (*Spinus pinus*) had a better year than last. A total of 345 was far above the 39 siskins found during the 2013-2014 season. The only Red Crossbills (*Loxia curvirostra*) in the state were three at Roanoke.

House Sparrow (*Passer domesticus*) numbers fell within normal limits on just about all counts. Because of the longevity of many Virginia counts, it is rare to see an all-time high count for this species nowadays. Nevertheless, Blackford chalked up 61 individuals for an all-time high. It must be pointed out, however, that the Blackford count has been in existence for only 19 years. It is one of the newer circles to join the Virginia Christmas counts and so, for that relatively short life span, records are made to be broken, even for the ubiquitous House Sparrow.

As in years past, data from the counts are tabulated in two Tables on the following pages. In both Tables, the counts ("Count Circles") are numbered in order from 1 to 51, beginning with the Eastern Shore counts and proceeding in a roughly east-to-west and north-to-south configuration. Eastern Shore Count Circles are numbered 1-5, Coastal Plain Count Circles 6-16, Piedmont Count Circles 17-30, and Mountains and Valleys Count Circles 31-51. Table 1 lists the number of individuals of each species seen, Table 2 the field conditions (primarily collection and meteorological data), compilers of counts and circle locations.

The abbreviations used in the tables are as follows:
a = adult
Blvd = Boulevard
CAL = Calm
CBC = Christmas Bird Count(s)
CLD = Cloudy
CLR = Clear
Cmdr = Commander
Co = County
CTC = Clear to Cloudy
CW = Count week
Dec = December
E = East
FOG = Foggy
HLN - Heavy to light to no rain
HLR = Heavy to light rain
HVR = Heavy rain
I or i = immature
Jan = January
Jct = Junction
LGR = Light rain
LNR = Light to no rain
LNS = Light to no snow
LSN = Light snow
LSR = Light snow and rain
MCD = Mostly cloudy
MCR = Mostly clear
mi = Mile(s)
MPF = Moving water partly frozen
mph = Miles per hour
Mt = Mount or Mountain
MWO = Moving water open
N = North
NP = National Park
NR or nr = Not recorded
NRV = New River Valley
NW = Northwest
NWR = National Wildlife Refuge
OVC = Overcast
PCD = Partly cloudy
PCR = Partly clear
Rd = Road
Rt(s) = Route (s)
S = South
SE = Southeast
SFZ = Still water frozen
Sp or sp = species
SPF = Still water partly frozen
SPO = Still water partly open
SW = Southwest
SWO = Still water open
TN = Tennessee
U or UNK = Unknown
V or VAR = Variable
VA = Virginia
VARCOM - Virginia Avian Records Committee
W = West
WMA = Wildlife Management Area
WNW = West northwest
WNR = Water conditions not recorded
WOP = Water open
WPO = Water partly open
WSW = West southwest

Table 1. Species Counts (page 1 of 18)

Species / Count Circle	Greater White-fronted Goose	Snow Goose (white form)	Snow Goose (blue form)	Ross's Goose	Brant	Cackling Goose	Canada Goose	Richard-son's Canada Goose	Mute Swan	Tundra Swan	Wood Duck	Gadwall	Eurasion Wigeon
1. Chincoteague	...	7,178	2	1	85	...	2,282	...	...	228	...	806	4
2. Wachapreague	...	16,546	18	...	115	...	4,266	...	...	7	10	20	...
3. Nassawaddox	...	777	6	...	725	...	929	...	...	8	...	2	...
4. Cape Charles	CW	3,000	25	...	1,498	...	1,600	...	...	125	4	311	CW
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Little Creek	...	...	...	...	75	...	403	...	...	...	52	144	1
7. Back Bay	...	105	...	...	...	...	805	...	3	325	12	140	...
8. Nansemond River	...	3	...	...	...	...	2,305	...	...	1	9	200	1
9. Newport News	...	...	...	...	19	...	1,169	...	4	18	10	141	...
10. Mathews County	...	...	...	...	...	...	1,147	...	6	205	...	5	...
11. Williamsburg	...	...	...	...	...	1	4,671	...	4	17	21	397	...
12. Hopewell	9	2,500	...	3	...	9	13,004	...	2	5	127	365	...
13. Walkerton	...	4	...	...	...	6	16,200	...	...	100	23	300	...
14. Washingtons Birthplace	...	...	...	...	...	...	22,965	...	6	32	3	265	...
15. Brooke	...	...	...	...	...	...	2,366	...	4	508	...	1,804	...
16. Fort Belvoir	...	CW	...	...	...	1	10,850	...	...	434	71	1,222	...
17. Central Loudoun County	...	...	CW	...	...	...	6,701	...	2	1	1	21	...
18. The Plains	...	...	...	...	...	5	6,810	...	...	1	2	42	...
19. Manassas-Bull Run	...	...	...	...	...	...	4,682	...	...	...	4	18	...
20. Nokesville	...	...	...	...	...	...	1,851	...	...	...	11	43	...
21. Chancellorsville	...	...	...	...	...	...	692	...	15	...	2	...	...
22. Lake Anna	...	...	...	...	...	...	127	...	...	1	...	...	...
23. Gordonsville	...	...	1	...	...	...	1,462	...	...	17	...	1	...
24. Charlottesville	...	...	...	...	...	4	814	...	...	...	2	1	...
25. Warren	...	...	...	...	...	...	664	...	1	...	1	...	...
26. Darlington Heights	...	...	...	...	...	...	131	...	...	...	...	24	...
27. Banister River	...	...	...	...	...	...	219	...	...	...	1	...	...
28. Lynchburg	...	...	...	...	...	...	873	...	...	...	3	34	...
29. Chatham	...	...	...	...	...	...	4	...	...	...	...	...	...
30. Danville	...	...	...	...	...	...	90	...	...	...	...	...	...
31. Calmes Neck	...	...	...	...	...	...	4,325	1	...	1	...	9	...
32. N. Shenandoah Valley	...	...	...	...	...	...	2,070	...	...	...	5	27	...
33. Shenandoah NP-Luray	...	...	...	...	...	...	511	...	...	...	3	5	...
34. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...	...	...	...
35. Rockingham County	...	...	...	...	...	...	211	...	8	...	...	5	...
36. Augusta County	...	...	...	...	...	3	809	...	...	...	...	44	...
37. Waynesboro	...	...	...	...	...	1	638	...	...	...	...	7	...
38. Lexington	...	...	...	...	...	...	484	...	...	...	...	20	...
39. Peaks of Otter	...	...	...	...	...	...	...	...	...	...	...	...	...
40. Fincastle	...	1	...	...	...	...	464	...	...	...	...	10	...
41. Roanoke	...	...	...	...	...	...	259	...	...	...	1	41	...
42. Blacksburg	...	...	...	...	...	...	665	...	...	...	...	4	...
43. Giles County	...	...	...	...	...	...	64	...	...	...	...	...	...
44. Tazewell	...	...	...	...	...	...	160	...	...	...	...	5	...
45. Mount Rogers-Whitetop	...	...	...	...	...	...	70	...	...	...	17	...	...
46. Glade Spring	...	...	...	2	...	...	402	...	...	...	2	25	...
47. Blackford	...	1	...	...	...	...	310	...	...	...	9	...	...
48. Bristol	...	...	...	1	...	...	634	...	...	...	...	48	...
49. Buchanan County	...	...	...	...	...	...	4	...	...	...	...	...	...
50. Breaks Interstate Park	...	...	...	...	...	...	8	...	...	...	...	...	...
51. Wise County	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	9	30,115	52	7	2,517	30	122,170	1	55	2,034	406	6,556	6

Table 1. Species Counts (P. 2 of 18)

Species / Count Circle	American Wigeon	American Black Duck	American Black Duck X Mallard (hybrid)	Mallard	Black Duck/ Mallard sp.	Blue-winged Teal	Northern Shoveler	Northern Pintail	American Green-winged Teal	dabbling duck sp.	Canvas-back	Redhead	Ring-necked Duck
1. Chincoteague	319	1,171	...	596	8	...	421	350	154	...	1	...	1
2. Wachapreague	23	340	...	219	...	...	...	...	99	...	...	...	...
3. Nassawaddox	...	228	...	84	...	1	1	1	28	...	...	...	1
4. Cape Charles	105	227	3	192	...	...	47	2	21	...	...	19	23
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Little Creek	32	7	...	365	...	...	114	...	12	...	...	2	42
7. Back Bay	43	151	...	279	...	...	11	12	9	...	...	300	2
8. Nansemond River	127	86	...	159	...	...	168	44	250	...	821	8	430
9. Newport News	65	89	...	653	...	...	14	...	30	...	12	3	170
10. Mathews County	...	...	...	118	...	...	...	...	...	...	...	...	...
11. Williamsburg	19	17	...	508	...	...	7	13	84	...	32	7	477
12. Hopewell	115	31	...	568	...	4	70	2	194	...	...	3	3,077
13. Walkerton	1	220	2	1,100	...	2	32	1,050	55	...	1	1	790
14. Washingtons Birthplace	5	425	...	1,568	...	...	6	4	37	...	2	...	2
15. Brooke	25	50	...	655	...	...	10	5	16	...	4	47	268
16. Fort Belvoir	168	1,376	...	4,561	...	...	58	406	116	...	613	45	963
17. Central Loudoun County	6	32	...	446	...	...	14	...	37	...	...	...	66
18. The Plains	32	20	...	341	...	...	CW	1	10	...	...	9	354
19. Manassas-Bull Run	1	5	...	298	...	...	20	...	7	...	...	10	4
20. Nokesville	9	11	...	341	...	...	12	...	...	...	...	2	9
21. Chancellorsville	...	...	...	76	...	...	...	...	...	...	...	...	88
22. Lake Anna	...	...	...	33	...	...	...	2	...	...	...	...	...
23. Gordonsville	...	4	...	47	...	...	...	8	...	...	...	...	69
24. Charlottesville	...	20	...	210	...	...	...	...	3	...	...	...	...
25. Warren	4	...	...	27	...	...	...	...	...	...	...	1	...
26. Darlington Heights	...	...	...	9	...	...	...	...	...	...	...	...	1
27. Banister River	...	...	...	17	...	...	...	...	...	...	13	1	26
28. Lynchburg	2	16	...	320	...	...	...	...	2	...	...	2	19
29. Chatham	...	...	...	...	...	...	...	...	...	...	...	...	...
30. Danville	...	...	...	32	...	...	...	...	...	...	...	...	18
31. Calmes Neck	5	36	...	211	...	...	2	...	...	...	...	...	120
32. N. Shenandoah Valley	1	51	...	338	...	...	...	CW	11	...	...	...	17
33. Shenandoah NP-Luray	...	8	...	292	...	...	4	4	4	...	...	1	3
34. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...	...	...	...
35. Rockingham County	...	...	...	366	...	...	1	8	6	...	...	1	1
36. Augusta County	3	2	...	284	...	...	5	3	12	...	CW	5	3
37. Waynesboro	...	4	...	328	...	...	...	...	7	...	1	8	1
38. Lexington	...	3	...	61	...	...	...	...	...	...	...	1	...
39. Peaks of Otter	...	...	...	...	...	...	...	...	...	...	...	...	...
40. Fincastle	...	7	...	71	...	...	2	2	10	...	8	...	47
41. Roanoke	...	...	...	42	...	...	1	...	4	...	...	...	3
42. Blacksburg	2	11	...	514	...	...	...	17	...	1	...	...	...
43. Giles County	...	...	...	30	...	...	...	...	3	...	...	...	...
44. Tazewell	...	1	...	85	...	...	...	...	1	...	...	18	5
45. Mount Rogers-Whitetop	...	...	...	46	...	...	...	...	1	...	...	...	...
46. Glade Spring	2	3	...	307	...	...	3	...	...	...	...	...	...
47. Blackford	...	2	...	84	...	...	...	1	...	...	...	...	2
48. Bristol	14	5	...	290	...	...	...	...	4	...	...	...	61
49. Buchanan County	...	...	...	2	...	...	...	...	...	...	...	...	...
50. Breaks Interstate Park	...	...	...	5	...	...	...	...	...	...	...	...	...
51. Wise County	...	...	...	27	...	...	...	...	...	...	...	...	1
Totals	1,128	4,659	5	17,205	8	7	1,023	1,935	1,227	1	1,508	494	7,164

Table 1. Species Counts (page 3 of 18)

Count Circle \ Species	Greater Scaup	Lesser Scaup	scaup sp.	Common Eider	Surf Scoter	White-winged Scoter	Black Scoter	scoter sp.	Long-tailed Duck	Buffle-head	Common Golden-eye	Hooded Mergan-ser	Common Mergan-ser
1. Chincoteague	...	1	...	...	87	3	973	44	4	739	...	152	...
2. Wachapreague	...	1	80	...	461	1	546	213	25	1,169	8	237	1
3. Nassawaddox	...	...	...	11	600	...	32	84	6	552	2	132	...
4. Cape Charles	...	2	...	2	224	2	607	...	25	1,213	4	249	1
5. Chesapeake Bay	...	...	1	10	460	9	890	3,650	3	55	...	...	...
6. Little Creek	...	...	...	1	222	...	141	12	4	494	1	447	...
7. Back Bay	...	78	...	...	9	...	11	3	...	21	...	70	...
8. Nansemond River	3	138	...	...	257	...	12	...	...	1,714	1	228	...
9. Newport News	1	36	1	...	120	1	68	...	12	1,059	16	313	...
10. Mathews County	...	2	...	...	24	...	26	...	3	966	2	73	33
11. Williamsburg	1	29	55	...	...	CW	...	1	...	234	6	296	...
12. Hopewell	...	4	...	...	...	...	...	...	...	134	1	91	7
13. Walkerton	...	30	2	...	...	...	...	...	...	195	1	18	1
14. Washingtons Birthplace	...	390	...	...	859	2	...	...	24	359	44	43	14
15. Brooke	...	5	...	...	...	...	...	...	...	225	7	76	2
16. Fort Belvoir	2	13,120	3,406	...	1	...	...	...	...	494	2	298	128
17. Central Loudoun County	...	3	...	...	...	...	...	...	...	44	1	33	21
18. The Plains	...	2	...	...	...	...	...	...	...	103	1	208	...
19. Manassas-Bull Run	...	1	...	...	...	...	...	...	...	4	...	62	24
20. Nokesville	...	...	...	...	...	...	...	...	...	14	...	153	2
21. Chancellorsville	...	...	...	...	...	...	...	...	...	78	...	45	8
22. Lake Anna	...	...	...	...	...	...	...	...	...	37	2	20	3
23. Gordonsville	...	1	...	...	...	...	...	...	...	29	...	104	...
24. Charlottesville	...	...	...	...	...	...	...	...	...	...	...	10	...
25. Warren	...	2	...	...	...	...	...	...	...	2	4	6	...
26. Darlington Heights	...	...	...	...	...	...	...	...	...	...	...	34	...
27. Banister River	...	...	...	...	...	...	...	...	...	62	...	10	1
28. Lynchburg	...	1	...	...	...	...	...	...	...	...	...	40	...
29. Chatham	...	...	...	...	...	...	...	...	...	...	...	4	...
30. Danville	...	...	...	...	...	...	...	...	...	...	...	6	...
31. Calmes Neck	...	...	...	...	...	...	...	...	2	3	...	26	46
32. N. Shenandoah Valley	...	...	...	...	...	...	...	...	...	1	...	14	17
33. Shenandoah NP-Luray	...	...	...	...	...	...	...	...	...	5	...	5	37
34. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...	...	...	...
35. Rockingham County	...	...	...	...	...	...	...	...	...	...	...	...	...
36. Augusta County	CW	CW	...	...	...	...	...	...	...	2	...	14	...
37. Waynesboro	...	1	...	...	...	...	...	...	...	...	...	...	2
38. Lexington	...	...	...	...	...	...	...	...	...	1	...	162	43
39. Peaks of Otter	...	...	...	...	...	...	...	...	...	...	...	...	...
40. Fincastle	...	...	...	...	...	...	...	...	...	2	...	16	...
41. Roanoke	...	...	...	...	...	...	...	...	...	1	...	19	...
42. Blacksburg	...	...	...	...	...	...	...	...	...	35	...	93	4
43. Giles County	...	...	...	...	...	...	...	...	...	...	...	13	...
44. Tazewell	6	1	...	...	...	...	...	...	...	25	...	3	...
45. Mount Rogers-Whitetop	...	...	...	...	...	...	...	...	...	...	...	...	...
46. Glade Spring	...	...	...	...	...	...	...	...	...	...	1	4	...
47. Blackford	...	...	...	...	...	...	...	...	...	...	...	...	...
48. Bristol	...	...	...	...	...	...	...	...	...	52	...	47	...
49. Buchanan County	...	...	...	...	...	...	...	...	...	...	...	...	...
50. Breaks Interstate Park	...	...	...	...	...	...	...	...	...	...	...	...	...
51. Wise County	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	13	13,848	3,545	24	3,324	18	3,306	4,007	108	10,123	104	3,874	395

Table 1. Species Counts (page 4 of 18)

Species / Count Circle	Red-breasted Merganser	Ruddy Duck	duck sp.	Ruffed Grouse	Wild Turkey	Northern Bobwhie	Red-throated Loon	Common Loon	Pied-billed Grebe	Horned Grebe	Red-necked Grebe	Northern Gannet	American White Pelican
1. Chincoteague	167	165	500	...	40	...	40	61	11	60	...	10	...
2. Wachapreague	13	68	...	...	8	2	24	41	1	43	3	...	...
3. Nassawaddox	4	106	...	...	16	...	8	26	5	46	...	...	...
4. Cape Charles	156	148	...	...	10	CW	14	66	38	23	...	46	...
5. Chesapeake Bay	14	...	...	...	...	...	950	14	...	2	1	95	...
6. Little Creek	190	74	...	...	...	...	473	17	37	14	...	206	CW
7. Back Bay	57	37	...	...	11	10	22	17	15	2	...	137	9
8. Nansemond River	308	2,505	...	...	10	1	23	32	42	140	...	...	...
9. Newport News	73	836	36	...	...	...	36	57	56	73	...	74	...
10. Mathews County	59	947	...	...	15	...	33	31	...	2	...	44	...
11. Williamsburg	3	1,556	...	...	3	15	...	10	46	50	...	...	...
12. Hopewell	1	233	...	...	20	CW	...	...	13	5	...	...	...
13. Walkerton	...	155	...	...	13	1	...	...	14	...	...	...	...
14. Washingtons Birthplace	19	6,037	...	...	55	13	4	17	4	3	...	...	...
15. Brooke	5	2,850	...	...	6	...	...	1	38	20	...	...	...
16. Fort Belvoir	3	1,673	...	...	76	...	...	4	45	4	...	...	...
17. Central Loudoun County	...	2	...	...	42	...	...	...	4	...	...	...	...
18. The Plains	...	47	...	...	72	...	...	4	15	21	...	...	...
19. Manassas-Bull Run	...	2	...	...	1	...	...	...	12	...	...	...	...
20. Nokesville	...	90	...	...	44	...	...	...	14	1	...	...	...
21. Chancellorsville	...	305	...	...	4	...	...	...	26	...	...	...	...
22. Lake Anna	...	20	...	...	16	...	...	18	41	6	...	...	...
23. Gordonsville	...	33	...	...	...	...	...	...	3	...	...	...	...
24. Charlottesville	...	...	...	...	5	...	...	...	5	...	...	...	...
25. Warren	...	2	...	...	23	...	...	...	9	...	...	...	...
26. Darlington Heights	...	...	...	...	27	...	...	...	10	...	...	...	...
27. Banister River	...	273	8	...	...	...	...	2	23	3	...	...	...
28. Lynchburg	...	36	...	...	5	...	...	...	31	1	...	...	...
29. Chatham	...	...	...	...	...	...	...	...	...	...	...	...	...
30. Danville	...	...	...	...	...	...	...	...	4	...	...	...	...
31. Calmes Neck	...	...	...	...	76	...	...	...	...	...	...	...	...
32. N. Shenandoah Valley	11	2	...	...	55	...	...	...	1	...	...	...	...
33. Shenandoah NP-Luray	...	23	...	...	...	...	...	...	1	...	...	...	...
34. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...	...	...	...
35. Rockingham County	...	...	...	1	...	...	...	...	3	...	...	...	...
36. Augusta County	...	18	...	...	1	...	...	...	...	...	...	...	...
37. Waynesboro	...	6	...	...	...	...	...	...	2	...	...	...	...
38. Lexington	...	6	...	...	7	...	...	1	7	...	...	...	...
39. Peaks of Otter	...	...	...	...	...	...	...	...	...	1	...	...	...
40. Fincastle	...	10	...	...	5	...	...	...	5	...	...	...	...
41. Roanoke	...	1	...	...	...	...	...	...	1	...	...	...	...
42. Blacksburg	...	1	9	...	77	...	...	...	5	...	...	...	...
43. Giles County	...	...	...	...	10	...	...	...	...	...	...	...	...
44. Tazewell	9	8	...	...	1	...	...	...	4	3	...	...	...
45. Mount Rogers-Whitetop	...	...	...	...	20	...	...	...	...	...	...	...	...
46. Glade Spring	...	6	...	1	78	...	...	...	5	...	...	...	...
47. Blackford	...	...	...	...	3	...	...	...	36	...	...	...	...
48. Bristol	...	3	...	...	161	...	...	...	38	110	...	...	...
49. Buchanan County	...	...	...	...	26	...	...	...	...	...	...	...	...
50. Breaks Interstate Park	...	...	...	...	15	...	...	...	3	...	...	...	...
51. Wise County	...	...	...	...	11	...	...	...	...	...	...	...	...
Totals	1,092	18,284	553	2	1,068	42	1,627	419	673	633	4	612	9

Table 1. Species Counts (page 5 of 18)

Count Circle \ Species	Brown Pelican	Double-crested Cormorant	Great Cormorant	American Bittern	Great Blue Heron (Blue form)	Great Egret	Snowy Egret	Tricolored Heron	Cattle Egret	Black-crowned Night-Heron	White Ibis	Black Vulture	Turkey Vulture
1. Chincoteague	3	6	...	1	128	30	2	...	...	10	...	18	235
2. Wachapreague	...	7	...	...	40	...	...	...	...	2	...	58	584
3. Nassawaddox	...	2	...	...	19	...	...	...	...	...	...	75	125
4. Cape Charles	112	224	4	...	49	25	...	8	...	8	...	200	350
5. Chesapeake Bay	19	70	2	...	...	...	...	...	...	...	...	...	235
6. Little Creek	90	2,500	1	...	57	20	9	...	...	...	...	11	40
7. Back Bay	21	151	...	1	34	13	...	2	12	...	510	14	20
8. Nansemond River	36	5,278	...	...	64	26	1	...	...	...	...	64	101
9. Newport News	122	1,377	...	...	90	6	...	...	...	4	...	20	56
10. Mathews County	5	1	...	...	47	...	...	...	...	...	...	140	236
11. Williamsburg	53	1,747	...	...	62	2	...	...	...	...	...	174	268
12. Hopewell	...	3,605	...	...	60	...	...	...	...	...	...	108	114
13. Walkerton	...	91	...	...	26	...	...	...	...	...	...	275	545
14. Washingtons Birthplace	...	459	...	...	14	...	...	...	...	...	...	64	166
15. Brooke	...	110	...	...	51	...	...	...	...	...	...	224	158
16. Fort Belvoir	...	278	...	...	270	CW	...	...	...	...	...	395	209
17. Central Loudoun County	...	...	...	...	34	...	...	...	...	...	...	238	350
18. The Plains	...	1	...	...	21	...	...	...	...	...	...	298	299
19. Manassas-Bull Run	...	...	...	...	23	...	...	...	...	...	...	248	341
20. Nokesville	...	...	...	...	17	2	...	...	...	1	...	96	69
21. Chancellorsville	...	...	...	...	3	...	...	...	...	...	...	37	197
22. Lake Anna	...	CW	...	...	17	...	...	...	...	...	...	224	202
23. Gordonsville	...	...	...	...	5	...	...	...	...	...	...	59	49
24. Charlottesville	...	...	...	...	14	...	...	...	...	...	...	362	326
25. Warren	...	...	...	...	3	...	...	...	...	...	...	129	173
26. Darlington Heights	...	...	...	...	2	...	...	...	...	...	...	24	218
27. Banister River	...	21	...	...	9	...	...	...	...	...	...	45	126
28. Lynchburg	...	...	...	...	9	...	...	...	...	...	...	187	312
29. Chatham	...	...	...	...	...	...	...	...	...	...	...	7	8
30. Danville	...	...	...	...	4	...	...	...	...	...	...	57	28
31. Calmes Neck	...	12	...	...	24	...	...	...	...	...	...	260	317
32. N. Shenandoah Valley	...	...	...	...	20	...	...	...	...	...	...	151	187
33. Shenandoah NP-Luray	...	...	...	...	8	...	...	...	...	2	...	44	21
34. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...	...	...	14
35. Rockingham County	...	...	...	...	14	...	...	...	...	...	...	6	228
36. Augusta County	...	...	...	...	13	...	...	...	...	...	...	205	427
37. Waynesboro	...	...	...	...	11	...	...	...	...	2	...	47	203
38. Lexington	...	...	...	...	16	...	...	...	...	...	...	79	145
39. Peaks of Otter	...	...	...	...	2	...	...	...	...	...	...	...	8
40. Fincastle	...	...	...	...	8	...	...	...	...	...	...	76	114
41. Roanoke	...	...	...	...	13	...	...	...	...	...	...	127	51
42. Blacksburg	...	...	...	...	19	...	...	...	...	...	...	781	20
43. Giles County	...	...	...	...	13	...	...	...	...	...	...	104	26
44. Tazewell	...	...	...	...	5	...	...	...	...	...	...	...	...
45. Mount Rogers-Whitetop	...	...	...	...	3	...	...	...	...	...	...	...	...
46. Glade Spring	...	...	...	...	21	...	...	...	...	...	...	88	153
47. Blackford	...	...	...	...	6	...	...	...	...	...	...	26	1
48. Bristol	...	...	...	...	22	...	...	...	...	1	...	64	15
49. Buchanan County	...	...	...	...	3	...	...	...	...	...	...	...	...
50. Breaks Interstate Park	...	...	...	...	7	...	...	...	...	...	...	CW	CW
51. Wise County	...	...	...	...	3	...	...	...	...	...	...	...	...
Totals	461	15,940	7	2	1,403	124	12	10	12	30	510	5,909	8,070

Table 1. Species Counts (page 6 of 18)

Species / Count Circle	Osprey	Bald Eagle	Northern Harrier	Sharp-shinned Hawk	Cooper's Hawk	Accipiter sp.	Red-shouldered Hawk	Red-tailed Hawk	Rough-legged Hawk	Buteo sp.	Golden Eagle	American Kestrel	Merlin
1. Chincoteague	...	47	33	16	10	...	7	14	...	...	...	4	3
2. Wachapreague	...	63	12	2	8	...	3	9	...	2	...	15	2
3. Nassawaddox	...	45	26	4	9	...	4	28	...	...	1	17	3
4. Cape Charles	...	60	56	9	13	...	12	27	...	...	...	17	1
5. Chesapeake Bay	...	1	...	...	...	...	...	...	...	...	...	...	...
6. Little Creek	6	12	8	6	6	...	2	9	...	...	...	1	4
7. Back Bay	...	10	22	2	3	...	6	11	...	...	...	8	1
8. Nansemond River	2	36	18	8	4	...	10	24	...	...	...	5	4
9. Newport News	1	22	12	7	11	...	3	22	...	...	...	...	...
10. Mathews County	...	49	8	8	11	1	8	18	...	1	...	4	2
11. Williamsburg	CW	65	2	8	8	...	27	33	...	...	...	2	1
12. Hopewell	4	54	8	3	8	...	17	16	...	...	...	5	CW
13. Walkerton	...	58	12	7	2	1	21	37	...	...	...	4	...
14. Washingtons Birthplace	...	122	9	...	3	...	6	15	...	...	...	10	...
15. Brooke	...	198	2	3	5	...	28	13	...	...	...	...	1
16. Fort Belvoir	1	138	2	15	24	4	65	68	...	...	...	2	3
17. Central Loudoun County	...	37	5	5	18	...	102	81	...	3	...	5	...
18. The Plains	...	33	5	4	5	1	39	56	...	...	...	12	...
19. Manassas-Bull Run	...	16	20	7	13	3	60	65	...	...	...	3	1
20. Nokesville	1	33	6	2	...	2	41	16	...	...	...	9	1
21. Chancellorsville	...	10	...	4	1	...	4	9	...	...	...	1	1
22. Lake Anna	...	6	...	3	1	...	3	9	...	...	...	2	...
23. Gordonsville	...	12	3	2	1	...	16	22	...	...	...	7	...
24. Charlottesville	...	3	...	6	1	...	28	27	...	...	...	1	...
25. Warren	...	4	...	3	1	...	8	20	...	...	...	7	1
26. Darlington Heights	...	2	1	1	2	...	8	5	...	...	...	9	...
27. Banister River	...	6	3	...	4	...	5	17	...	...	...	2	...
28. Lynchburg	...	5	...	5	5	...	12	22	...	...	...	3	...
29. Chatham	...	...	1	...	...	...	...	...	...	...	...	3	...
30. Danville	...	1	1	...	1	...	2	10	...	...	...	1	...
31. Calmes Neck	...	27	2	6	6	...	42	58	1	...	1	19	...
32. N. Shenandoah Valley	...	20	10	7	25	...	46	84	...	...	1	31	1
33. Shenandoah NP-Luray	...	10	2	3	4	...	18	35	1	...	...	31	...
34. Big Flat Mountain	...	1	...	...	1	...	...	1	...	...	...	...	...
35. Rockingham County	...	4	2	6	12	1	3	65	...	1	...	58	1
36. Augusta County	...	...	2	2	3	...	14	59	...	...	...	36	1
37. Waynesboro	...	...	...	...	2	...	3	13	...	...	1	12	...
38. Lexington	...	5	2	1	2	...	8	27	...	...	...	15	...
39. Peaks of Otter	...	...	...	...	...	...	...	4	...	...	...	...	...
40. Fincastle	...	1	...	5	1	...	3	48	...	...	...	15	...
41. Roanoke	...	...	...	1	3	1	3	8	...	...	...	1	1
42. Blacksburg	...	1	4	4	10	...	3	24	...	...	CW	11	CW
43. Giles County	...	...	...	...	...	...	2	8	...	...	...	5	...
44. Tazewell	...	47	33	16	10	...	7	14	...	...	...	4	...
45. Mount Rogers-Whitetop	...	63	12	2	8	...	3	9	...	2	...	15	...
46. Glade Spring	...	45	26	4	9	...	4	28	...	...	1	17	...
47. Blackford	...	60	56	9	13	...	12	27	...	...	...	17	...
48. Bristol	...	1	...	...	...	...	...	...	...	...	...	...	...
49. Buchanan County	6	12	8	6	6	...	2	9	...	...	...	1	...
50. Breaks Interstate Park	...	10	22	2	3	...	6	11	...	...	...	8	...
51. Wise County	2	36	18	8	4	...	10	24	...	...	...	5	...
Totals	1	22	12	7	11	...	3	22	...	...	...	...	33

Table 1. Species Counts (page 7 of 18)

Count Circle \ Species	Peregrine Falcon	falcon sp.	Clapper Rail	King Rail	Virginia Rail	Sora	American Coot	Black-bellied Plover	Semi-palmated Plover	Killdeer	American Oystercatcher	American Avocet	Greater Yellowlegs
1. Chincoteague	2	...	...	...	...	...	...	5	2	12	162	...	95
2. Wachapreague	4	...	3	...	...	...	...	174	27	96	36	...	52
3. Nassawaddox	3	...	3	...	4	...	3	325	...	1	326	...	49
4. Cape Charles	5	...	39	...	18	CW	41	924	8	46	234	...	103
5. Chesapeake Bay	2	...	...	...	...	...	...	...	...	...	2	...	...
6. Little Creek	...	...	24	...	...	...	42	...	...	22	18	...	4
7. Back Bay	...	...	...	9	10	10	44	...	...	59	...	...	...
8. Nansemond River	3	...	26	...	1	1	6	...	...	87	...	5	...
9. Newport News	1	...	2	...	1	...	122	15	6	37	1	...	1
10. Mathews County	...	...	7	...	...	...	...	7	...	24	...	...	7
11. Williamsburg	...	...	4	...	3	1	3	...	...	70	...	...	5
12. Hopewell	1	...	...	1	...	...	58	...	...	44	...	...	...
13. Walkerton	...	...	...	...	...	...	131	...	...	24	...	...	1
14. Washingtons Birthplace	...	...	...	...	1	...	...	...	...	129	...	...	...
15. Brooke	1	...	...	...	...	...	4,044	...	...	23	...	...	...
16. Fort Belvoir	...	...	...	...	1	...	11,153	...	...	41	...	...	5
17. Central Loudoun County	1	...	...	...	...	...	...	...	...	27	...	...	...
18. The Plains	...	...	...	...	...	...	...	...	...	4	...	...	...
19. Manassas-Bull Run	...	...	...	...	...	...	1	...	...	19	...	...	...
20. Nokesville	2	...	...	...	...	...	...	...	...	5	...	...	...
21. Chancellorsville	...	...	...	...	...	...	1	...	...	...	...	...	...
22. Lake Anna	...	...	...	...	...	...	...	...	...	2	...	...	...
23. Gordonsville	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Charlottesville	...	...	...	...	...	...	...	...	...	9	...	...	...
25. Warren	...	...	...	...	...	...	...	...	...	4	...	...	...
26. Darlington Heights	...	...	...	...	...	...	...	...	...	3	...	...	...
27. Banister River	...	...	...	...	...	...	410	...	...	16	...	...	...
28. Lynchburg	...	...	...	...	...	...	...	...	...	46	...	...	...
29. Chatham	...	...	...	...	...	...	...	...	...	...	...	...	...
30. Danville	...	...	...	...	...	...	...	...	...	...	...	...	...
31. Calmes Neck	...	...	...	...	...	...	...	...	...	18	...	...	...
32. N. Shenandoah Valley	...	...	...	...	1	...	...	...	...	...	...	...	...
33. Shenandoah NP-Luray	CW	...	...	...	...	...	...	...	...	1	...	...	...
34. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...	...	...	...
35. Rockingham County	1	1	...	...	...	...	6	...	...	...	...	...	...
36. Augusta County	...	...	...	...	...	...	8	...	...	2	...	...	...
37. Waynesboro	...	...	...	...	...	...	7	...	...	...	...	...	...
38. Lexington	...	...	...	...	...	...	1	...	...	4	...	...	...
39. Peaks of Otter	...	...	...	...	...	...	...	...	...	...	...	...	...
40. Fincastle	...	...	...	...	...	...	3	...	...	...	...	...	...
41. Roanoke	...	...	...	...	...	...	...	...	...	...	...	...	...
42. Blacksburg	...	...	...	...	...	...	1	...	...	18	...	...	...
43. Giles County	...	...	...	...	...	...	...	...	...	21	...	...	...
44. Tazewell	...	...	...	...	...	...	...	...	...	7	...	...	...
45. Mount Rogers-Whitetop	...	...	...	...	...	...	...	...	...	...	...	...	...
46. Glade Spring	...	...	...	...	5	...	16	...	...	65	...	...	...
47. Blackford	...	...	...	...	...	...	2	...	...	20	...	...	...
48. Bristol	1	...	...	...	...	...	35	...	...	8	...	...	...
49. Buchanan County	...	...	...	...	...	...	...	...	...	...	...	...	...
50. Breaks Interstate Park	...	...	...	...	...	...	...	...	...	...	...	...	...
51. Wise County	...	...	...	...	...	...	...	...	...	2	...	...	...
Totals	27	1	108	10	45	12	16,138	1,450	43	1,016	779	5	322

Table 1. Species Counts (page 8 of 18)

Species / Count Circle	Willet	Lesser Yellowlegs	yellow-legs sp.	Whimbrel	Marbled Godwit	Ruddy Turnstone	Red Knot	Sander-ling	Western Sand-piper	Least Sand-piper	Purple Sand-piper	Dunlin	peep sp.
1. Chincoteague	135	3	15	...	43	8	CW	242	...	...	...	725	25
2. Wachapreague	57	3	...	...	32	18	...	71	13	5	...	5,636	...
3. Nassawaddox	67	1	...	...	31	61	...	14	15	...	...	12,963	...
4. Cape Charles	802	...	...	4	6	41	43	163	269	2	2	11,474	200
5. Chesapeake Bay	...	...	...	...	...	4	...	9	...	...	49	...	...
6. Little Creek	...	...	...	...	...	9	...	389	...	...	1	50	...
7. Back Bay	1	...	...	...	...	...	...	14	...	...	...	...	...
8. Nansemond River	...	7	...	...	...	...	...	37	...	47	...	171	...
9. Newport News	...	...	...	...	...	15	...	116	10	...	...	361	...
10. Mathews County	1	...	...	...	...	...	...	108	...	...	...	884	...
11. Williamsburg	...	...	...	...	...	...	...	...	...	...	...	36	...
12. Hopewell	...	...	...	...	...	...	...	...	...	...	...	...	...
13. Walkerton	...	...	...	...	...	...	...	...	...	...	...	...	...
14. Washingtons Birthplace	...	...	...	...	...	...	...	...	...	...	...	...	...
15. Brooke	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Fort Belvoir	...	1	...	...	...	...	...	...	...	...	...	...	...
17. Central Loudoun County	...	...	...	...	...	...	...	...	...	...	...	...	...
18. The Plains	...	...	...	...	...	...	...	...	...	...	...	...	...
19. Manassas-Bull Run	...	...	...	...	...	...	...	...	...	...	...	...	...
20. Nokesville	...	...	...	...	...	...	...	...	...	...	...	...	...
21. Chancellorsville	...	...	...	...	...	...	...	...	...	...	...	...	...
22. Lake Anna	...	...	...	...	...	...	...	...	...	...	...	...	...
23. Gordonsville	...	...	...	...	...	...	...	...	...	...	...	...	...
24. Charlottesville	...	...	...	...	...	...	...	...	...	...	...	...	...
25. Warren	...	...	...	...	...	...	...	...	...	...	...	...	...
26. Darlington Heights	...	...	...	...	...	...	...	...	...	...	...	...	...
27. Banister River	...	...	...	...	...	...	...	...	...	...	...	...	...
28. Lynchburg	...	...	...	...	...	...	...	...	...	...	...	...	...
29. Chatham	...	...	...	...	...	...	...	...	...	...	...	...	...
30. Danville	...	...	...	...	...	...	...	...	...	...	...	...	...
31. Calmes Neck	...	...	...	...	...	...	...	...	...	...	...	...	...
32. N. Shenandoah Valley	...	...	...	...	...	...	...	...	...	...	...	...	...
33. Shenandoah NP-Luray	...	...	...	...	...	...	...	...	...	...	...	...	...
34. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...	...	...	...
35. Rockingham County	...	...	...	...	...	...	...	...	...	...	...	...	...
36. Augusta County	...	...	...	...	...	...	...	...	...	...	...	...	...
37. Waynesboro	...	...	...	...	...	...	...	...	...	...	...	...	...
38. Lexington	...	...	...	...	...	...	...	...	...	...	...	...	...
39. Peaks of Otter	...	...	...	...	...	...	...	...	...	...	...	...	...
40. Fincastle	...	...	...	...	...	...	...	...	...	...	...	...	...
41. Roanoke	...	...	...	...	...	...	...	...	...	...	...	...	...
42. Blacksburg	...	...	...	...	...	...	...	...	...	...	...	...	...
43. Giles County	...	...	...	...	...	...	...	...	...	...	...	...	...
44. Tazewell	...	...	...	...	...	...	...	...	...	...	...	...	...
45. Mount Rogers-Whitetop	...	...	...	...	...	...	...	...	...	...	...	...	...
46. Glade Spring	...	...	...	...	...	...	...	...	...	...	...	...	...
47. Blackford	...	...	...	...	...	...	...	...	...	...	...	...	...
48. Bristol	...	...	...	...	...	...	...	...	...	...	...	...	...
49. Buchanan County	...	...	...	...	...	...	...	...	...	...	...	...	...
50. Breaks Interstate Park	...	...	...	...	...	...	...	...	...	...	...	...	...
51. Wise County	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	1,063	15	15	4	112	156	43	1,163	307	54	52	32,300	225

Table 1. Species Counts (page 9 of 18)

Species / Count Circle	sand-piper sp.	Short-billed Dow-itcher	Long-billed Dow-itcher	Wilson's Snipe	Amer-ican Wood-cock	shore-bird sp.	Parasitic Jaeger	Laughing Gull	Black-headed Gull	Bona-parte's Gull	Ring-billed Gull	Herring Gull	Herring x Lesser Black-backed Gull
1. Chincoteague	...	...	4	...	2	1	...	...	...	48	420	952	...
2. Wachapreague	...	14	...	...	...	...	...	...	...	...	609	604	...
3. Nassawaddox	...	13	...	3	5	...	...	...	...	...	660	379	...
4. Cape Charles	...	143	...	9	53	...	...	...	...	CW	430	301	...
5. Chesapeake Bay	...	...	...	...	...	...	1	...	...	3,435	480	570	1
6. Little Creek	...	...	...	...	...	...	...	1	2	471	3,600	861	...
7. Back Bay	...	...	...	1	2	...	...	...	...	26	3,400	49	...
8. Nansemond River	...	...	...	...	6	...	...	10	...	7	1,566	1,429	...
9. Newport News	2	...	...	...	...	...	...	105	...	...	1,983	249	...
10. Mathews County	...	...	...	...	1	...	...	...	...	9	471	118	...
11. Williamsburg	...	...	...	5	...	...	...	1	...	76	1,182	44	...
12. Hopewell	...	...	...	2	2	...	...	802	...	52	4,083	5,248	...
13. Walkerton	...	...	...	46	25	...	...	...	...	...	380	4	...
14. Washingtons Birthplace	...	...	...	12	2	...	...	...	...	...	1,348	35	...
15. Brooke	...	...	...	...	1	...	...	161	...	18	1,864	84	...
16. Fort Belvoir	...	...	...	3	10	...	...	...	...	CW	5,803	761	...
17. Central Loudoun County	...	...	...	3	1	...	...	...	...	...	3,998	82	...
18. The Plains	...	...	...	3	CW	...	...	...	...	...	1,019	133	...
19. Manassas-Bull Run	...	...	...	...	...	...	...	...	...	...	2,308	26	...
20. Nokesville	...	...	...	...	1	...	...	...	...	...	2,098	536	...
21. Chancellorsville	...	...	...	2	...	...	...	...	...	...	162	3	...
22. Lake Anna	...	...	...	...	1	...	...	...	...	364	2,762	402	...
23. Gordonsville	...	...	...	...	...	...	...	...	...	...	2	...	...
24. Charlottesville	...	...	...	5	1	...	...	...	...	...	...	...	...
25. Warren	...	...	...	2	...	...	...	...	...	...	...	...	...
26. Darlington Heights	...	...	...	...	...	...	...	...	...	...	...	...	...
27. Banister River	...	...	...	1	2	...	...	...	...	19	183	2	...
28. Lynchburg	...	...	...	...	...	...	...	...	...	...	3	...	...
29. Chatham	...	...	...	...	...	...	...	...	...	...	...	...	...
30. Danville	...	...	...	...	...	...	...	...	...	...	2	...	...
31. Calmes Neck	...	...	...	2	...	...	...	...	...	...	2	...	...
32. N. Shenandoah Valley	...	...	...	2	...	...	...	...	...	...	...	...	...
33. Shenandoah NP-Luray	...	...	...	1	...	...	...	...	...	...	...	...	...
34. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...	...	...	...
35. Rockingham County	...	...	...	2	...	...	...	...	...	...	...	...	...
36. Augusta County	...	...	...	...	...	...	...	...	...	...	...	...	...
37. Waynesboro	...	...	...	2	...	...	...	...	...	...	...	...	...
38. Lexington	...	...	...	3	...	...	...	...	...	...	...	...	...
39. Peaks of Otter	...	...	...	...	...	...	...	...	...	...	...	...	...
40. Fincastle	...	...	...	...	...	...	...	...	...	...	...	...	...
41. Roanoke	...	...	...	3	...	...	...	...	...	...	52	...	...
42. Blacksburg	...	...	...	1	...	...	...	...	...	...	2,488	...	...
43. Giles County	...	...	...	...	...	...	...	...	...	...	...	...	...
44. Tazewell	...	...	...	5	...	...	...	...	...	...	131	2	...
45. Mount Rogers-Whitetop	...	...	...	...	...	...	...	...	...	...	...	...	...
46. Glade Spring	...	...	...	22	...	...	...	...	...	...	...	...	...
47. Blackford	...	...	...	...	...	...	...	...	...	...	...	...	...
48. Bristol	...	...	...	3	...	...	...	...	...	...	204	...	...
49. Buchanan County	...	...	...	...	...	...	...	...	...	...	...	...	...
50. Breaks Interstate Park	...	...	...	...	...	...	...	...	...	...	...	...	...
51. Wise County	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	2	170	4	143	115	1	1	1,080	2	4,525	43,693	12,874	1

Table 1. Species Counts (page 10 of 18)

Species / Count Circle	Thayer's Gull	Iceland Gull/ Thayer's Gull	Iceland Gull	Lesser Black-backed Gull	Great Black-backed Gull	gull sp.	Forster's Tern	Black Skimmer	Razor-bill	Rock Pigeon	Eurasian Collared-Dove	Mourning Dove	Barn Owl
1. Chincoteague	...	...	...	14	348	...	193	...	...	392	2	387	...
2. Wachapreague	...	...	...	1	4	365	9	...	...	86	...	317	...
3. Nassawaddox	...	...	...	...	35	...	...	...	...	52	...	145	...
4. Cape Charles	...	...	...	2	274	3	5	...	...	569	7	444	...
5. Chesapeake Bay	1	...	1	27	...	...	...	...	1	14	...	...	...
6. Little Creek	1	...	2	87	247	...	2	10	...	513	...	136	...
7. Back Bay	...	...	...	36	161	...	...	...	1	310	15	180	...
8. Nansemond River	...	...	...	5	158	...	2	...	...	231	...	234	1
9. Newport News	...	...	...	3	87	1,000	...	...	...	368	...	532	...
10. Mathews County	...	...	...	...	66	45	70	...	...	1	...	506	...
11. Williamsburg	...	...	...	...	25	...	73	...	...	88	...	200	...
12. Hopewell	...	...	...	...	30	...	14	...	...	90	...	203	...
13. Walkerton	...	...	...	...	...	...	...	...	...	...	...	177	...
14. Washingtons Birthplace	...	...	...	...	2	...	5	...	...	1	...	186	...
15. Brooke	...	...	...	...	22	...	...	...	...	...	...	132	...
16. Fort Belvoir	...	...	...	1	144	819	...	...	...	522	...	729	...
17. Central Loudoun County	...	...	...	...	2	...	...	...	...	394	...	521	1
18. The Plains	...	...	...	...	7	...	...	...	...	56	...	128	...
19. Manassas-Bull Run	...	...	...	...	...	758	...	...	...	189	...	457	...
20. Nokesville	...	1	1	...	45	47	...	...	...	73	...	248	2
21. Chancellorsville	...	...	...	...	...	...	...	...	...	21	...	73	...
22. Lake Anna	...	...	...	...	254	...	...	...	...	18	...	171	...
23. Gordonsville	...	...	...	...	...	...	...	...	...	159	...	211	...
24. Charlottesville	...	...	...	...	...	...	...	...	...	85	...	115	...
25. Warren	...	...	...	...	...	...	...	...	...	54	...	240	1
26. Darlington Heights	...	...	...	...	...	...	...	...	...	103	...	592	...
27. Banister River	...	...	...	...	...	...	...	...	...	6	...	106	...
28. Lynchburg	...	...	...	...	...	...	...	...	...	62	...	227	...
29. Chatham	...	...	...	...	...	...	...	...	...	103	...	3	...
30. Danville	...	...	...	...	...	...	...	...	...	95	...	66	...
31. Calmes Neck	...	...	...	...	...	...	...	...	...	400	...	448	1
32. N. Shenandoah Valley	...	...	...	...	...	1	...	...	...	586	...	816	1
33. Shenandoah NP-Luray	...	...	...	...	...	...	...	...	...	326	...	434	...
34. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...	...	...	...
35. Rockingham County	...	...	...	...	...	...	...	...	...	850	CW	770	2
36. Augusta County	...	...	...	...	...	...	...	...	...	360	...	378	4
37. Waynesboro	...	...	...	...	...	...	...	...	...	75	...	301	...
38. Lexington	...	...	...	...	...	...	...	...	...	221	...	413	...
39. Peaks of Otter	...	...	...	...	...	...	...	...	...	...	...	4	...
40. Fincastle	...	...	...	...	...	...	...	...	...	48	...	203	...
41. Roanoke	...	...	...	...	...	...	...	...	...	170	...	131	...
42. Blacksburg	...	...	...	...	...	...	...	...	...	309	8	465	...
43. Giles County	...	...	...	...	...	...	...	...	...	30	...	34	...
44. Tazewell	...	...	...	...	...	...	...	...	...	105	...	76	...
45. Mount Rogers-Whitetop	...	...	...	...	...	...	...	...	...	30	...	38	...
46. Glade Spring	...	...	...	...	...	...	...	...	...	430	9	313	1
47. Blackford	...	...	...	...	...	...	...	...	...	43	...	197	...
48. Bristol	...	...	...	...	...	...	...	...	...	243	...	370	1
49. Buchanan County	...	...	...	...	...	...	...	...	...	...	...	63	...
50. Breaks Interstate Park	...	...	...	...	...	...	...	...	...	77	...	52	...
51. Wise County	...	...	...	...	...	...	...	...	...	99	...	209	...
Totals	2	1	4	176	1,911	3,038	373	10	2	9,057	41	13,381	15

Table 1. Species Counts (page 11 of 18)

Species / Count Circle	Eastern Screech-Owl	Great Horned Owl	Snowy Owl	Barred Owl	Short-eared Owl	Northern Saw-whet Owl	large owl sp.	owl sp.	Rufous Humming bird	Selasphorus sp	Belted Kingfisher	Red-headed Woodpecker	Red-bellied Woodpecker
1. Chincoteague	12	2	...	...	...	...	...	...	...	...	33	2	50
2. Wachapreague	4	1	...	...	...	...	...	...	...	...	22	2	31
3. Nassawaddox	1	2	...	...	...	...	...	...	...	...	9	...	53
4. Cape Charles	11	6	...	...	1	...	...	...	...	...	18	2	68
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Little Creek	5	2	...	...	...	...	...	...	...	...	31	...	66
7. Back Bay	6	2	...	1	...	...	...	...	...	...	9	...	28
8. Nansemond River	8	3	...	2	...	...	...	...	...	...	20	1	74
9. Newport News	...	3	...	...	...	...	...	...	...	...	39	...	76
10. Mathews County	1	4	...	4	...	...	...	...	...	...	28	...	72
11. Williamsburg	4	15	...	3	...	...	...	...	1	CW	24	38	187
12. Hopewell	3	3	...	6	...	...	...	...	...	...	21	46	109
13. Walkerton	3	14	...	12	...	...	...	...	...	...	17	9	97
14. Washingtons Birthplace	6	17	1	...	...	...	...	...	...	...	16	6	76
15. Brooke	...	...	...	...	...	...	...	...	...	...	32	22	127
16. Fort Belvoir	17	3	...	22	...	...	...	...	...	...	59	6	547
17. Central Loudoun County	4	4	...	16	...	...	1		...	...	37	55	301
18. The Plains	8	5	...	1	1	...	...	...	...	...	10	20	144
19. Manassas-Bull Run	...	3	...	1	...	...	...	...	...	...	12	1	239
20. Nokesville	CW	6	...	2	...	...	...	...	...	...	4	12	84
21. Chancellorsville	CW	...	...	...	...	...	...	...	...	...	7	2	31
22. Lake Anna	1	2	...	1	...	...	...	...	...	...	5	4	21
23. Gordonsville	...	...	...	...	...	...	...	...	...	...	11	3	46
24. Charlottesville	...	3	...	...	...	...	...	...	...	...	25	1	152
25. Warren	1	2	...	...	...	...	...	...	...	...	9	5	54
26. Darlington Heights	2	...	...	...	...	...	...	...	...	...	5	4	27
27. Banister River	5	4	...	3	...	...	...	...	...	...	3	16	38
28. Lynchburg	11	4	...	2	...	...	...	...	...	...	17	2	106
29. Chatham	1	...	...	...	...	...	...	...	...	...	...	...	3
30. Danville	...	...	...	...	...	...	...	...	...	...	1	3	17
31. Calmes Neck	7	2	...	5	...	...	...	...	...	...	35	40	225
32. N. Shenandoah Valley	18	1	...	4	...	1	...	...	...	...	21	51	151
33. Shenandoah NP-Luray	6	...	...	1	...	...	...	...	...	...	17	5	67
34. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...	1	...	4
35. Rockingham County	1	7	...	1	...	...	...	2	...	...	11	8	70
36. Augusta County	4	2	...	...	...	...	...	...	...	...	7	...	64
37. Waynesboro	...	...	...	1	...	...	...	...	...	...	5	3	38
38. Lexington	6	2	...	...	...	...	...	...	...	...	11	2	68
39. Peaks of Otter	1	...	...	...	...	...	...	...	...	...	2	...	12
40. Fincastle	1	...	...	...	...	...	...	...	...	...	5	3	23
41. Roanoke	...	...	...	...	...	...	...	...	...	...	5	...	65
42. Blacksburg	10	3	...	...	...	...	...	...	...	...	18	7	117
43. Giles County	2	2	...	...	...	...	...	...	...	...	10	2	34
44. Tazewell	1	...	...	...	...	...	...	...	...	...	3	1	15
45. Mount Rogers-Whitetop	...	...	...	...	...	...	...	...	...	...	4	...	8
46. Glade Spring	5	1	...	...	...	...	...	...	...	...	13	1	38
47. Blackford	3	2	...	...	...	...	...	...	...	...	8	...	30
48. Bristol	14	5	...	...	...	...	...	...	...	...	14	...	35
49. Buchanan County	1	...	...	2	...	...	...	...	...	...	6	...	21
50. Breaks Interstate Park	...	...	...	1	1	...	...	...	...	...	10	...	7
51. Wise County	...	...	...	1	...	...	...	...	...	...	6	...	18
Totals	194	137	1	92	3	1	1	2	1	CW	736	385	4,034

Table 1. Species Counts (page 12 of 18)

Species / Count Circle	Yellow-bellied Sap-sucker	Downy Wood-pecker	Hairy Wood-pecker	Northern (Yellow-shafted) Flicker	Pileated Wood-pecker	Eastern Phoebe	Logger head Shrike	White-eyed Vireo	Blue Jay	Amer-ican Crow	Fish Crow	crow sp.	Common Raven
1. Chincoteague	9	35	5	159	16	5	...	...	123	394	9	1	...
2. Wachapreague	9	21	1	74	13	...	...	...	83	752	53	...	...
3. Nassawaddox	8	14	10	85	13	1	...	...	56	484	43	153	...
4. Cape Charles	22	29	3	156	8	3	...	...	132	202	214	53	...
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Little Creek	16	41	2	43	21	2	...	...	80	380	450	500	...
7. Back Bay	9	8	1	42	12	2	...	...	28	316	7	...	...
8. Nansemond River	18	51	5	55	21	5	...	...	121	166	418	453	...
9. Newport News	13	53	7	88	1	1	...	...	138	518	215	38	...
10. Mathews County	18	32	7	112	23	3	...	...	98	638	1	...	...
11. Williamsburg	71	95	17	135	43	10	...	...	157	310	2	61	...
12. Hopewell	43	62	16	144	41	25	...	...	90	132	3	5	...
13. Walkerton	26	47	22	164	44	13	...	...	91	556	...	...	...
14. Washingtons Birthplace	16	40	9	86	21	9	...	...	98	297	...	...	...
15. Brooke	20	68	18	91	39	7	...	...	310	346	45	...	3
16. Fort Belvoir	70	368	105	510	110	5	...	CW	899	1,420	1,323	728	4
17. Central Loudoun County	97	234	33	201	62	8	...	...	682	763	1,241	356	18
18. The Plains	41	87	14	76	29	2	...	...	604	507	174	43	13
19. Manassas-Bull Run	23	241	28	171	46	2	...	...	585	697	487	277	6
20. Nokesville	21	65	4	85	18	2	...	...	689	237	215	...	11
21. Chancellorsville	4	18	8	21	20	1	...	...	146	352	35	...	...
22. Lake Anna	6	10	3	19	6	2	...	...	164	458	1	...	...
23. Gordonsville	14	16	5	46	12	3	...	...	309	335	...	...	...
24. Charlottesville	51	116	12	141	44	11	...	...	545	1,054	173		16
25. Warren	27	36	6	77	23	6	...	...	501	358	...	...	12
26. Darlington Heights	7	38	5	34	20	11	...	...	183	453	...	...	...
27. Banister River	26	12	3	30	14	8	...	...	134	182	...	...	...
28. Lynchburg	29	69	13	63	42	14	...	...	310	485	2	...	14
29. Chatham	...	2	1	2	3	...	...	...	9	33	1	...	...
30. Danville	1	8	...	14	3	...	...	...	25	78	...	...	...
31. Calmes Neck	73	144	26	166	75	3	1	...	564	806	3	...	41
32. N. Shenandoah Valley	71	148	18	65	38	1	...	...	1,212	880	56	...	12
33. Shenandoah NP-Luray	37	81	19	31	40	5	...	...	367	576	8	...	36
34. Big Flat Mountain	4	12	10	5	11	...	...	...	12	15	...	...	7
35. Rockingham County	7	54	8	27	29	4	1	...	279	155	1	7	23
36. Augusta County	10	39	2	17	12	4	...	...	340	679	31	...	4
37. Waynesboro	8	42	5	52	10	1	...	...	345	446	54	...	9
38. Lexington	21	63	23	27	33	10	...	...	488	577	7	...	10
39. Peaks of Otter	8	16	1	5	14	2	...	...	13	68	...	...	6
40. Fincastle	9	29	3	14	9	4	...	...	360	418	2	...	11
41. Roanoke	12	68	10	11	10	3	...	...	142	207	4	...	5
42. Blacksburg	24	145	27	28	41	12	...	...	388	530	...	...	11
43. Giles County	11	40	5	5	19	8	...	...	85	177	...	...	1
44. Tazewell	3	16	3	4	3	2	...	...	55	491	...	...	5
45. Mount Rogers-Whitetop	1	9	3	8	1	1	1	...	42	224	...	...	6
46. Glade Spring	6	48	1	24	10	6	5	...	207	429	...	...	3
47. Blackford	3	20	2	32	13	12	5	...	163	341	...	...	10
48. Bristol	4	38	3	31	18	10	1	...	232	744	...	...	...
49. Buchanan County	3	21	5	9	21	2	...	...	132	253	...	...	3
50. Breaks Interstate Park	CW	7	6	10	21	4	...	...	39	160	...	...	2
51. Wise County	...	20	7	12	15	1	...	...	159	870	...	...	20
Totals	1,030	2,976	550	3,507	1,211	256	14	CW	13,014	21,949	5,278	2,675	322

Table 1. Species Counts (page 13 of 18)

Species / Count Circle	Horned Lark	Northern Rough-winged Swallow	Tree Swallow	Carolina Chickadee	Black-capped Chickadee	chickadee sp.	Tufted Titmouse	Red-breasted Nuthatch	White-breasted Nuthatch	Brown-headed Nuthatch	Brown Creeper	Carolina Wren	House Wren
1. Chincoteague	47	...	CW	160	...	...	40	...	13	32	16	113	2
2. Wachapreague	...	...	...	65	...	...	38	5	4	35	3	59	...
3. Nassawaddox	...	...	...	65	...	...	35	6	2	20	2	63	2
4. Cape Charles	59	...	30	83	...	...	45	1	...	6	11	147	10
5. Chesapeake Bay	...	...	28	...	...	...	...	...	...	...	...	...	...
6. Little Creek	...	...	405	117	...	...	47	2	9	34	9	94	1
7. Back Bay	...	...	251	55	...	...	18	2	3	20	5	45	1
8. Nansemond River	...	...	435	179	...	...	63	2	8	29	7	135	2
9. Newport News	...	...	...	235	...	...	95	...	29	10	8	108	1
10. Mathews County	...	...	...	154	...	...	108	1	5	69	1	119	...
11. Williamsburg	7	...	...	392	...	...	328	...	126	32	29	229	3
12. Hopewell	14	...	...	216	...	...	146	1	44	...	11	161	7
13. Walkerton	201	...	...	136	...	...	115	1	31	...	20	159	2
14. Washingtons Birthplace	55	...	...	83	...	...	84	...	18	...	5	101	...
15. Brooke	...	...	...	361	...	...	209	4	98	...	6	122	...
16. Fort Belvoir	...	...	...	1,405	...	...	965	4	370	...	57	789	...
17. Central Loudoun County	1	...	...	593	...	...	368	...	237	...	59	309	...
18. The Plains	...	...	...	261	...	...	182	5	75	...	8	220	...
19. Manassas-Bull Run	1	...	...	732	...	...	437	...	260	...	31	349	...
20. Nokesville	1	...	...	151	...	...	92	1	56	...	6	116	...
21. Chancellorsville	...	...	...	105	...	...	49	...	39	...	4	27	...
22. Lake Anna	...	...	...	36	...	...	39	...	14	...	5	20	...
23. Gordonsville	3	...	...	60	...	...	39	...	18	...	...	28	...
24. Charlottesville	2	...	...	280	...	...	220	...	110	...	5	232	...
25. Warren	15	...	...	98	...	...	70	...	39	...	1	100	...
26. Darlington Heights	33	...	...	62	...	...	35	...	30	...	1	41	...
27. Banister River	...	...	...	48	...	...	56	...	11	5	1	60	...
28. Lynchburg	...	...	...	171	...	...	160	...	105	...	6	132	...
29. Chatham	2	...	...	7	...	...	5	...	1	1	...	7	...
30. Danville	...	...	...	48	...	...	39	...	8	4	...	21	...
31. Calmes Neck	205	...	...	520	...	...	384	...	238	...	28	237	3
32. N. Shenandoah Valley	...	...	...	501	...	...	367	2	202	...	35	172	...
33. Shenandoah NP-Luray	...	...	...	216	4	...	154	...	96	...	9	5	...
34. Big Flat Mountain	...	...	...	43	...	...	23	1	24	...	4	5	...
35. Rockingham County	153	...	...	106	...	1	72	...	49	...	5	66	...
36. Augusta County	3	...	...	184	...	...	101	...	47	...	4	93	...
37. Waynesboro	230	...	...	121	...	...	117	...	46	...	3	56	...
38. Lexington	...	...	...	131	12	44	153	...	59	...	3	90	...
39. Peaks of Otter	...	...	...	52	...	...	22	...	27	...	2	21	...
40. Fincastle	1	...	...	73	...	...	57	...	39	...	2	58	...
41. Roanoke	...	...	...	142	...	...	91	...	81	2	11	106	...
42. Blacksburg	213	...	...	448	...	1	300	5	195	1	17	232	...
43. Giles County	...	...	...	48	9	4	134	...	44	...	2	54	...
44. Tazewell	30	...	...	86	...	...	96	...	24	...	2	22	...
45. Mount Rogers-Whitetop	...	...	...	20	...	...	23	1	9	...	...	17	...
46. Glade Spring	75	...	...	140	...	...	106	...	35	...	...	136	4
47. Blackford	...	...	...	79	...	...	52	...	26	...	...	42	...
48. Bristol	...	1	...	154	...	...	110	1	53	...	5	109	...
49. Buchanan County	...	...	...	106	...	...	135	...	51	...	...	67	...
50. Breaks Interstate Park	CW	...	...	64	...	...	60	...	9	...	...	36	...
51. Wise County	...	...	...	114	...	...	80	4	47	...	1	47	...
Totals	1,351	1	1,149	9,706	25	50	6,764	49	3,164	300	450	5,777	38

Table 1. Species Counts (page 14 of 18)

Species / Count Circle	Winter Wren	Sedge Wren	Marsh Wren	Golden-crowned Kinglet	Ruby-crowned Kinglet	Blue-gray Gnat-catcher	Eastern Bluebird	Hermit Thrush	American Robin	Gray Catbird	Northern Mocking-bird	Brown Thrasher	European Starling
1. Chincoteague	11	1	...	18	17	...	136	39	704	18	53	10	1,031
2. Wachapreague	1	...	...	7	11	...	259	15	695	3	69	1	2,838
3. Nassawaddox	11	2	2	8	19	1	213	22	135	10	61	6	758
4. Cape Charles	11	8	8	24	37	...	202	42	309	25	79	13	1,281
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Little Creek	10	...	...	25	18	...	60	20	2,030	5	53	11	1,660
7. Back Bay	2	...	1	8	7	...	95	...	7,270	8	29	4	1,930
8. Nansemond River	12	1	19	21	30	...	238	43	3,021	10	107	33	2,061
9. Newport News	3	2	2	19	31	...	126	16	769	2	130	26	961
10. Mathews County	1	...	1	13	11	...	671	12	533	3	91	14	1,324
11. Williamsburg	14	...	6	39	84	...	436	62	526	3	96	19	438
12. Hopewell	21	...	1	73	78	...	282	48	615	2	63	18	2,441
13. Walkerton	35	...	...	43	37	...	226	54	306	2	45	20	861
14. Washingtons Birthplace	10	...	1	11	22	...	139	36	273	2	62	19	679
15. Brooke	4	...	...	29	19	...	248	23	157	1	65	2	3,815
16. Fort Belvoir	28	1	...	136	61	...	515	77	5,841	8	216	12	4,136
17. Central Loudoun County	24	...	...	57	19	...	517	11	690	2	235	1	2,693
18. The Plains	8	...	...	11	9	...	343	23	6,900	1	149	1	8,173
19. Manassas-Bull Run	15	...	...	62	19	...	510	14	1,249	3	115	2	2,578
20. Nokesville	5	...	...	29	4	...	155	11	740	...	71	...	7,340
21. Chancellorsville	...	...	...	14	3	...	87	2	47	...	16	...	719
22. Lake Anna	...	...	...	22	8	...	110	1	61	...	23	...	1,158
23. Gordonsville	2	...	...	4	5	...	71	...	843	...	45	...	1,121
24. Charlottesville	32	...	...	55	48	...	238	123	629	2	68	2	2,157
25. Warren	4	...	...	10	11	...	111	4	128	...	36	2	1,407
26. Darlington Heights	1	...	...	14	5	...	191	1	26	...	42	...	613
27. Banister River	8	...	...	33	13	...	111	19	75	...	24	5	127
28. Lynchburg	17	...	...	20	13	...	210	19	85	...	72	...	1,247
29. Chatham	1	...	...	2	3	...	21	...	6	...	4	...	19
30. Danville	...	...	...	...	1	...	61	1	82	...	27	...	322
31. Calmes Neck	9	...	...	27	13	...	498	11	322	...	137	...	6,414
32. N. Shenandoah Valley	11	...	...	48	11	...	625	24	1,802	2	220	...	3,366
33. Shenandoah NP-Luray	10	...	...	23	4	...	112	8	149	...	55	1	1,894
34. Big Flat Mountain	4	...	...	8	...	...	34	4	2	...	1	...	...
35. Rockingham County	8	...	...	7	1	...	122	...	70	...	57	...	5,275
36. Augusta County	9	...	...	19	4	...	107	CW	23	...	100	...	1,807
37. Waynesboro	6	...	...	7	3	...	85	4	50	1	70	...	1,763
38. Lexington	4	...	...	45	3	...	110	8	469	...	74	1	1,170
39. Peaks of Otter	3	...	...	6	...	...	2	4	1	...	2	...	...
40. Fincastle	1	...	...	8	4	...	178	8	50	...	70	1	709
41. Roanoke	3	...	...	35	1	...	97	7	318	...	51	...	1,533
42. Blacksburg	24	...	...	73	4	...	213	14	285	...	122	1	3,599
43. Giles County	4	...	...	13	2	...	87	1	1	...	35	...	73
44. Tazewell	...	...	...	1	...	...	17	...	2	...	6	...	680
45. Mount Rogers-Whitetop	...	...	...	4	...	...	14	...	...	...	5	...	80
46. Glade Spring	...	...	...	15	2	...	81	3	10	1	65	...	3,192
47. Blackford	3	...	...	3	...	...	111	4	6	...	54	...	1,278
48. Bristol	9	...	...	29	5	...	85	10	15	1	106	...	1,877
49. Buchanan County	8	...	...	7	1	...	14	7	7	...	...	...	310
50. Breaks Interstate Park	14	...	...	3	...	...	2	6	3	...	1	CW	98
51. Wise County	11	...	...	13	...	...	36	2	9	...	17	1	714
Totals	432	15	41	1,201	701	1	9,212	863	38,339	115	3,394	226	91,720

Table 1. Species Counts (page 15 of 18)

Species / Count Circle	American Pipit	Cedar Waxwing	Orange-crowned Warbler	Yellow-rumped (Myrtle) Warbler	Pine Warbler	Palm Warbler	Black-and-white Warbler	Common Yellowthroat	Yellow-breasted Chat	Scarlet Tanager	Western Tanager	Eastern Towhee	American Tree Sparrow
1. Chincoteague	33	87	2	1,267	5	CW	...	3	...	...	...	36	...
2. Wachapreague	7	6	...	649	11	...	...	...	...	...	...	6	16
3. Nassawaddox	...	5	...	4543	2	7	...	...	...	...	...	5	1
4. Cape Charles	10	14	CW	1,859	8	40	CW	2	...	...	...	44	...
5. Chesapeake Bay	1	...	...	...	...	...	...	...	...	...	...	...	...
6. Little Creek	...	32	3	540	15	...	...	...	...	1	...	32	...
7. Back Bay	...	19	...	1,040	3	1	...	...	...	...	...	4	...
8. Nansemond River	13	266	2	780	23	3	...	...	...	...	...	32	...
9. Newport News	...	85	1	575	21	...	...	1	...	...	...	27	...
10. Mathews County	1	403	...	1,077	7	...	...	...	...	...	...	29	...
11. Williamsburg	2	456	6	1,334	7	...	...	1	...	...	1	78	...
12. Hopewell	41	314	1	118	1	2	3	2	...	...	...	42	...
13. Walkerton	284	236	...	150	1	...	...	...	...	...	...	44	...
14. Washingtons Birthplace	11	238	...	134	1	...	...	...	...	...	...	39	...
15. Brooke	...	332	...	109	...	...	...	1	...	...	...	10	1
16. Fort Belvoir	1	794	...	90	1	...	...	...	...	...	...	74	10
17. Central Loudoun County	1	190	...	173	...	...	...	...	...	...	...	29	1
18. The Plains	1	292	...	41	...	...	...	...	...	...	...	42	5
19. Manassas-Bull Run	...	183	...	93	...	...	...	1	...	...	...	15	3
20. Nokesville	...	453	...	37	...	...	...	...	...	...	...	27	5
21. Chancellorsville	...	52	...	1	...	...	...	...	...	...	...	8	...
22. Lake Anna	...	89	...	6	...	...	...	...	...	...	...	9	...
23. Gordonsville	...	181	...	11	...	...	...	...	...	...	...	7	1
24. Charlottesville	...	257	...	40	...	...	...	...	1	...	...	38	...
25. Warren	...	58	...	20	...	...	...	...	...	...	...	18	...
26. Darlington Heights	...	...	...	17	...	...	...	...	...	...	...	12	...
27. Banister River	...	40	...	39	CW	...	...	...	...	...	...	28	...
28. Lynchburg	...	209	...	27	...	...	...	...	...	...	...	16	...
29. Chatham	...	1	...	...	...	...	...	...	...	...	...	4	...
30. Danville	...	8	...	13	...	...	...	...	...	...	...	3	4
31. Calmes Neck	...	122	...	10	...	...	...	...	...	...	...	6	2
32. N. Shenandoah Valley	3	119	...	34	...	...	...	...	...	...	...	9	5
33. Shenandoah NP-Luray	...	25	...	3	...	...	...	...	...	...	...	...	...
34. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...	...	3	...
35. Rockingham County	2	CW	...	15	...	...	...	...	...	...	...	5	...
36. Augusta County	...	3	...	6	...	...	...	...	...	...	...	7	CW
37. Waynesboro	...	48	...	11	...	...	...	...	...	...	...	9	...
38. Lexington	...	29	...	41	...	...	...	...	...	...	...	33	...
39. Peaks of Otter	...	...	...	...	...	...	...	...	...	...	...	2	...
40. Fincastle	...	22	...	1	...	1	...	...	...	...	...	15	...
41. Roanoke	...	9	...	4	...	4	...	...	...	...	...	8	...
42. Blacksburg	...	96	...	8	1	...	...	...	...	...	...	77	...
43. Giles County	...	4	...	37	...	...	...	...	...	...	...	13	...
44. Tazewell	...	15	...	...	...	...	...	...	...	...	...	8	...
45. Mount Rogers-Whitetop	...	...	...	5	...	...	...	...	...	...	...	1	...
46. Glade Spring	...	6	...	9	...	...	...	...	...	...	...	29	...
47. Blackford	...	5	...	11	...	...	...	...	...	...	...	16	...
48. Bristol	...	...	...	23	...	...	...	...	...	...	...	27	...
49. Buchanan County	...	...	...	...	...	...	...	...	...	...	...	9	...
50. Breaks Interstate Park	...	...	...	19	...	...	...	...	...	...	...	9	...
51. Wise County	...	4	...	...	...	...	...	...	...	...	...	7	...
Totals	411	5,807	15	15,020	107	58	3	11	1	1	1	1,051	54

Table 1. Species Counts (page 16 of 18)

Species / Count Circle	Chipping Sparrow	Clay-colored Sparrow	Field Sparrow	Vesper Sparrow	Savannah Spar-row	Savannah (Ipswich) Sparrow	Nelson's Sparrow	Salt-marsh Sparrow	sharp-tailed sparrow sp.	Seaside Sparrow	Fox Sparrow	Song Sparrow	Lincoln's Sparrow
1. Chincoteague	47	...	129	1	172	2	1	...	...	...	26	295	1
2. Wachapreague	22	...	5	...	20	4	...	...	...	...	11	103	...
3. Nassawaddox	44	...	14	...	9	...	...	2	...	...	28	257	...
4. Cape Charles	177	...	49	7	196	26	3	11	4	...	216	390	1
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...	...	1	...
6. Little Creek	32	...	1	...	5	2	...	1	...	...	27	88	...
7. Back Bay	23	...	1	...	87	...	...	...	...	...	7	43	...
8. Nansemond River	121	...	53	...	102	...	1	2	...	6	37	231	...
9. Newport News	24	...	6	1	83	5	1	...	1	...	16	162	...
10. Mathews County	70	...	13	...	22	...	...	...	...	...	6	94	...
11. Williamsburg	140	...	69	...	101	...	...	...	...	...	16	265	...
12. Hopewell	18	...	74	...	92	...	...	...	...	...	7	743	1
13. Walkerton	4	...	27	...	115	...	...	...	...	...	22	370	...
14. Washingtons Birthplace	7	...	11	...	14	...	...	...	...	...	2	239	...
15. Brooke	12	...	62	...	10	...	...	...	...	...	...	146	...
16. Fort Belvoir	3	1	182	...	24	...	...	...	...	...	25	1,232	1
17. Central Loudoun County	4	...	168	...	19	...	...	...	...	...	2	575	...
18. The Plains	17	...	148	...	14	...	...	...	...	...	...	641	...
19. Manassas-Bull Run	16	...	58	...	4	...	...	...	...	...	2	389	...
20. Nokesville	11	...	27	...	18	...	...	...	...	...	1	290	...
21. Chancellorsville	...	...	9	...	...	...	...	...	...	...	...	54	...
22. Lake Anna	...	...	8	...	3	...	...	...	...	...	1	49	...
23. Gordonsville	...	...	16	...	...	...	...	...	...	...	2	35	...
24. Charlottesville	...	...	36	...	3	...	...	...	...	...	...	418	...
25. Warren	...	...	39	...	2	...	...	...	...	...	...	248	...
26. Darlington Heights	24	...	29	...	2	...	...	...	...	...	1	92	...
27. Banister River	13	...	58	...	CW	...	...	...	...	...	13	177	...
28. Lynchburg	60	...	42	...	...	...	...	...	...	...	1	96	...
29. Chatham	2	...	4	...	8	...	...	...	...	...	2	6	...
30. Danville	...	...	2	...	4	...	...	...	...	...	...	8	...
31. Calmes Neck	2	...	57	...	11	...	...	...	...	...	...	305	...
32. N. Shenandoah Valley	...	...	74	...	6	...	...	...	...	...	3	268	...
33. Shenandoah NP-Luray	4	...	15	...	...	...	...	...	...	...	...	105	...
34. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...	...	4	...
35. Rockingham County	...	...	3	...	2	...	...	...	...	...	...	90	...
36. Augusta County	2	...	11	...	1	...	...	...	...	...	CW	149	...
37. Waynesboro	8	...	6	...	...	...	...	...	...	...	...	92	...
38. Lexington	...	...	71	...	...	...	...	...	...	...	3	132	...
39. Peaks of Otter	...	...	...	...	...	...	...	...	...	...	1	17	...
40. Fincastle	25	...	20	...	1	...	...	...	...	...	...	36	...
41. Roanoke	2	...	4	...	...	...	...	...	...	...	1	89	...
42. Blacksburg	2	...	34	...	...	...	...	...	...	...	8	293	...
43. Giles County	2	...	5	...	...	...	...	...	...	...	1	155	...
44. Tazewell	...	...	22	...	...	...	...	...	...	...	1	55	...
45. Mount Rogers-Whitetop	...	...	1	...	...	...	...	...	...	...	...	30	...
46. Glade Spring	7	...	32	...	...	...	...	...	...	...	CW	192	...
47. Blackford	5	...	23	...	...	...	...	...	...	...	...	95	...
48. Bristol	6	...	10	...	...	...	...	...	...	...	...	170	...
49. Buchanan County	2	...	...	...	...	...	...	...	...	...	...	95	...
50. Breaks Interstate Park	CW	...	...	...	...	...	...	...	...	...	1	56	...
51. Wise County	...	...	11	...	...	...	...	...	...	...	2	47	...
Totals	958	1	1,739	9	1,150	39	6	16	5	6	492	10,212	4

Table 1. Species Counts (page 17 of 18)

Count Circle \ Species	Swamp Sparrow	White-throated Sparrow	White-crowned Sparrow	sparrow sp.	Dark-eyed (Slate-colored) Junco	Lapland Longspur	Snow Bunting	Northern Cardinal	Rose-breasted Grosbeak	Red-winged Blackbird	Eastern Meadowlark	Rusty Blackbird	Common Grackle
1. Chincoteague	148	1,088	...	...	875	...	...	305	...	1,811	48	39	276
2. Wachapreague	8	460	...	...	901	...	...	136	...	831	47	...	22
3. Nassawaddox	104	314	...	...	261	...	...	89	...	841	47	...	1
4. Cape Charles	95	663	5	...	608	CW	...	274	...	1,002	40	...	113
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Little Creek	17	176	...	...	28	...	...	108	...	392	3	7	57
7. Back Bay	14	161	...	...	67	...	...	105	...	5,000	20	...	678
8. Nansemond River	81	392	...	...	242	...	...	140	...	5,689	95	...	610
9. Newport News	26	534	...	11	410	2	14	241	...	1,650	13	46	278
10. Mathews County	1	461	...	...	1,442	...	...	321	...	2,391	40	30	66
11. Williamsburg	84	1,059	...	...	687	...	...	323	CW	867	45	1	224
12. Hopewell	473	985	6	...	371	...	...	206	...	370	113	...	3,202
13. Walkerton	57	1,406	1	...	692	...	...	276	...	27,461	99	...	7,174
14. Washingtons Birthplace	40	678	12	...	431	...	...	118	...	1,127	...	...	1,051
15. Brooke	55	451	1	...	585	...	...	181	...	1,046	3	52	406
16. Fort Belvoir	256	3,623	12	...	2,614	...	...	1,185	...	2,329	9	66	485
17. Central Loudoun County	60	1,049	27	...	1,213	...	...	552	...	502	27	...	1,261
18. The Plains	120	904	35	...	1,429	...	...	269	...	307	43	50	...
19. Manassas-Bull Run	11	815	6	...	1,658	...	...	689	...	53	48	...	5
20. Nokesville	82	560	38	...	765	...	...	186	...	2,409	25	177	23,241
21. Chancellorsville	...	53	3	...	287	...	...	60	...	20	...	...	...
22. Lake Anna	4	108	...	...	489	...	...	40	...	120	3	1	...
23. Gordonsville	...	111	5	...	427	...	...	96	...	5	6	...	65
24. Charlottesville	20	989	52	...	366	...	...	284	...	250	...	...	15
25. Warren	12	607	87	...	409	...	...	114	...	...	35	...	2
26. Darlington Heights	21	163	24	...	470	...	...	74	...	2	96	...	176
27. Banister River	27	231	...	...	220	...	...	101	...	140	39	150	53
28. Lynchburg	5	485	7	...	768	...	...	266	...	1	1	...	3
29. Chatham	2	15	2	...	55	...	...	7	...	...	6	...	...
30. Danville	2	58	...	...	56	...	...	46	...	...	5	...	...
31. Calmes Neck	15	625	192	...	1,093	...	...	444	...	2	1	1	141
32. N. Shenandoah Valley	18	1,029	117	...	1,565	...	...	585	...	82	9	7	5
33. Shenandoah NP-Luray	5	286	77	...	546	...	...	211	...	10	9	...	...
34. Big Flat Mountain	...	61	...	...	132	...	...	19	...	...	...	...	...
35. Rockingham County	1	293	266	...	556	...	...	231	...	6	3	...	...
36. Augusta County	2	334	119	...	404	...	...	193	...	...	9	...	...
37. Waynesboro	8	388	118	...	594	...	...	190	...	...	23	...	...
38. Lexington	7	443	168	...	602	...	...	211	...	...	11	...	...
39. Peaks of Otter	...	77	1	...	137	...	...	16	...	...	...	...	...
40. Fincastle	1	105	61	...	165	...	...	103	...	...	22	...	...
41. Roanoke	2	129	...	...	196	...	...	130	...	...	...	...	...
42. Blacksburg	3	439	150	...	292	...	...	336	...	...	15	2	...
43. Giles County	...	44	13	...	103	...	...	77	...	...	2	...	...
44. Tazewell	1	16	36	...	49	...	...	56	...	...	...	...	...
45. Mount Rogers-Whitetop	...	19	2	...	36	...	...	40	...	...	...	...	...
46. Glade Spring	1	145	166	...	64	...	...	160	...	...	41	...	...
47. Blackford	...	34	52	...	22	...	...	66	...	2	6	...	...
48. Bristol	9	102	43	...	67	...	...	159	...	2	36	...	...
49. Buchanan County	6	39	...	...	165	...	...	166	...	...	...	...	...
50. Breaks Interstate Park	1	37	35	...	38	...	...	86	...	...	48	CW	2
51. Wise County	9	20	...	...	52	...	...	70	...	8	...	...	...
Totals	1,914	23,264	1,939	11	25,704	2	14	10,341	CW	56,728	1,191	629	39,612

Table 1. Species Counts (page 18 of 18)

Species / Count Circle	Boat-tailed Grackle	Brown-headed Cowbird	small blackbird sp.	blackbird sp.	Baltimore Oriole	Purple Finch	House Finch	Red Crossbill	Pine Siskin	American Goldfinch (Spinus)	House Sparrow
1. Chincoteague	74	101	...	...	...	2	59	...	1	346	64
2. Wachapreague	43	60	241	...	...	7	64	...	17	151	40
3. Nassawaddox	9	12	...	821	...	9	42	...	...	109	3
4. Cape Charles	108	41	...	50	1	16	77	...	54	173	50
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...	...
6. Little Creek	67	140	...	...	CW	...	49	...	4	124	20
7. Back Bay	50	900	...	...	...	...	22	...	...	47	1
8. Nansemond River	58	178	...	...	1	6	84	...	25	137	31
9. Newport News	14	33	...	215	...	...	101	...	7	171	178
10. Mathews County	40	31	...	70	...	1	67	...	...	237	24
11. Williamsburg	...	26	...	...	1	...	170	...	2	169	33
12. Hopewell	...	42	...	...	5	2	15	...	...	216	14
13. Walkerton	...	157	...	50,278	...	2	10	...	4	235	33
14. Washingtons Birthplace	...	5	...	50	...	2	3	...	1	134	34
15. Brooke	...	...	...	...	2	2	45	...	2	89	26
16. Fort Belvoir	...	21	...	3	...	3	228	...	16	473	846
17. Central Loudoun County	...	3	...	20	...	27	308	...	7	210	236
18. The Plains	...	564	...	...	...	21	73	...	...	207	58
19. Manassas-Bull Run	...	1	...	...	...	3	145	...	12	316	255
20. Nokesville	...	...	...	...	...	...	48	...	5	245	89
21. Chancellorsville	...	...	...	...	...	...	30	...	...	66	5
22. Lake Anna	...	...	...	...	...	1	26	...	...	96	18
23. Gordonsville	...	...	...	...	...	...	12	...	12	53	16
24. Charlottesville	...	1	...	...	...	14	116	...	1	332	69
25. Warren	...	...	...	...	...	10	36	...	...	155	5
26. Darlington Heights	...	43	...	...	...	2	34	...	10	89	3
27. Banister River	...	CW	...	...	...	1	54	...	...	63	12
28. Lynchburg	...	8	...	...	...	4	181	...	...	204	85
29. Chatham	...	35	...	...	...	...	2	...	...	7	1
30. Danville	...	...	...	...	...	3	22	...	...	12	6
31. Calmes Neck	...	10	...	35	...	11	144	...	21	297	182
32. N. Shenandoah Valley	...	15	...	...	...	65	287	...	...	421	176
33. Shenandoah NP-Luray	...	...	...	...	...	5	31	...	...	141	66
34. Big Flat Mountain	...	...	...	...	...	...	...	...	24	22	...
35. Rockingham County	...	...	...	...	...	CW	123	...	3	201	448
36. Augusta County	...	CW	...	...	...	1	121	...	...	261	177
37. Waynesboro	...	...	...	...	...	11	120	...	8	205	125
38. Lexington	...	2	...	...	...	24	110	...	...	245	...
39. Peaks of Otter	...	...	...	...	...	...	...	...	20	35	...
40. Fincastle	...	...	...	...	...	4	33	...	1	58	24
41. Roanoke	...	...	...	...	...	2	87	3	...	97	34
42. Blacksburg	...	...	...	...	1	20	177	...	40	422	52
43. Giles County	...	...	...	...	...	16	30	...	30	64	39
44. Tazewell	...	...	...	...	...	2	2	...	...	8	62
45. Mount Rogers-Whitetop	...	...	...	...	...	...	...	...	...	15	3
46. Glade Spring	...	...	...	...	...	CW	22	...	CW	93	25
47. Blackford	...	...	...	...	...	4	38	...	1	88	61
48. Bristol	...	...	...	...	...	...	43	...	6	74	22
49. Buchanan County	...	...	...	...	...	1	17	...	10	94	11
50. Breaks Interstate Park	...	...	...	...	...	1	6	...	CW	22	15
51. Wise County	...	...	...	...	...	7	32	...	1	100	37
Totals	463	2,481	241	51,542	11	312	3,546	3	345	7,829	3,814

Table 2. Field Collection and Meteorological Data; Count Compilers and Sponsors (page 1 of 4)

Count Circle	Total Species	Total Individuals	Count Date	No. of Observers	Min. No. Parties	Max. No. Parties	No. Feeder Observers	Hours at feeders	Hours Owling	Miles Owling	Hours on Foot
1. Chincoteague	133	32,128	Dec 29	41	17	17	...	...	4.00	6.00	41.00
2. Wachapreague	119	42,713	Dec 20	24	11	15	1	2.00	...	...	25.50
3. Nassawaddox	121	29,891	Dec 21	31	9	9	...	...	1.00	1.00	41.00
4. Cape Charles	147	37,657	Dec 30	46	11	15	...	...	3.00	10.00	76.00
5. Chesapeake Bay	35	11,108	Dec 26	3	1	1	...	...	...	...	10.00
6. Little Creek	123	21,076	Dec 31	19	9	16	...	...	4.00	4.50	77.00
7. Back Bay	121	26,393	Dec 29	20	8	10	...	...	3.00	3.00	57.00
8. Nansemond River	134	37,065	Jan 02	32	12	13	...	...	6.00	33.00	72.50
9. Newport News	124	20,751	Dec 20	50	15	15	1	2.00	2.50	5.00	55.00
10. Mathews County	104	17,721	Jan 04	49	17	17	...	...	4.00	10.50	61.00
11. Williamsburg	120	23,057	Dec 14	93	12	21	21	32.00	7.00	25.00	110.00
12. Hopewell	117	47,699	Dec 14	42	15	15	...	...	4.00	18.00	50.00
13. Walkerton	101	114,731	Jan 04	27	1	10	...	...	4.50	38.00	54.50
14. Washingtons Birthplace	103	42,476	Dec 14	16	5	7	...	...	4.00	13.50	32.00
15. Brooke	98	26,060	Dec 15	34	12	17	4	3.00	...	...	68.00
16. Fort Belvoir	114	97,031	Jan 04	173	66	67	4	5.00	21.50	21.50	314.00
17. Central Loudoun County	95	29,978	Dec 27	100	25	31	1	1.00	2.50	12.50	116.50
18. The Plains	94	33,653	Dec 14	32	28	32	...	...	5.00	45.00	31.00
19. Manassas-Bull Run	89	23,690	Dec 14	121	34	34	1	3.00	4.00	8.00	140.50
20. Nokesville	94	44,986	Dec 28	42	11	16	3	6.00	1.50	1.00	66.00
21. Chancellorsville	64	4,273	Jan 04	25	8	8	3	5.50	...	...	31.50
22. Lake Anna	75	8,038	Jan 04	18	3	3	...	...	4.00	46.00	1.50
23. Gordonsville	67	6,427	Dec 28	26	6	6	4	2.00	...	...	15.00
24. Charlottesville	74	11,906	Dec 14	47	18	19	2	6.00	1.00	5.00	100.00
25. Warren	74	6,406	Jan 04	14	2	8	...	...	...	...	44.50
26. Darlington Heights	67	4,474	Jan 04	17	4	4	...	...	2.00	25.50	11.00
27. Banister River	80	4,175	Dec 14	10	7	7	...	...	2.50	15.00	45.00
28. Lynchburg	77	8,192	Dec 20	35	13	13	2	11.00	6.00	19.50	46.00
29. Chatham	47	426	Dec 28	1	1	1	1	0.50	2.00	...	2.00
30. Danville	51	1,434	Dec 27	9	5	5	3	2.50	...	...	3.00
31. Calmes Neck	88	21,500	Jan 04	51	13	23	1	4.00	4.50	8.00	51.50
32. N. Shenandoah Valley	87	19,649	Dec 20	45	20	20	1	3.00	1.00	9.00	60.50
33. Shenandoah NP-Luray	77	7,422	Dec 21	27	7	9	7	15.50	1.00	2.50	22.00
34. Big Flat Mountain	33	516	Dec 26	4	3	3	...	...	1.00	3.00	16.00
35. Rockingham County	75	11,579	Dec 20	35	1	12	4	12.00	3.50	28.00	16.00
36. Augusta County	75	8,238	Dec 14	28	8	8	4	3.00	4.00	40.00	3.00
37. Waynesboro	72	7,230	Jan 03	22	10	10	5	16.50	...	...	17.00
38. Lexington	73	7,594	Dec 20	28	1	15	3	5.00	1.50	13.00	41.00
39. Peaks of Otter	37	615	Dec 21	8	4	4	...	...	...	...	3.50
40. Fincastle	75	4,033	Dec 14	33	13	13	...	...	1.00	0.00	23.00
41. Roanoke	68	4,759	Dec 20	28	1	15	...	...	...	...	43.00
42. Blacksburg	81	15,181	Dec 20	51	21	22	10	30.00	8.00	31.00	73.00
43. Giles County	59	1,910	Dec 27	17	6	6	...	...	2.00	10.00	21.00
44. Tazewell	67	2,605	Dec 30	7	4	4	2	2.00	...	...	2.00
45. Mount Rogers-Whitetop	44	871	Dec 28	2	2	2	...	...	...	...	2.00
46. Glade Spring	76	7,699	Jan 04	21	8	8	1	2.00	6.50	21.00	20.00
47. Blackford	65	3,650	Dec 27	21	6	6	...	...	2.00	1.00	8.00
48. Bristol	78	6,994	Dec 28	21	6	6	2	7.00	5.00	18.00	28.00
49. Buchanan County	45	1,923	Dec 14	11	5	5	1	3.00	1.00	0.00	1.00
50. Breaks Interstate Park	51	1,125	Dec 20	7	4	4	2	4.50	2.00	0.00	4.00
51. Wise County	51	3,003	Dec 20	16	6	10	1	6.00	0.50	0.00	20.50
Totals	204	953,711	...	1680	535	657	95	195.00	143.50	551.00	2,274.00

Table 2. Field Collection and Meteorological Data; Count Compilers and Sponsors (page 2 of 4)

Count Circle	Hours by Car	Hours by Golfcart	Hours by Motorboat	Hours by Unmotored Boat	Total party hours	Miles on Foot	Miles by Car	Miles by Golfcart	Miles by Motorboat	Miles by Unmotored Boat
1. Chincoteague	70.00	...	...	...	111.00	55.00	290.00	...	...	...
2. Wachapreague	53.00	...	2.00	...	80.50	19.50	384.00	...	20.00	...
3. Nassawaddox	29.00	...	3.00	...	73.00	22.00	240.00	...	20.00	...
4. Cape Charles	24.00	...	4.00	...	104.00	57.00	138.00	...	15.00	...
5. Chesapeake Bay	...	...	...	...	10.00	...	...	...	...	...
6. Little Creek	10.00	...	...	...	87.00	34.00	230.00	...	...	...
7. Back Bay	14.00	...	...	...	71.00	19.00	249.00	...	...	...
8. Nansemond River	30.00	...	6.00	...	108.50	39.00	374.00	...	6.00	...
9. Newport News	55.00	...	...	...	110.00	42.50	358.00	...	...	...
10. Mathews County	73.00	...	...	...	134.00	44.00	455.00	...	...	...
11. Williamsburg	35.00	...	0.50	...	145.50	61.00	228.00	...	2.00	...
12. Hopewell	43.00	...	2.50	...	95.50	36.50	266.00	...	5.50	...
13. Walkerton	48.50	...	4.00	...	107.00	25.00	413.00	...	10.00	...
14. Washingtons Birthplace	26.00	...	7.00	...	65.00	17.50	238.50	...	8.00	...
15. Brooke	46.00	...	...	...	114.00	45.00	190.00	...	...	...
16. Fort Belvoir	54.00	...	...	...	368.00	220.00	297.00	...	...	...
17. Central Loudoun County	62.00	1.00	...	...	179.50	97.50	527.50	2.00	...	...
18. The Plains	62.00	...	...	...	93.00	24.00	272.00	...	...	...
19. Manassas-Bull Run	33.50	...	...	...	174.00	112.00	384.00	...	...	...
20. Nokesville	26.00	...	...	...	92.00	29.50	183.00	...	...	...
21. Chancellorsville	17.00	...	...	...	48.50	22.50	272.50	...	...	...
22. Lake Anna	19.00	...	...	...	20.50	3.00	235.00	...	...	...
23. Gordonsville	31.00	...	...	...	46.00	8.00	380.00	...	...	...
24. Charlottesville	21.00	...	...	4.00	125.00	76.00	223.00	...	...	4.00
25. Warren	16.00	...	...	...	60.50	42.50	158.00	...	...	...
26. Darlington Heights	28.00	...	...	...	39.00	9.50	212.00	...	...	...
27. Banister River	8.00	...	...	...	53.00	24.00	143.00	...	...	...
28. Lynchburg	44.00	...	...	...	90.00	28.00	239.00	...	...	...
29. Chatham	5.50	...	...	...	7.50	0.50	110.00	...	...	...
30. Danville	13.00	...	...	...	16.00	4.50	112.00	...	...	...
31. Calmes Neck	67.00	...	...	...	118.50	48.00	577.00	...	...	...
32. N. Shenandoah Valley	73.50	...	...	4.00	138.00	44.00	500.00	...	...	5.50
33. Shenandoah NP-Luray	41.50	...	...	...	63.50	28.50	288.50	...	...	...
34. Big Flat Mountain	3.00	...	...	...	19.00	17.00	40.50	...	...	...
35. Rockingham County	65.50	...	...	...	81.50	10.00	399.50	...	...	...
36. Augusta County	56.50	...	...	...	59.50	10.50	635.50	...	...	...
37. Waynesboro	46.00	...	...	...	63.00	12.50	395.00	...	...	...
38. Lexington	33.50	...	...	...	74.50	34.00	343.00	...	...	...
39. Peaks of Otter	6.00	...	...	...	9.50	6.50	27.00	...	...	...
40. Fincastle	39.00	...	...	...	62.00	19.00	205.00	...	...	...
41. Roanoke	23.00	...	...	...	66.00	34.00	102.00	...	...	...
42. Blacksburg	35.00	...	...	...	108.00	67.00	335.00	...	...	...
43. Giles County	24.00	...	...	...	45.00	23.00	177.00	...	...	...
44. Tazewell	28.00	...	...	...	30.00	2.50	144.00	...	...	...
45. Mount Rogers-Whitetop	12.00	...	...	...	14.00	2.00	152.00	...	...	...
46. Glade Spring	41.00	...	...	...	61.00	15.00	425.50	...	...	...
47. Blackford	36.00	...	...	...	44.00	6.00	500.00	...	...	...
48. Bristol	24.50	...	...	...	52.50	11.00	327.00	...	...	...
49. Buchanan County	40.00	...	...	...	41.00	2.00	340.00	...	...	...
50. Breaks Interstate Park	27.00	...	...	...	31.00	3.00	240.00	...	...	...
51. Wise County	40.50	...	...	...	61.00	53.00	224.00	...	...	...
Totals	1,759.00	1.00	29.00	8.00	4,041.00	1,668.00	14,179.00	2.00	86.50	935.00

Table 2. Field Collection and Meteorological Data; Count Compilers and Sponsors (page 3 of 4)

Count Circle	Total Party Miles	Time Count Started	Time Count Ended	Low Temp. (degrees F)	High Temp. (degrees F)	Wind Direction	Wind Speed	Water Conditions	A.M. Skies
1. Chincoteague	345.00	0600	1745	40	45	NE	5-15	WOP	CLD, LGR
2. Wachapreague	423.50	0630	1630	28	37	NW	0-5	WOP	CLD
3. Nassawaddox	282.00	0800	1700	32	45	CALM	...	SWO, MPO	CLD
4. Cape Charles	210.00	0530	1800	41	45	N	15-30	WOP	CLD, LGR
5. Chesapeake Bay	1.00	0700	1700	37	58	NE	2	WOP	CLR
6. Little Creek	264.00	0500	1730	27	43	NW	0-10	WOP	PCD
7. Back Bay	268.00	0530	1630	45	50	NE	15-35	WOP	CLD, HVR
8. Nansemond River	419.00	0500	1715	40	55	NW	0-4	WOP	CLD
9. Newport News	400.50	0700	1630	36	43	NE	2-10	WOP	PCD
10. Mathews County	499.00	0430	1700	44	74	SW	5-10	WOP	CLD, LGR
11. Williamsburg	291.00	0500	1700	28	54	CALM	...	WOP	CLR
12. Hopewell	308.00	0600	1900	26	60	SW	2-13	WOP	CLR
13. Walkerton	448.00	0430	1800	48	70	S	0-35	WOP	FOG, LNR
14. Washingtons Birthplace	264.00	0545	1845	27	56	SE	0-3	WOP	CLR
15. Brooke	235.00	0615	1715	35	58	W	0-4	WOP	CLR
16. Fort Belvoir	517.00	0400	1800	45	66	NE	0-10	WOP	CLD. LGR
17. Central Loudoun County	627.00	0500	1800	28	59	CALM	...	WOP	CLR
18. The Plains	296.00	0230	1745	20	40	UNK	...	WOP	CLR
19. Manassas-Bull Run	496.00	0500	1800	34	52	UNK	11-24	WOP	CLD
20. Nokesville	212.50	0530	1900	37	58	NE	2-9	WOP	CLD
21. Chancellorsville	295.00	0700	1700	45	61	CALM	...	WOP	CLD, LGR
22. Lake Anna	238.00	0430	1700	34	58	UNK	5-10	WOP	FOG, LGR
23. Gordonsville	388.00	0730	1700	36	45	NW	5-15	WOP	PCD, LGR
24. Charlottesville	303.00	0600	1745	39	60	SW	6-10	MWO, SPF	CLR
25. Warren	200.50	0700	1700	43	62	SSW	0-5	WOP	CLD, LGR
26. Darlington Heights	221.50	0700	1700	45	63	SW	5-15	WOP	CLD
27. Banister River	167.00	0500	1730	30	57	NW	8	WOP	CLR
28. Lynchburg	267.00	0300	1900	25	36	SW	1-8	SPO, MWO	CLD, LSN
29. Chatham	110.50	0715	1530	50	61	SW	6-17	WOP	CLR
30. Danville	116.50	0800	1800	32	65	CALM	...	WOP	PCD
31. Calmes Neck	625.00	0630	1730	33	66	SW	0-8	WOP	CLD, HVR
32. N. Shenandoah Valley	549.50	0630	1730	24	36	N	2-5	WOP	CLR
33. Shenandoah NP-Luray	317.00	0630	1800	26	45	NW	0-5	SPF, MWO	CLD
34. Big Flat Mountain	57.50	0630	1630	23	56	S	0-7	SWO, MPF	CLR
35. Rockingham County	409.50	0500	1800	22	15	CALM	...	SPF, MWO	CLD, LSN
36. Augusta County	646.00	0430	1700	26	53	S	1-3	WOP	CLR
37. Waynesboro	407.50	0715	1700	30	43	V	0-20	WOP	CLD, LGR
38. Lexington	377.00	0530	1800	26	40	CALM	...	WOP	PCD
39. Peaks of Otter	33.50	0730	1230	30	40	UNK	0-5	WOP	CLD
40. Fincastle	224.00	0630	1630	37	45	NW	10-15	WOP	CLR
41. Roanoke	136.00	0730	1700	32	40	N	0-10	WOP	CLD, LSN
42. Blacksburg	402.00	0530	1745	27	35	E	0-4	WOP	CLD, LGR
43. Giles County	200.00	0500	1800	32	50	UNK	0-5	WOP	PCR
44. Tazewell	146.50	0730	1730	21	38	V	5-8	WOP	CLD
45. Mount Rogers-Whitetop	154.00	0830	1715	44	52	W	2-10	WOP	CLD
46. Glade Spring	440.50	0600	1800	53	63	UNK	5-10	WOP	CLD, HVR
47. Blackford	506.00	0500	1800	24	43	CALM	...	WOP	CLD
48. Bristol	338.00	0730	1730	45	49	NW	0-8	WOP	CLD, LGR
49. Buchanan County	342.00	0700	1700	26	37	UNK	3-5	WOP	CLD
50. Breaks Interstate Park	243.00	0600	1700	27	42	NW	5-7	WOP	CLD, LSN
51. Wise County	277.00	0600	1900	34	41	CALM	...	WOP	CLD, LSN
Totals	15,945.00	...	...	...	...	...	...	...	...

Table 2. Field Collection and Meteorological Data; Count Compilers and Sponsors (page 4 of 4)

Count Circle	P.M. Skies	Primary Compiler	Secondary Compiler	Sponsors & Organizations
1. Chincoteague	CLD, HLR	Kevin Holcomb	...	Chincoteague NWR, Chincoteague Natural History Association
2. Wachapreague	CLD	Marilyn Ailes	Irv Ailes	...
3. Nassawaddox	CLR	Henry Armistead	...	Coastal Virginia Wildlife Observatory
4. Cape Charles	PCR, LGR	Henry Armistead	...	Coastal Virginia Wildlife Observatory
5. Chesapeake Bay	CLR	Ned Brinkley	...	...
6. Little Creek	CLR	Paul Sykes	Steve Holzman	Cape Henry Audubon
7. Back Bay	CLD, HVR	Paul Sykes	...	Cape Henry Audubon Society
8. Nansemond River	CLD	Bob Ake	...	Cape Henry Audubon
9. Newport News	CLR	Nancy Gruttman-Tyler	...	Hampton Roads Bird Club
10. Mathews County	PCD	Don McKelvey	Joyce Mckelvey	...
11. Williamsburg	CLR	Bill Williams	...	Williamsburg Bird Club
12. Hopewell	CLR	Arun Bose	...	Richmond Audubon Society
13. Walkerton	PCD, LNR	Fred Atwood	...	...
14. Washingtons Birthplace	CLR	Bill Portock	...	...
15. Brooke	CLR	Odette James	...	...
16. Fort Belvoir	CLD	Kurt Gaskill	...	One Good Tern
17. Central Loudoun County	CLR	Joseph Coleman	...	Loudoun Wildlife Conservancy
18. The Plains	CLR	Peri Rothemich	Todd Day	...
19. Manassas-Bull Run	CLR	Robert Shipman	...	Audubon Society of Northern Virginia
20. Nokesville	CLD, LGR	Kim Hosen	...	Prince William Conservation Alliance
21. Chancellorsville	PCD	Beverly Arnold	...	Fredericksburg Bird Club
22. Lake Anna	CLR	Michael Boatwright	...	...
23. Gordonsville	PCR, LGR	Buzz VanSantvoord	...	...
24. Charlottesville	CLR	Jennifer Gaden	...	Monticello Bird Club
25. Warren	CLD, LGR	Allen Hale	...	Monticello Bird Club
26. Darlington Heights	CLD	Carolyn Wells	...	Margaret Watson Bird Club
27. Banister River	CLR	Jeff Blalock	...	...
28. Lynchburg	CLD	John Styrsky	...	Lynchburg Bird Club
29. Chatham	PCD	Mary Foster	...	Southside Bird Club
30. Danville	CLR	Laura Meder	...	...
31. Calmes Neck	PCR	Margaret Wester	...	Shenandoah Audubon
32. N. Shenandoah Valley	CLR	Charles Hagan	Rob Simpson	Lord Fairfax Community College
33. Shenandoah NP-Luray	CLR	Alan Williams	...	...
34. Big Flat Mountain	CLR	Tom Wieboldt	George Barlow	...
35. Rockingham County	CLD	William Benish	...	Rockingham County Bird Club
36. Augusta County	CLR	Allen Larner	...	Augusta Bird Club
37. Waynesboro	CLD	Crista Cabe	...	...
38. Lexington	CLR	Dick Rowe	...	...
39. Peaks of Otter	CLD	Eunice Hudgins	...	...
40. Fincastle	CLR	Barry Kinzie	...	Woodpecker Nature Center, Roanoke Valley Bird Club
41. Roanoke	CLD	William Hunley	...	...
42. Blacksburg	CLD	Patricia Polentz	Bruce Grimes	New River Valley Bird Club
43. Giles County	PCR	Bill Opengari	...	...
44. Tazewell	CLD	Sarah Cromer	...	...
45. Mount Rogers-Whitetop	CLD, LGR	Allen Boynton	...	...
46. Glade Spring	PCD	Ron Harrington	...	Bristol Bird Club
47. Blackford	CLD	Robert Riggs	...	...
48. Bristol	CLD, LGR	Richard Lewis	...	...
49. Buchanan County	CLD	Tom Hunter	...	Buchanan County Bird Club
50. Breaks Interstate Park	PCR	Dave Raines	...	...
51. Wise County	CLD	Randy Stanley	...	...
Totals	...	...	...	...

2014 ANNUAL REPORT OF THE VIRGINIA AVIAN RECORDS COMMITTEE

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The members of the 2014 Virginia Avian Records Committee (VARCOM) were Bill Williams (Chair), Wendy Ealding (Secretary), Andrew Baldelli, Nick Flanders, Dick Rowe, Adam D'Onofrio, Mike Stinson, Lee Adams and Kieran Kilday.

The Committee held an annual meeting in Lexington on March 8, 2014. Dick Rowe was appointed as Vice Chair. Among the topics discussed were:

- revisions of the bylaws to provide additional clarity
- the format of the Annual Report
- the location of the VARCOM archives
- VARCOM's role within VSO in relation to *Virginia Birds* and future issue of *Virginia's Birdlife: An Annotated Checklist*
- VARCOM's interface with eBird review
- VARCOM's involvement with a possible second Breeding Bird Atlas
- Possible change in the review status of species that are declining and that are not currently on the Review List.

Subsequent to the meeting, the Committee voted electronically to change the status of Trumpeter Swan (*Cygnus buccinator*) from Category 4 to Category 5, and adding it to the Review List. This was in response to numerous Mountains and Valleys reports of the species, as well as evolving knowledge of the status and distribution of reintroduced birds and their offspring. Making the species reviewable will help monitor the presence of the species in the state. This change and the minor bylaws revisions mentioned above were approved by the VSO Board of Directors at their November 15, 2014 meeting.

During the year, ODU graduate students Scott Pardue and Avinash Gosavi continued work on the DOVES (Database for Ornithological Verification and Submissions) online data entry and records management system. After multiple rounds of additional testing using real submissions, the program was posted to a commercial web host under the domain name vsodoves.org. A further round of testing at this new site was planned for early 2015 prior to general release.

The following decisions were made by the Virginia Avian Records Committee during calendar year 2014. Accepted records fall into one of the following Categories, as specified in VSO bylaws:

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

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

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

Category 4. Records that are judged to be acceptable by historical standards but that may not meet current standards of acceptance, including extinct species that once occurred in Virginia, for which there is no clear written or physical evidence. In this Category, VARCOM currently includes Eskimo Curlew and Carolina Parakeet. No status or Category is given to Labrador Duck, Greater Prairie-Chicken, Whooping Crane, Great Auk, or Ivory-billed Woodpecker, which may have occurred in Virginia in centuries past but for which no extant conclusive documentation is known.

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

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

The Committee vetted 74 records in 2014; 70 were accepted, four were not accepted.

Three new species, Bermuda Petrel (*Pterodroma cahow*), White-crowned Pigeon (*Patagioenas leucocephala*) and Crested Caracara (*Caracara cheriway*) were added to the official state list. The official state list now stands at 471 species.

Highlights for 2014 included multiple White-winged Scoter records from both the Mountains and Valleys and Piedmont, probably a response to the abnormally cold weather to the north, and three Purple Gallinule records, including a first winter record for the Coastal Plain. Among shorebirds, a *hudsonicus* ssp. Whimbrel was a third Piedmont record. A third state and Coastal Plain record of Bar-tailed Godwit was the first since 1991, and the first with photographic evidence. The major Snowy Owl irruption of the 2013-2014 winter season produced four accepted records with several more currently in review. Among flycatchers, there were four Say's Phoebe records; a Vermilion Flycatcher was the third state and Coastal Plain record. Five Western Tanager records included three from the Piedmont.

RECORDS ACCEPTED:

BLACK-BELLIED WHISTLING-DUCK (*Dendrocygna autumnalis)* Two records as follows:

One adult, Frederick County [Little and Little] July 16-17, 2013; accepted Category 1 (ph. †). This was the second Mountains and Valleys record.

Five adults, Hog Island WMA, Surry County [D'Onofrio, Williams] August 6, 2014; accepted Category 1 (ph. †). Two of these birds had been color banded in late July or early August 2014 in the Santee Delta of South Carolina by the SC Dept. of Natural Resources, as part of a multi-state project to examine the distribution and movement patterns of the species. Based upon casual observation, the species is undergoing a range expansion through the Southeast from its traditional Gulf Coast range. This was the 12th state and seventh Coastal Plain record.

GREATER WHITE-FRONTED GOOSE (*Anser albifrons)* Four records as follows:

One individual, near Scottsville, Fluvanna County [Mapel] December 15-16, 2013; accepted Category 1 (ph. †). This was the fifth Piedmont record since the 2004 Review List.

Two individuals, Stuarts Draft, Augusta County [Laubach] December 24, 2013 – February 2, 2014; accepted Category 1 (ph. †). This was the tenth Mountains and Valleys record since the 2004 Review List.

Three individuals, Federal Hill, Clarke County [Carr] January 31, 2014; accepted Category 1 (ph. †). This was the 11th Mountains and Valleys record since the 2004 Review List.

One individual, Rockbridge County [Rowe] February 22 and March 2, 2014; accepted Category 1 (ph. †). This was the 12th Mountains and Valleys record since the 2004 Review List.

ROSS'S GOOSE (*Chen rossii)* Two records as follows:

One individual, Gap Run Road Pond, Fauquier County [Kenny, Taylor, Borowiecki] October 20 – November 6, 2013; accepted Category 1 (ph. †). This was the first Piedmont record to be accepted by VARCOM although according to Rottenborn and Brinkley (2007) there were five prior records.

One adult, Laurel Fork Road, Highland County [Spahr, Spahr, Carson, Reum] November 16-17, 2013; accepted Category 1 (ph. †). Although the species was removed from the Review List for the Mountains and Valleys in

2012, this was a courtesy review as it was the first record for Highland County.

CHEN sp. GOOSE. One individual, Goode, Bedford County [Elder, Johnson, Held] November 30 – December 10, 2013 and again on December 22, 2013; accepted Category 1 as *Chen sp.* (ph. †). This report was submitted as Ross's Goose or possibly a Ross's X Snow Goose hybrid. The Committee concurred that this was not a pure Ross's Goose based on overall size, head shape and bill shape, and that it appeared it was a probable hybrid of some kind, the exact nature of which was not clear. There is one prior (2002) report of an apparent Ross's X Snow Goose hybrid for the Piedmont (Rottenborn and Brinkley, 2007).

CACKLING GOOSE (*Branta hutchinsii)* Two records as follows:

Thirteen individuals, Stuarts Draft, Augusta County [Laubach] December 24-25, 2013 then intermittently through February 3, 2014; accepted Category 1 (ph. †). This was the third Mountains and Valleys record accepted since the 2004 split from Canada Goose.

One individual, Chris Greene Lake, Albemarle County [Jones] January 3, 2014; accepted Category 1 (ph. †). This was the fifth Piedmont record accepted since the 2004 split from Canada Goose.

EURASIAN GREEN-WINGED TEAL (*Anas crecca crecca)* One adult male, Chincoteague NWR, Accomack County [Eder] December 12, 2013; accepted Category 1 (ph.†). This was the fourth state and Coastal Plain record accepted since 2012.

HARLEQUIN DUCK (*Histrionicus histrionicus)* Two females, Yorktown Beach, York County [Williams, Koppel] December 21-31, 2013; accepted Category 1 (ph. †). This was the first county and Colonial Historic Triangle (Williamsburg, James City County, York County, Hog Island, Surry County) record.

WHITE-WINGED SCOTER (*Melanitta fusca)* Ten records as follows:

One juvenile, two adults, Thrashers Lake Park, Amherst County [Johnson, Mateski] November 17, 2013; accepted Category 1 (ph. †). This was the seventh Piedmont record accepted since the 2004 Review List.

One individual, Kerr Reservoir, Mecklenburg County [Blalock, Glass] January 2 – March 11, 2014; accepted Category 1 (ph. †). This was the eighth Piedmont record accepted since the 2004 Review List.

Two individuals, Sandy River Reservoir, Prince Edward County [Stinson] January 10-11, 2014; accepted Category 1 (ph. †). This was the ninth Piedmont record accepted since the 2004 Review List.

One individual, James River Park – The Wetlands, Richmond City [Barnett] January 26 – April 2, 2014; accepted Category 1 (ph. †). This was the tenth Piedmont record accepted since the 2004 Review List.

One adult male, Page County [Trelawny] January 29, 2014; accepted Category 1 (ph. †). This was the second Mountains and Valleys record since the 2004 Review List.

One female, Old Fishersville Quarry, Augusta County [Mapel, m.obs.] January 30 and February 8, 2014; accepted Category 1 (ph. †). This was the third Mountains and Valleys record since the 2004 Review List.

One individual, Monterey Trout Hatchery, Highland County [Larner, m.obs.] February 1, 2014; accepted Category 1 (ph. †). This was the fourth Mountains and Valleys record since the 2004 Review List.

One adult male, Eagle's Nest Airport, Augusta County [Mapel, m.obs.] February 3 – March 1, 2014; accepted Category 1 (ph. †). This was the fifth Mountains and Valleys record since the 2004 Review List.

One individual, Lake Shenandoah, Rockingham County [Mapel, m.obs.] February 12, 22, March 2, 4 and 9, 2014; accepted Category 1 (ph. †). This was the sixth Mountains and Valleys record since the 2004 Review List.

Five individuals including two adult males, Bath County pump storage facility, Bath County [Mapel, Gaige] March 6, 2014; accepted Category 1 (ph. †). This was the seventh Mountains and Valleys record since the 2004 Review List.

COMMON MERGANSER (*Mergus merganser)* Two records as follows:

One adult female with three juveniles, Snowden, Amherst County [Styrsky] May 18, 2014; accepted Category 2 (†). Although the species is not on the Review List anywhere in the state, this was the fifth confirmed breeding record for the Mountains and Valleys and the first since 2003.

One adult female, Snowden, Amherst County [Driscoll] July 4, 2014; accepted Category 1 (ph. †). This bird may be the same individual that was reported at this location with three juveniles in May, 2014 (see above).

PACIFIC LOON (*Gavia pacifica)* One adult, Kerr Reservoir, Mecklenburg County [D'Onofrio, Glass, Foster, Blalock] March 23 – April 20, 2014, accepted Category 1 (ph. †).

This was the ninth Piedmont record since the 2004 Review List although this may be the same individual returning in multiple winters since 2003. There is one other record from the Piedmont, from Lake Anna in 2004.

EARED GREBE (*Podiceps nigricollis)* One individual, Dyke Marsh, Fairfax County [Meade] January 19-27, 2014; accepted Category 1 (ph. †). This was the third record for the Western Coastal Plain since the 2004 Review List.

BERMUDA PETREL (*Pterodroma cahow*) One individual, seen and photographed from the NOAA vessel *Gordon Gunter* in Virginia waters [Johnson] August 12, 2013 (ph. †). This was the first state record for the species, and according to the submitter, is perhaps one of two US records outside of North Carolina waters (the other being a juvenile photographed in June 2010 off Massachusetts).

AMERICAN WHITE PELICAN (*Pelecanus erythrorhynchos)* Three individuals, Sparks Bridge, Wythe County [Elton] May 4, 2014; accepted Category 2 (†). According to Rottenborn and Brinkley (2007), there were seven prior records for the Mountains and Valleys three of which have been accepted by VARCOM.

LITTLE BLUE HERON (*Egretta caerulea)* One individual, Lyndhurst, Augusta County [Laubach] April 23, 2013; accepted Category 1 (ph. †). Although this species is not on the Review List, this was a courtesy review for the Augusta County Records Committee. It was the second spring record for the county, and the first since 1980.

GLOSSY IBIS (*Plegadis falcinellus)* One juvenile, Rockbridge County [Rowe, Neale, Pancake] August 9-10, 2014; accepted Category 1 (ph. †). This was the third record for the Mountains and Valleys since the 2004 Review List, and the second record for Rockbridge County.

SWALLOW-TAILED KITE (*Elanoides forficatus)* One individual, Sherando Lake, Augusta County [Melton] July 26, 2012; accepted Category 2 (†). This was the first Mountains and Valleys record since 2003, and the first of three records from the late summer and fall of 2012. Details of the subsequent two records were published in the 2012 Annual Report (Ealding, 2013).

MISSISSIPPI KITE (*Ictinia mississippiensis)* One individual, Rockfish Gap Hawkwatch, Augusta and Nelson Counties [Mapel] September 3, 2013; accepted Category 1. This was the 14th record for the Mountains and Valleys accepted by VARCOM.

SWAINSON'S HAWK (*Buteo swainsoni)* One adult, Breaks, Buchanan County [Mayhorn et al.] October 26-27, 2013; accepted Category 1 (ph. †). This was the third record for the Mountains and Valleys.

CLAPPER RAIL (*Rallus crepitans)* One juvenile, Staunton View Public Use Area [Glass, Foster, D'Onofrio, Blalock] September 2, 2013; accepted Category 2 (ph. †). Although a photograph was included with this submission, the quality of the image was not definitive enough to warrant Category 1 designation; the majority of the Committee voted to accept as Category 2 based on the written documentation. This was the first Piedmont record since 1984.

PURPLE GALLINULE (*Porphyrio martinicus)* Three records as follows:

One individual, Virginia Beach [Roberts] December 20, 2013; accepted Category 1 (ph. †). This bird was found on a balcony of a condominium in Virginia Beach, then taken in by a local wildlife rehabilitator. Subsequently it was transferred to Peace River Wildlife Center in Punta Gorda, FL prior to release in Port Charlotte, FL in February 2014. This was the first Coastal Plain winter record.

One adult, Waynesboro [Mapel] April 2-7, 2014; accepted Category 1 (ph. †). This bird was picked up in Waynesboro by staff from the Wildlife Center of Virginia after it was attacked by a cat. It was treated and released at Back Bay NWR. This was the first Mountains and Valleys record since the 2004 Review List, and the first record for Augusta County.

One adult, Loft Springs, Waynesboro [Larner, Laubach, Tekin, m.obs.] May 25 – June 13, 2014; accepted Category 1 (ph. †). This was the second Mountains and Valleys record since the 2004 Review List and the second for Augusta County.

SANDHILL CRANE (*Grus canadensis)* One individual, Woodbridge, Prince William County [Chittum] November 24, 2013; accepted Category 1 (ph. †). This was the seventh accepted Piedmont record.

WILLET *(Tringa semipalmata)* Two records as follows:

One individual, Union Springs Hollow Lake, Rockingham County [Shank, m.obs.] May 6, 2014; accepted Category 1 (ph. †). This was the second Mountains and Valleys record since the 2004 Review List.

One individual, Old Farm Road, Rockbridge County [Rowe] August 9, 2014; accepted Category 1 (ph. †). This was the third Mountains and Valleys record since the 2004 Review List.

WHIMBREL (*Numenius phaeopus)* One individual, Woodward Turf Farm, Culpeper County [Chittum] July

27, 2013; accepted Category 1 (ph. †). This was the third Piedmont record. It was recommended the record should be noted as the *hudsonicus* ssp. in light of a possible future split from the nominate European *phaeopus* subspecies.

BAR-TAILED GODWIT (*Limosa lapponica lapponica)* One individual, Chincoteague NWR, Accomack County. This bird was first reported by Allen Larner, Elaine Carwile and Penny Warren on August 3, 2013 but not conclusively identified until August 4, 2013 by Ernie Miller. Adam D'Onofrio observed the bird on August 6, 2013 and submitted a report to VARCOM. eBird records indicate that the bird was seen by many observers through September 28, 2013 and then refound by Scott Barnes and Linda Mack on November 9, 2013; they also submitted a report to VARCOM. The D'Onofrio and Barnes and Mack records were both accepted as Category 1 (ph. †), and are the third records for the state and Coastal Plain, as well as the first records with photographic evidence. This was the first state record since 1991.

MARBLED GODWIT (*Limosa fedoa)* One individual, Willow Lake, Rockbridge County [Rowe] July 29-30, 2014; accepted Category 1 (ph. †). This was the second Mountains and Valleys record and the first for Rockbridge County.

RED-NECKED PHALAROPE (*Phalaropus lobatus)* One adult female, Mill Creek Lake Park, Amherst County [Johnson, Elder, Dalmas, Weigand, Bruno] May 7, 2013; accepted Category 2 (†). Part of the "Great Phalarope Fallout of May 2013" (D'Onofrio, 2013), this was the ninth Piedmont record accepted by VARCOM.

LITTLE GULL (*Hydrocoloeus minutus)* One adult, Dyke Marsh, Fairfax County [Eder] April 10-12, 2014; accepted Category 1 (ph. †). This was the first Western Coastal Plain record since the designation of this subregion in the 2012 Review List. Rottenborn and Brinkley (2007) cites two prior inland records from Fairfax County, the most recent in 1974.

WHITE-CROWNED PIGEON (*Patagioenas leucocephala)* One individual, Chincoteague NWR, Accomack County [Knapp, Haley] June 9, 2013; accepted Category 1 (ph. †). This was the first state and Coastal Plain record.

WHITE-WINGED DOVE (*Zenaida asiatica)* One adult, Occoquan Bay NWR, Prince William County [Boltz] June 23, 2014; accepted Category 1 (ph. †). Although the species is not on the Review List for the Coastal Plain, this was a first June record. Despite careful monitoring, the bird did not stay beyond the day of observation and showed no evidence of breeding.

SNOWY OWL (*Bubo scandiacus)* Four records as follows:

One individual, Kiptopeke State Park, Northampton County [Jordan] December 5, 2013; accepted Category 1 (ph. †). This was the first Coastal Plain record since 2004.

One immature, Dayton, Rockingham County [Laubach, Mellinger] December 12, 2013; accepted Category 1 (ph. †).

One individual, Bridgewater, Rockingham County [Laubach] December 27, 2013 – January 16, 2014; accepted Category 1 (ph. †).

VARCOM has not previously reviewed any Snowy Owl reports from the Mountains and Valleys. According to Rottenborn and Brinkley (2007) there were nine prior records for the Mountains and Valleys since 1980.

CRESTED CARACARA (*Caracara cheriway)* One individual, Doug Bank Road, Highland County [Albrecht-Mallinger] May 12, 2014; accepted Category 1 (ph. †). This was the first state record and the first for the Mountains and Valleys.

SAY'S PHOEBE (*Sayornis saya).* Four records as follows:

One individual, Chincoteague NWR, Accomack County [Witmer and Witmer] September 25, 2013; accepted Category 1 (ph. †). This was the eighth state and fifth Coastal Plain record.

One individual, Gid Brown Hollow, Rappahannock County [Wood] November 11, 2013; accepted Category 2 (†). This was the ninth state and second Piedmont record.

One adult, Sky Meadows SP, Fauquier County [Meade] December 4-7, 2013; accepted Category 1 (ph. †). This was the tenth state and third Piedmont record.

One adult, Woodward Turf Farm, Culpeper County [Koppel, Koeneke, Ake] December 18, 2013 - January 18, 2014; accepted Category 1 (ph. †). 11th state and fourth Piedmont record.

VERMILION FLYCATCHER (*Pyrocephalus rubinus)* One male, Manquin, King William County [Orcutt, Foster, Davis] January 5-9, 2014; accepted Category 1 (ph. †). This bird, found during the 2013-2014 Walkerton CBC, was the third state and Coastal Plain record. It was also the third state CBC record (Kain, 2014).

SCISSOR-TAILED FLYCATCHER (*Tyrannus forficatus)* One adult male, Aylett, King William County [Kenny, Taylor] June 14, 2014; accepted Category 1 (ph. †). This was the fifth Coastal Plain record since the 2004 Review List.

NORTHERN SHRIKE (*Lanius excubitor)* Two records as follows:

One individual, Oyster, Northampton County [Rose] December 6, 2013; accepted Category 1 (ph. †). This was the ninth Coastal Plain record, the second since 2000.

One individual, Sky Meadows SP, Fauquier County [Johnson] February 4, 2014; accepted Category 1 (ph. †). This was the sixth Piedmont record, the first since 1995.

LOUISIANA WATERTHRUSH (*Parkesia motacilla)* One individual, Sherando Lake, Augusta County [Nebel and Nebel] January 4, 2014; accepted Category 1 (ph. †). Although this species is not on the Review List, this was a courtesy review for the Waynesboro 2013-2014 CBC, and the first photographic winter record. (Kain, 2014; Kain (pers.comm.)

CLAY-COLORED SPARROW (*Spizella pallida)* One individual, Bells Lane, Staunton [Leigh, Wendleken, Mapel] February 8 – April 3, 2014; accepted Category 1 (ph. †). This was the second winter Mountains and Valleys record.

WESTERN TANAGER (*Piranga ludoviciana)* Five records as follows:

One adult male, Settlers Mill, James City County [Williams] November 10, 2013 – April 3, 2014; accepted Category 1 (ph. †). This was the eighth Coastal Plain record since the 2004 Review List and the sixth consecutive year at this location.

One individual, Cheriton, Northampton County [Brinkley] December 30, 2013; accepted Category 1 (ph. †). This bird, found during the Cape Charles 2013-2014 CBC, was the ninth Coastal Plain record since the 2004 Review List. It was also the first Cape Charles CBC record (Kain, 2014).

One male, Henrico County [Louthan, Barnett] January 6 – March 3, 2014; accepted Category 1 (ph. †). This was the second Piedmont record since the 2004 Review List.

One adult male, Locust Grove, Orange County [Stewart] March 3 – April 1 2014; accepted Category 1 (ph. †). This was the third Piedmont record since the 2004 Review List.

One adult male, Chesterfield County [Coe] March 15, 2014; accepted Category 1 (ph. †). This was the fourth Piedmont record since the 2004 Review List.

PAINTED BUNTING (*Passerina ciris)* One adult male, McKenney, Dinwiddie County, [Moore] April 5-13, 2014; accepted Category 1 (ph. †). This was the sixth Piedmont record.

YELLOW-HEADED BLACKBIRD (*Xanthocephalus xanthocephalus)* One adult male, Berlin, Southampton County [Flanders] December 16, 2013; accepted Category 2 (†). This was the first Western Coastal Plain record since the designation of this subregion in the 2012 Review List.

RECORDS NOT ACCEPTED:

CACKLING GOOSE (*Branta hutchinsii)*. One individual, Albemarle County, May 26, 2013. The initial photographs and limited written documentation did not adequately rule out the possibility of one of the small forms of Canada Goose. Additional photographs provided subsequently did not resolve this concern. Although the bird was small for a Canada Goose, the bill length, profile and head shape were inconsistent with Cackling Goose. The observer was able to approach the bird closely, which is more consistent with Canada Goose. Finally, the late date of observation was considered uncharacteristic for Cackling Goose.

CRESTED CARACARA (*Caracara cheriway)* One individual, Fisherman Island NWR, Northampton County, February 16, 2013. This submission was not accepted due to the limited written documentation, lack of photographic evidence, and possible provenance concerns for a potential first state record.

WESTERN KINGBIRD (*Tyrannus verticalis)* One individual, Clark County, November 22, 2013. The written documentation for this very brief (one minute) sighting did not provide sufficient details on bill structure and tail features to rule out other *Tyrannus* flycatchers or Great Crested Flycatcher.

KIRTLAND'S WARBLER (*Setophaga kirtlandii)* One individual, Albemarle County, August 13, 2014. This was a very brief sighting. The written report details were limited, and did not rule out the possibility of other, much more likely, warblers. The observation date was very early for a fall migrant Kirtland's Warbler.

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LOCAL CHAPTERS OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

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Bath-Highland Co. Bird Club		P. O. Box 234	Warm Springs	VA	24484-0234	pareum@gmail.com
Blue Ridge Birders	c/o Elaine Driggers	P. O. Box 885	Independence	VA	24348-0885	
Blue Ridge Young Birders Club	c/o Gabriel Mapel	P. O. Box 18	New Hope	VA	24469-0018	info@blueridgeyoungbirders.org
Bristol Bird Club	c/o Lois Cox	P. O. Box 385	Bluff City	TN	37618-0385	
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Margaret H. Watson Bird Club		188 Farmville Lake Rd.	Farmville	VA	23901-2390	dcfehrer@yahoo.com
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INFORMATION FOR CONTRIBUTORS

The Raven, the official journal of the Virginia Society of Ornithology (VSO), functions to publish original contributions and original review articles in ornithology relating to Virginia Birdlife. Electronic files are the required form for manuscript submission. Text files, prepared using a Mac OS-compatible word processing program or Microsoft® Word, should contain minimal formatting. Graphics (photos, maps, graphs, charts) should be sent as high quality EPS or JPEG files. An accompanying "cover letter" file should be emailed to the editor stating (1) article title, (2) author(s) full name(s) and email and home or institutional address(es) and, for multi-authored manuscripts, (3) the name of one author designated to carry out correspondence with the editor. If the manuscript or report is technical, a list of persons who would be appropriate reviewers should also be included in the "cover letter" file. Authors are encouraged to consult with the editor on additional matters of content, format, or style.

Most Manuscripts published in *The Raven* concern the distribution, abundance and migration of birds in Virginia. However, if there is evidence of summer residency in Virginia provided, manuscripts describing the distribution, abundance, life history, ecology and behavior of Virginia's migrant birds on their wintering grounds are also welcome. Manuscripts on other ornithological topics, including Virginia-based historical reviews, bibliographical reviews, life histories, 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 a decision about acceptance for publication is made.

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