

The Raven

JOURNAL OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

Volume 88

Number 1

2017



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

Activities undertaken by the Society include the following:

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

Those wishing to participate in any of the above activities, or to cooperate in advancing the objectives of the Society, are cordially invited to join and should contact the Membership Secretary. Annual dues are \$20.00 for active members, \$35.00 for sustaining members, \$60.00 or more for contributing members, \$500.00 for life members, and \$25.00 for family members.

Additional Information can be found on the Internet, at www.virginiabirds.net

Queries and comments about *The Raven* or the *VSO Newsletter* should be directed to the respective editors.

OFFICERS OF THE VSO IN 2017

President: Lenny Bankester, 5615 Chase Court, Alexandria VA 22312 (7/01/17 - 6/30/19)

Vice President: Dan Bieker, 4174 Laird Lane, North Garden, VA 22959 (7/01/17 - 6/30/19)

Past President: Jeff Trollinger, 3728 Old Parrish Trace Gum Spring, VA. 23065 (7/01/17 - 6/30/19)

Secretary: Christine Stinson, 213 Arthur Circle, Ferrum VA 24088 (7/01/17 - 6/30/18)

Treasurer: Terri Cuthriell, 18102 Morgarts Beach Road, Smithfield, VA 23430 (7/01/14 - 6/30/18)

Membership Secretary: Shirley Devan, PO Box 5994, Williamsburg VA 23188-5994 (7/01/13 - 6/30/18)

Newsletter Editor: Len Alfredson, 1033 Crystal Dr #509, Arlington, VA 22202 (7/01/14 - 6/30/18)

Raven Editor: Andrew Dolby, 1411 Franklin St., Fredericksburg, VA 22401 (10/01/15 - 9/30/17)

The Raven

JOURNAL OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

Editor
Andrew Dolby



Volume 88, No. 1

Published by
THE VIRGINIA SOCIETY OF ORNITHOLOGY

2017

Copyright by the Virginia Society of Ornithology, Inc.

ISSN 0034-0146

TABLE OF CONTENTS

**TRENDS IN SHOREBIRD ABUNDANCE, DISTRIBUTION AND
CHRONOLOGY ON CHINCOTEAGUE NATIONAL WILDLIFE REFUGE**

Joelle Buffa, Harold Laskowski, Clyde Morris, Kevin Holcomb 3

2016 ANNUAL REPORT OF THE VIRGINIA AVIAN RECORDS COMMITTEE

Bill Williams, Wendy Ealding..... 21

VIRGINIA CHRISTMAS BIRD COUNTS: 2016-2017 SEASON

Teta Kain 30

Trends in Shorebird Abundance, Distribution and Chronology on Chincoteague National Wildlife Refuge

Joelle Buffa^{1*}, Harold Laskowski², Clyde Morris³, Kevin Holcomb⁴

¹ *Wildlife Biologist (Retired)*/³ *Refuge Manager (Retired)*,
U.S. Fish and Wildlife Service; 37303 Davey Jones Blvd., Greenbackville, VA 23356

² *Chief, Division of Natural Resources (Retired)*,
Northeast Region, U.S. Fish and Wildlife Service; 29093 Mitchell Drive, Parksley, VA 23421

⁴ *Wildlife Biologist*, U.S. Fish and Wildlife Service, P.O. Box 62, Chincoteague, VA 23336

*Corresponding author: clyde_joelle@verizon.net

ABSTRACT

We examined trends in shorebird numbers and chronology of occupancy during spring migration over a 24-year period (1991-2014) on the Chincoteague National Wildlife Refuge and compared them to trends at International Shorebird Survey coastal sites in the Northeast Atlantic Region (Maine to Virginia). Spring shorebird migration trends at Chincoteague Refuge did not generally mirror northeast regional trends. The total number of spring shorebirds increased at Chincoteague over the 24-year period analyzed, but decreased regionally ($P < 0.001$). Only two species significantly declined on the Refuge between 1991 and 2014: Whimbrel (*Numenius phaeopus*) and Ruddy Turnstone (*Arenaria interpres*). Both species favor tidal areas and beaches on the Refuge. Species that used managed impoundments, Dunlin (*Calidris alpina*) and small peeps such as Semipalmated Sandpipers (*Calidris pusilla*) and Least Sandpipers (*C. minutilla*), either had increasing or stable trends. None of the species we analyzed had increasing trends at the Northeast Atlantic regional scale. We found no changes in the timing of peak spring shorebird migration.

Our results suggest that as flyway-wide shorebird numbers continue to decline, protected sites such as Chincoteague Refuge may become increasingly important to shorebird conservation.

INTRODUCTION

Like many other National Wildlife Refuges managed by the U.S. Fish and Wildlife Service, Chincoteague National Wildlife Refuge (Refuge) was established for the purpose of protecting migratory birds. Since its establishment in 1943, the Refuge has undertaken a variety of management actions aimed at improving habitat conditions for water birds. These include the construction of managed impoundments, manipulation of water levels and vegetation to provide desired feeding conditions, and protecting beaches and other nesting/resting areas from human disturbance. Additionally, national and regional plans such as the United States Shorebird Conservation Plan (Brown et

al. 2000), North Atlantic Regional Shorebird Plan (Clark and Niles 2013), and North American Bird Conservation Initiative (Steinkamp 2015) identify conservation actions and set goals for shorebird populations pertinent to the Refuge. For example, the U.S. Shorebird Conservation Plan states that increasing management of impoundments for shorebirds and wildlife diversity on publicly managed wildlife areas is important in achieving its shorebird population and conservation goals (Brown et al. 2000). Assessing long-term shorebird trends is therefore essential in evaluating how the Refuge is achieving management goals and contributing toward regional/national targets, and it is also important in setting realistic future goals.

We analyzed trends in shorebird numbers and chronology of use during spring migration over the 24-year period 1991 to 2014, inclusive. We compared Refuge trends to International Shorebird Survey (ISS) spring migration data for coastal sites from Maine to Virginia. Other studies (Howe, Geissler and Harrington 1989, Bart et al. 2007, Andres et al. 2012) analyzed fall migration ISS data to assess shorebird population size and trend. We chose to analyze the spring migration period because data indicate that the Refuge is more important to shorebirds in the spring than fall. ISS data from 1976-1987 counts at the Refuge report single maximum counts of 54,335 shorebirds in the spring, and 32,522 shorebirds in the fall (WHSRN 2009).

Our objectives were to:

- 1) Determine trends in shorebird use during spring migration periods at Chincoteague National Wildlife Refuge between 1991 through 2014;
- 2) Compare shorebird trends at Chincoteague National Wildlife Refuge to shorebird trends at a regional scale to determine if Refuge numbers are tracking larger landscapes;
- 3) Evaluate patterns in shorebird use between broad habitat categories of managed wetlands (impoundments) vs. tidal wetlands (which include beaches);
- 4) Determine if shorebird migration chronology has changed during the study period.

Objective one is important because it may help managers better understand the value of the Refuge to shorebirds and may assist in setting management goals and evaluating management actions. Objective two is relevant because we know of no other studies that have analyzed spring ISS data for shorebird trends despite the importance of the Atlantic coast as a spring stopover site. Objective two may also be an indicator of habitat quality on the Refuge. For example, if shorebird numbers have remained stable or have increased on the Refuge, but are declining on a regional scale, shorebird habitat quality on the Refuge may be improving or remaining stable relative to other sites along the coastal northeastern states.

Objective three compares shorebird use and trends between two broad habitat types where shorebirds are a management focus, but management actions differ. Little can be done in tidal areas of the Refuge to actively manipulate habitat for shorebirds. However, public use is prohibited or restricted on 22 linear kilometers of beach during nesting season (March 15-August 31), and nesting shorebirds are intensively monitored. Most habitat management actions for migrating shorebirds on the Refuge are focused on manipulating water levels and managing vegetation/creating mudflats within impoundments. Therefore, more favorable shorebird trends in impoundments as compared to tidal areas would underscore the importance of managing impoundment water levels for shorebirds during spring migration.

Objective four will help managers identify optimum times to adjust water levels, within constraints, and conduct other management actions so that they remain timed to when shorebirds are arriving at the Refuge.

The biggest constraint to managing Refuge impoundments is a reliable freshwater source. Precipitation is the only source of freshwater, except for muted tidal action in one brackish impoundment adjacent to Toms Cove (F-Pool) (Fig. 2). Water control structures and tide gates permit water levels to be lowered, but if water is drawn down to create ideal habitat for early spring migrants and subsequent rainfall is low, the impoundments may be too dry for use by later spring migrants. Sandy soils and high salinity also complicate management. Refuge impoundments were constructed upon former salt marsh and/or beach wash-over areas. Thus, residual salinity at these sites impacts refuge management capabilities. Infertile sandy soil impacts quality of moist soil vegetation communities, and probably the resultant invertebrate community that would provide food for shorebirds. Also, storm tides infrequently flood into impoundments, further exacerbating salinity problems.

Chincoteague National Wildlife Refuge encompasses 3,650.7 hectares (9,021 acres) on the southern portion of Assateague Island in Accomack County, Virginia on the Delmarva Peninsula (Fig. 1). The Refuge lies within the Maryland-Virginia Barrier Islands Western Hemisphere Shorebird Reserve Network (WHSRN). The site has been

STUDY AREA

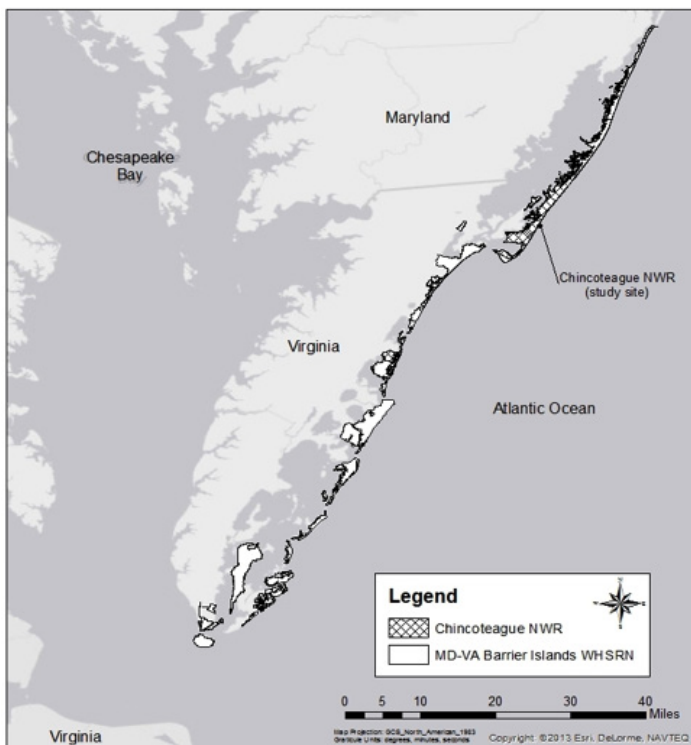


Figure 1: Map of Chincoteague NWR and Maryland-Virginia Barrier Islands Western Hemisphere Shorebird Reserve Network

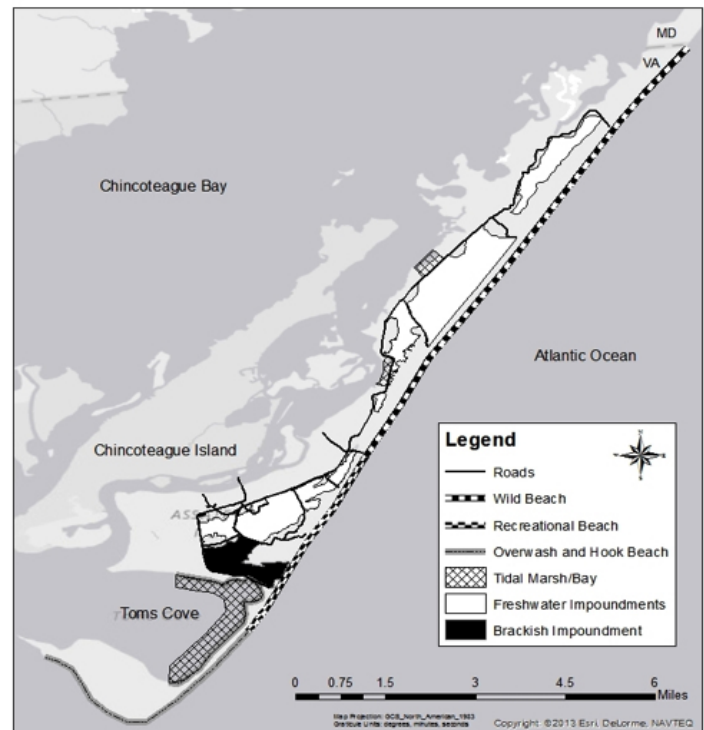


Figure 2: Map of Assateague Island Survey Units in Virginia

designated a site of international importance, defined as hosting 100,000 - 500,000 shorebirds, or 10% of the Flyway's population, annually. Shorebird numbers well exceed 170,000 for the Refuge alone when weekly count data are extrapolated to consider turnover rates of migrants (WHSRN 2009). Thus, the Refuge supports a significant portion of the shorebirds using this WHSRN site. Furthermore, the Refuge ranks second in species diversity during both spring and fall migrations and is among the top ten sites with the greatest maximum counts of 600 International Shorebird Survey (ISS) sites surveyed east of the Rocky mountains based on surveys conducted since 1974 (Wilds 2007). Shorebird habitat that is surveyed on the Refuge includes 1,011 hectares (2,500 acres) of fresh to brackish water impoundments, 24 kilometers (15 linear miles) of shoreline/barrier island beach, and 9.6 kilometers (6 linear miles) of tidal marsh/bay (Fig. 2). Shorebird surveys have been conducted on the Refuge since 1974, when Manomet Bird Observatory organized the volunteer-based International Shorebird Survey (ISS) to monitor shorebirds at important stopover sites across their migration pathways.

METHODS

Field Surveys

A count of all shorebirds in key areas of the Assateague Island Unit of the Chincoteague National Wildlife Refuge (Fig. 2) is made weekly during the months of April, May, July, August and September (migration period), and bi-weekly during the other months of the year. Shorebird surveys have been conducted since the 1970s, but those between 1978 and 1987 were done on foot, usually spanning a two-day period (Wilds 2007). Beginning in 1991, survey methodology has been a vehicle-based survey, completed within one tidal cycle. Data have been primarily collected by volunteers, supplemented occasionally by Refuge personnel, with high observer fidelity. The same two observers conducted surveys between 1991 and mid-2009, and another set of observers conducted the majority of surveys mid-2009 to present. Substitutes, when needed, were trained or oriented by the primary observers. We excluded 1978-1987 surveys from our trend analysis because Refuge survey protocols prior to 1990 differed enough to preclude a valid comparison. Wilds (2007) walked a slightly different survey route and spanned more than one tidal cycle.

Data Analysis: Chincoteague Refuge Shorebird Trends

Trends of individual shorebird species on the Refuge were determined by selecting the one peak count for that individual species during the spring survey period (April 1 - June 7) in each year (1991 - 2014) and running a simple linear regression. The date of the peak count varied among

species and among years for individual species. Although 25-30 different species of shorebirds are recorded on the Refuge during a typical year, we selected the following species for individual analysis because large numbers use the Refuge and/or they are of conservation concern: Semipalmated Plover (*Charadrius semipalmatus*), Whimbrel, Ruddy Turnstone, Red Knot (*Calidris canutus*), Sanderling (*Calidris alba*), Dunlin, Least Sandpiper, Semipalmated Sandpiper, and Dowitcher (*Limnodromus* spp.). Refuge surveys do not distinguish between the two Dowitcher species, but Short-billed Dowitcher (*L. griseus*) is the expected species on the Refuge.

The trend of total shorebird species using the Refuge during spring migration was determined by combining the peak number of each species using the Refuge during a given year, regressing against survey year. Species high counts occurred on different dates. Thus, if the highest number of Sanderlings counted during a given year was on May 2 and the highest count for Dunlin was on April 25, etc., all peak values were combined for the entire Refuge peak. All shorebird species using the Refuge during the study period (1991-2014) were included in this analysis.

Data Analysis: Northeast Regional Shorebird Trends

We compared Refuge shorebird trends to regional trends by first selecting those sites from the ISS dataset which met the following criteria: Coastal sites from Maine to Virginia that were surveyed during the study period (1991-2013, 2014 being unavailable to us). This was done by plotting ISS sites with a GIS and identifying those which were within two miles of the coast. These coastal ISS sites were grouped into geographic areas or "Complexes" (n=17) that aligned closely with state boundaries; although some states with large coastal areas (e.g. Maine) were sub-divided into more than one Complex (Fig. 3). ISS requests that sites be surveyed at 10 day intervals. Different observers throughout the Northeast collect data on many different dates, unlike at the Refuge where all survey units are counted on the same day. Furthermore, the data indicated that ISS sites were not consistently visited from year to year, and coverage was uneven among and between the 17 "Complexes". To address these issues, seven Date Categories were identified. Each category was 10 days in length (except the last 8-day category) beginning on April 1 and ending June 7. Thus, the Date Categories were analogous to the different dates when Refuge surveys are performed throughout the spring migration. It should be noted that the date category which the peak count for "Species A" falls into may vary from Complex to Complex, and that the peak Date Categories selected for "Species A" may be different from the Date Categories for "Species B." We chose this method so as to capture the difference in migration chronology between species and between latitudes.

The trend of individual shorebird species at Northeast Coastal ISS sites during spring migration was analyzed by: 1) selecting the maximum count within a date category of each species for each Complex, such that each Complex had one peak number; 2) summing each species for every Complex for each year, thus providing a peak number of each species by year within Coastal Region ISS sites; 3) plotting a simple linear trend line; and 4) performing a one-way ANCOVA test to determine if there was a significant difference between ISS and Refuge trend lines for selected species. To meet assumptions of an ANCOVA for those species where the data did not meet requirements of a normal distribution and/or homogeneous variance, we used either a Log^{10} or a Box-Cox data transformation.

The trend of all shorebirds species using Northeast Coastal ISS sites was analyzed by summing the peak numbers of all Northeast ISS species as described in the previous paragraph, and regressing against survey year. This trend line was compared with the Refuge trend line for all shorebird species with a one-way ANCOVA after removing three outliers and using a Log^{10} transformation, thus meeting assumptions for this test.

We chose to use one peak count instead of averaging all or several counts (e.g., “high three”) to avoid some biases inherent with averaging counts of migrating species where length of stay and turnover rate is unknown and length of time between surveys is variable. Longer lengths of stay and a shorter interval between surveys lead to a higher average counts. In some years, the goal for weekly Refuge surveys during spring ($n=9$) was not always met due to weather, tidal conditions, availability of personnel or other factors, which would bias for lower counts. Using one peak count also decreased bias in our regional comparison because the majority of ISS sites were monitored less frequently than the Refuge.

Data Analysis: Chincoteague Refuge Shorebird Distribution

To compare patterns of shorebird use in the impoundments to that of tidal areas on the Refuge, we first determined the peak count for each species for every survey unit and every year. We then divided the survey units into two habitat groups: managed impoundments ($n=9$) and tidal areas ($n=5$). The trend of shorebird use in each habitat group during spring migration was determined by combining the peak number of each species in that group during each year and performing a one-way ANCOVA test to determine difference in trend lines between Tidal and Non-Tidal habitat. As with the total shorebird numbers, the date of peak counts varied among species within a given year and peak counts within a unit varied among species. This is due to differences in migration chronology between species, Refuge management practices, rainfall and other factors. For example, insufficient or an over-abundance

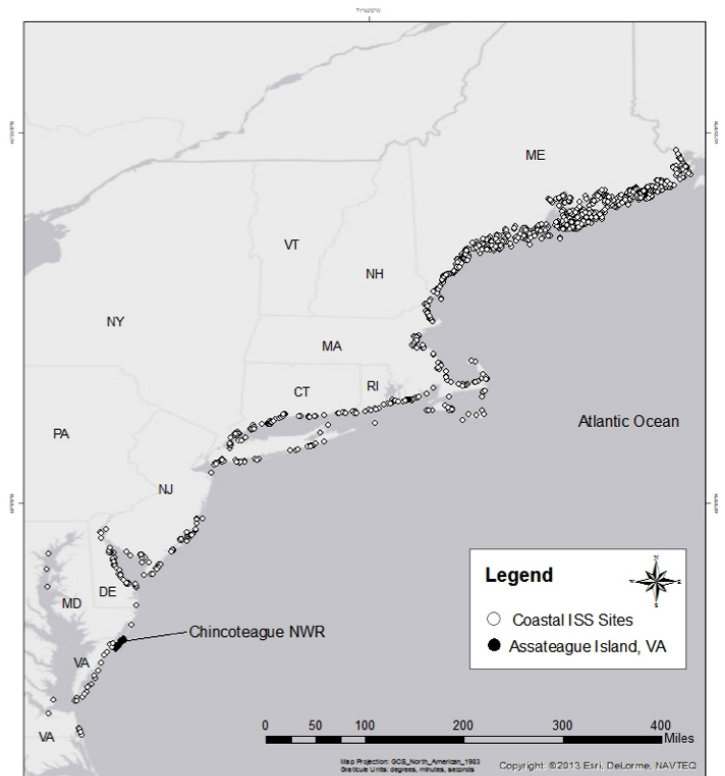


Figure 3 Map of Northeast Coastal Region International Shorebird Survey Sites

of rainfall hampers the Refuge’s ability to maintain ideal water levels for shorebirds since precipitation is the only source of water for all but one impoundment (F-pool), and therefore, water depths may be favorable for shorebirds in some impoundments, but not in others.

Data Analysis: Chincoteague Refuge Shorebird Chronology

Trends in migration chronology over the 24 year timeframe were analyzed by estimating the date of peak species use for each year. Shorebird surveys were conducted every seven days. Thus, there was a 0.14 probability of actually performing a survey on the date a species actually peaked at the Refuge. To account for the likelihood that surveys may not have caught the peak, we calculated weighted mean dates to estimate the date of peak use for each species. The date of the observed peak number was identified along with date and number of shorebirds observed during the surveys immediately prior to and following the observed peak date. Weights were determined by dividing the sum of birds observed during the three surveys into the number observed on each date. The three weights were then multiplied by the Julian date of each survey and summed to determine a weighted mean estimate of the peak date of use for that year.

Trends in migration chronology were analyzed for the following species: Semipalmated Plover, Whimbrel, Ruddy Turnstone, Least Sandpiper, Semipalmated Sandpiper, and

Dowitcher spp. These species were selected because large numbers stopover on the Refuge during spring migration, but they do not breed nor winter here. A simple regression analysis was performed to determine if the estimated date of peak count changed significantly during the survey period.

RESULTS

Spring shorebird migration trends at Chincoteague National Wildlife Refuge over the past 24 years have not generally tracked Northeast Coastal Region trends. The annual total peak numbers of shorebirds had opposite trends, with Refuge spring migrants increasing over the past 24 years, and ISS monitored sites in the Northeast Region decreasing over the period ($P < .001$).

Five individual shorebird species also had significantly different trends on the Refuge vs. the Regional scale (Table 1).

Table 1: Comparison of Chincoteague NWR and ISS Trend Lines 1991-2014

Species	Refuge Trend	ISS Trend	P Value*
<i>Semipalmated Plover</i>	↑	↓	0.029
Whimbrel	↓	↓	0.313
Ruddy Turnstone	↓	↓	<0.061
<i>Red Knot</i>	↑	↓	<0.031
Sanderling	↓	↓	0.918
<i>Dunlin</i>	↑	↓	0.014
<i>Least Sandpiper</i>	↑	↓	<0.001
<i>Semipalmated Sandpiper</i>	↑	↓	<0.002
All Shorebirds	↑	↓	<0.001

Species where Chincoteague & ISS Track

Species where Chincoteague & ISS DONOT Track

*P Values compare the slopes of the Refuge vs. the ISS trend line

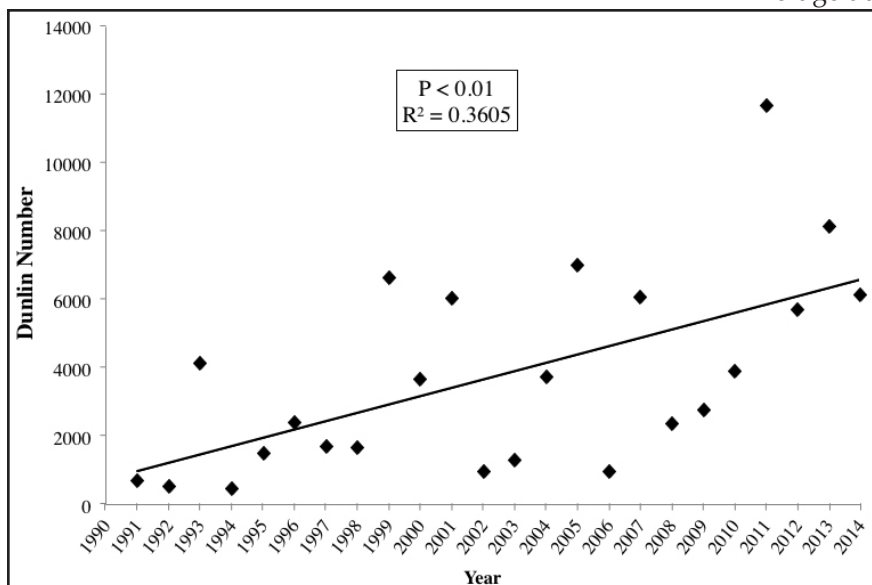


Figure 4: Peak Spring Dunlin Numbers and Trend at Chincoteague NWR: 1991-2014
 This graph depicts peak Dunlin numbers having a significantly increasing trend. Data were summarized by determining the date when the highest number of Dunlin occurred at the refuge during spring migration.

Chincoteague Refuge Shorebird Number Trends

Results show a significant increasing trend over the 24 year period analyzed (1991-2014) for Dunlin ($P < 0.01$) (Fig. 4), and a significantly declining trend for Whimbrel ($P = 0.01$) (Fig. 5a) and Ruddy Turnstone ($P = 0.05$) (Fig. 5b). Results suggest upward, but non-significant, trends for Semipalmated Sandpipers ($P = 0.06$) (Fig 6a) and Semipalmated Plovers ($P = 0.10$) (Fig. 6b), and non-significant downward trends for Sanderlings ($P = 0.10$) (Fig. 7a). Trends in Red Knot numbers would be of interest because of the *rufa* sub-species' sharp decline throughout most of its range and its recent listing as Threatened under the Endangered Species Act (USFWS 2014). However, the data are inconclusive ($P = 0.20$) regarding Red Knot trends over the period analyzed (Fig. 7b). Dowitcher spp. and Least Sandpipers show a stable trend over the 24-year period (Fig. 8a and b).

Our data for Semipalmated Sandpipers and Least Sandpipers (Fig. 6a and 8b) show a large spike in 2011, following several years of low numbers. This time period coincided with a change in observers; in fall 2009 a new pair of volunteers replaced the couple that had been conducting the survey since 1991. Small shorebirds can be difficult to differentiate in the large impoundments. Therefore, to account for the possibility of observer bias, we combined Semipalmated, Least, White-rumped (*Calidris fuscicollis*) and Western (*C. mauri*) Sandpipers, and unidentified small shorebirds into a single "peep" category. After combining these species, the total numbers showed a significantly increasing trend ($P < 0.05$; Fig. 9).

The trend of spring shorebirds numbers overall on the Refuge during the period analyzed is strongly upward (Fig. 10; $P = 0.01$).

Shorebirds using Refuge impoundments during the spring increased over the survey period ($P = 0.01$), while spring shorebird use of the tidal areas has remained stable (Fig. 11). Our ANCOVA analysis showed that shorebird use of these two habitats is significantly different ($P = 0.004$). One impoundment (F-Pool, also called Swans Cove Pool) has been managed with muted tidal action through a single water control structure in recent years, but was grouped with other managed impoundments because it functions most similarly to them.

None of the species analyzed (Semipalmated Plover, Whimbrel, Ruddy Turnstone, Least Sandpiper, Semipalmated Sandpiper, Dowitcher spp.) showed a significant change in the peak date of spring migration over

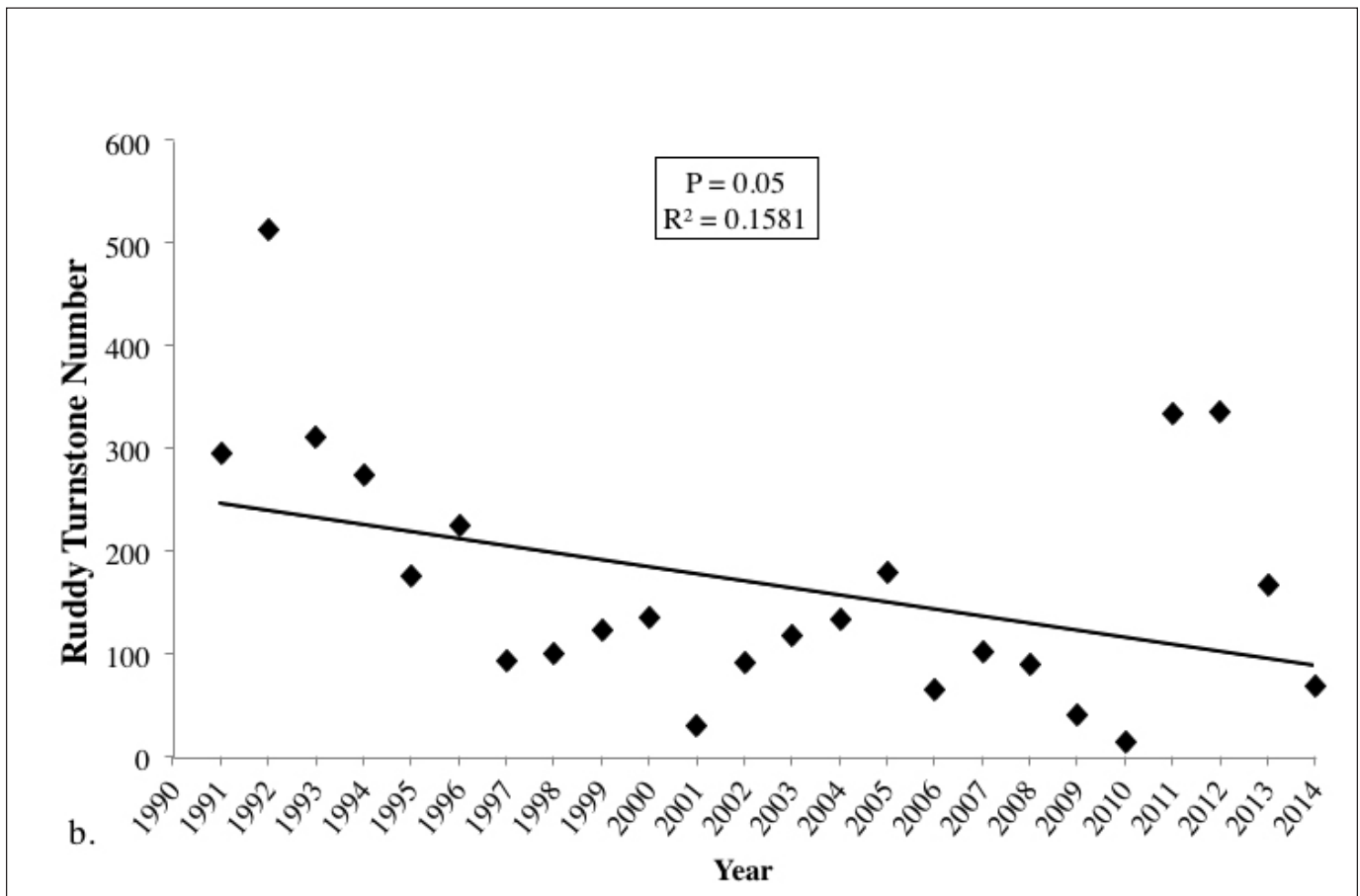
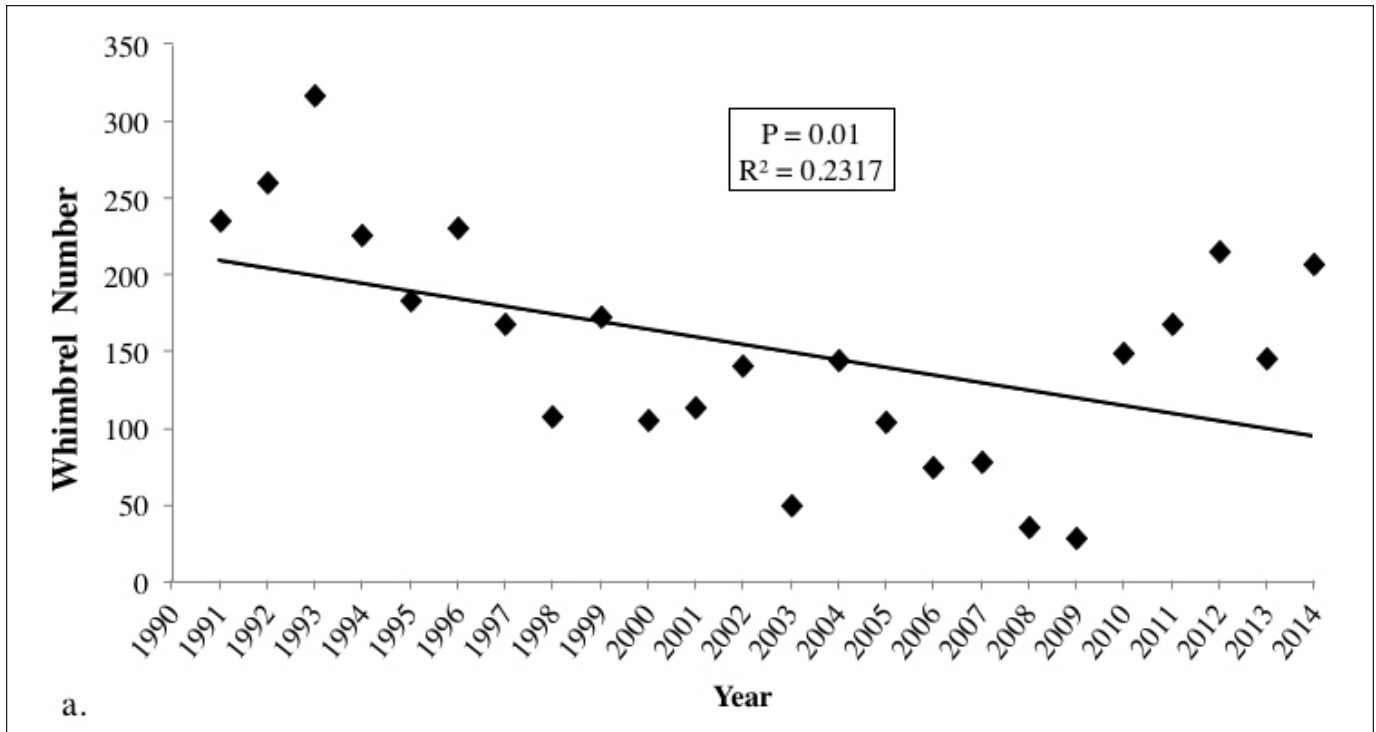


Figure 5a and b: Peak Spring Whimbrel and Ruddy Turnstone Numbers and Trends at Chincoteague NWR: 1991-2014. These graphs depict Whimbrel and Ruddy Turnstone numbers as having a significantly decreasing trend.

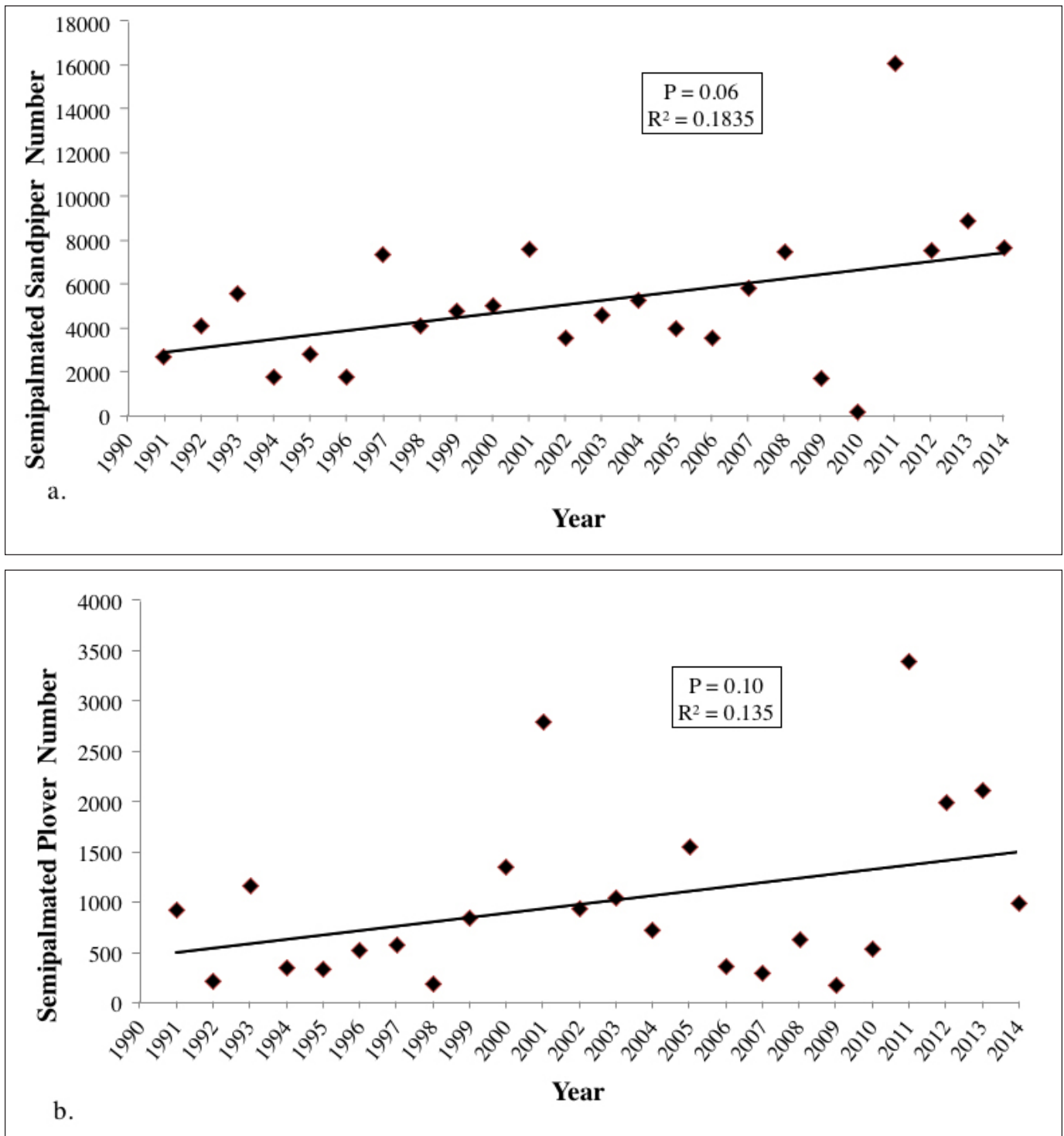


Figure 6a and b: Peak Spring Semipalmated Sandpiper and Semipalmated Plover Numbers and Trends at Chincoteague NWR: 1991-2014. These graphs depict peak spring numbers of Semipalmated Sandpipers and Semipalmated Plovers as having weak but non-significant increasing trend.

the period 1991-2014 (Fig.12). However, this chronology information is useful for Refuge managers. Water levels, beach closures, and other shorebird management activities can continue to be scheduled at the same time period.

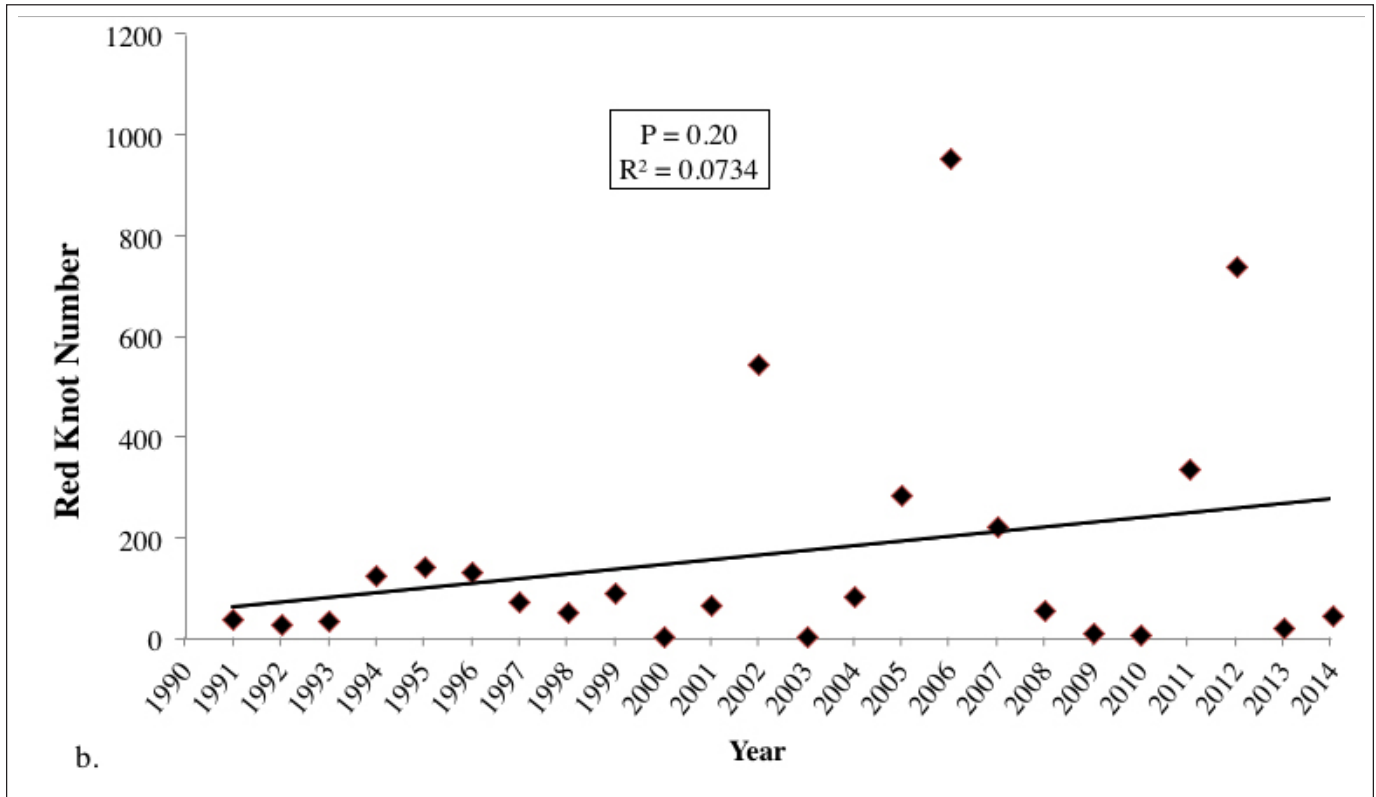
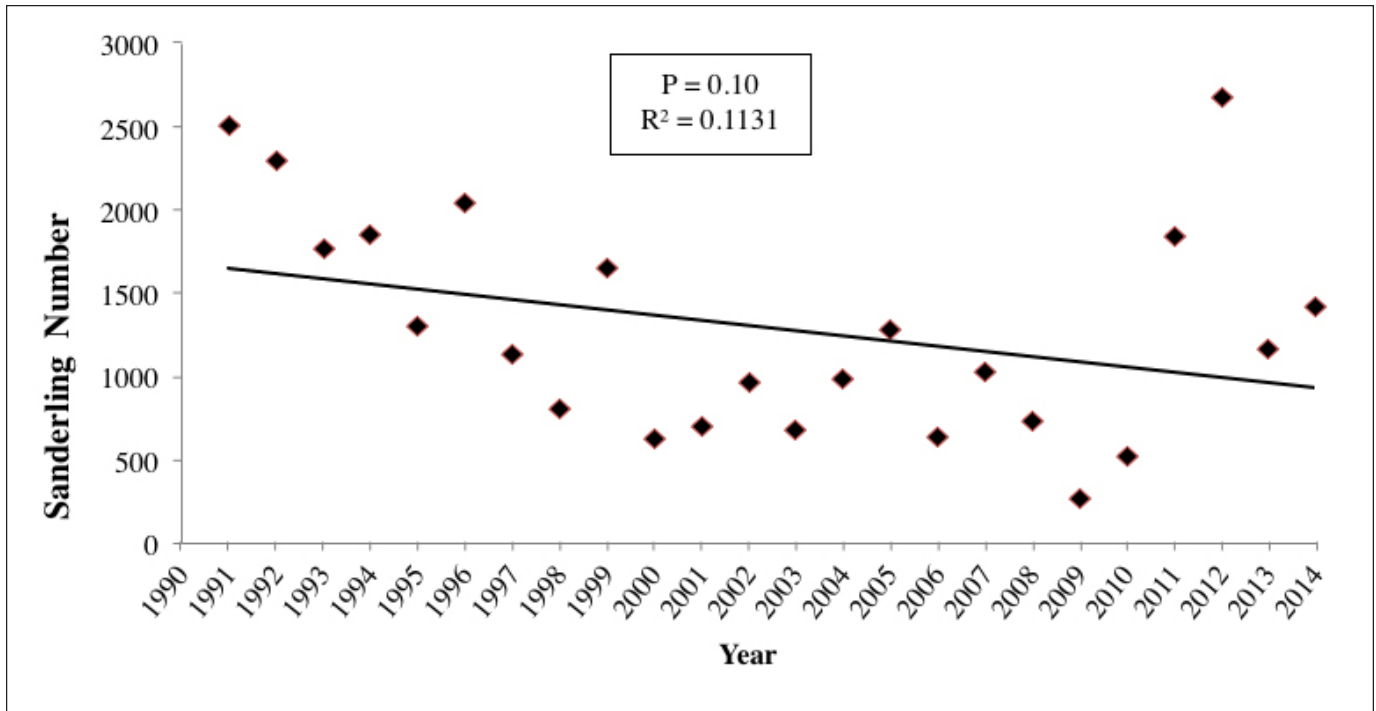


Figure 7a and b: Peak Spring Sanderling and Red Knot Numbers and Trends at Chincoteague NWR: 1991-2014. These graphs depict peak spring numbers of Sanderling and Red Knot. Data for Sanderlings suggests a non-significant decreasing trend. Data is too variable to formulate a conclusion about Red Knot trends.

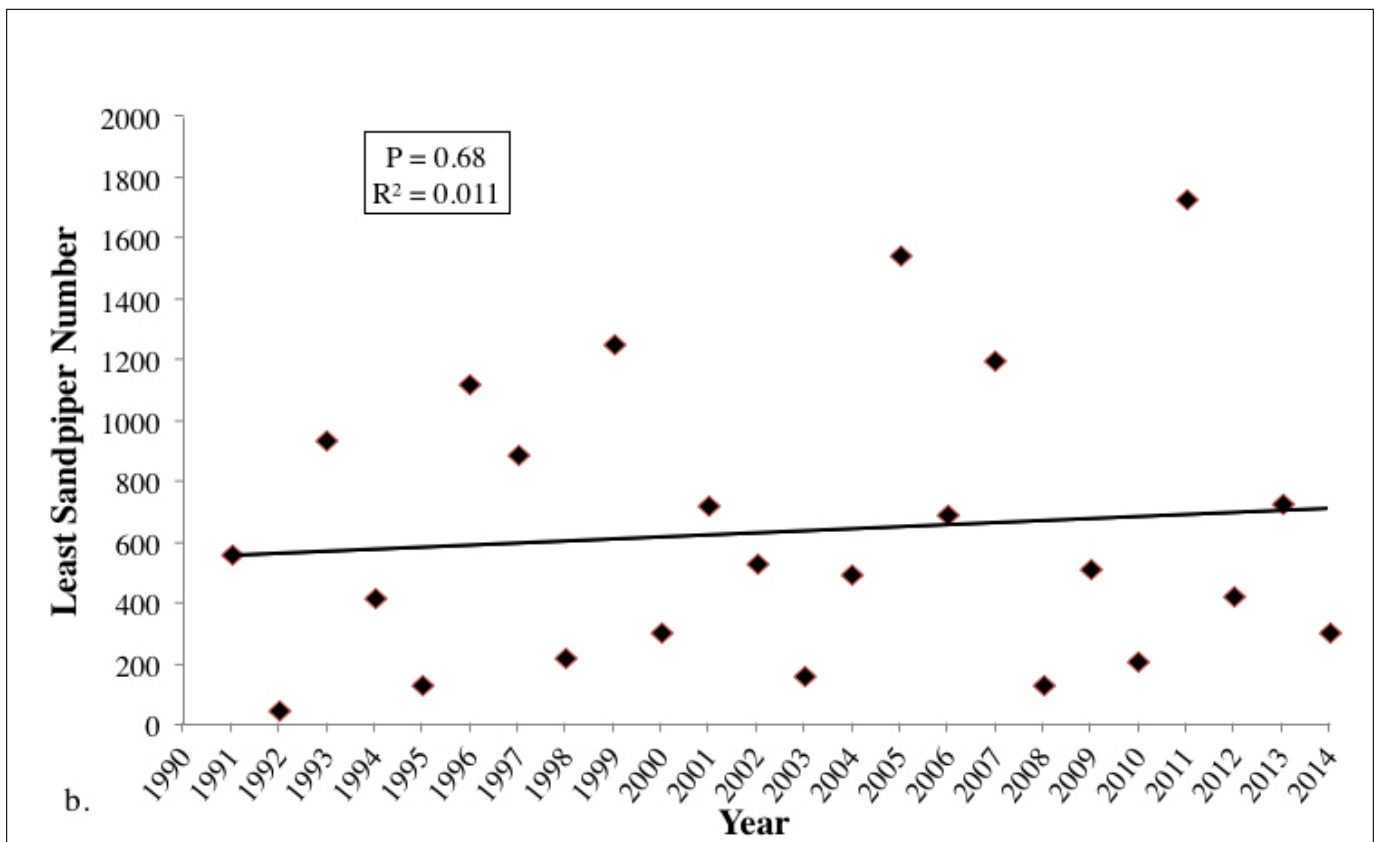
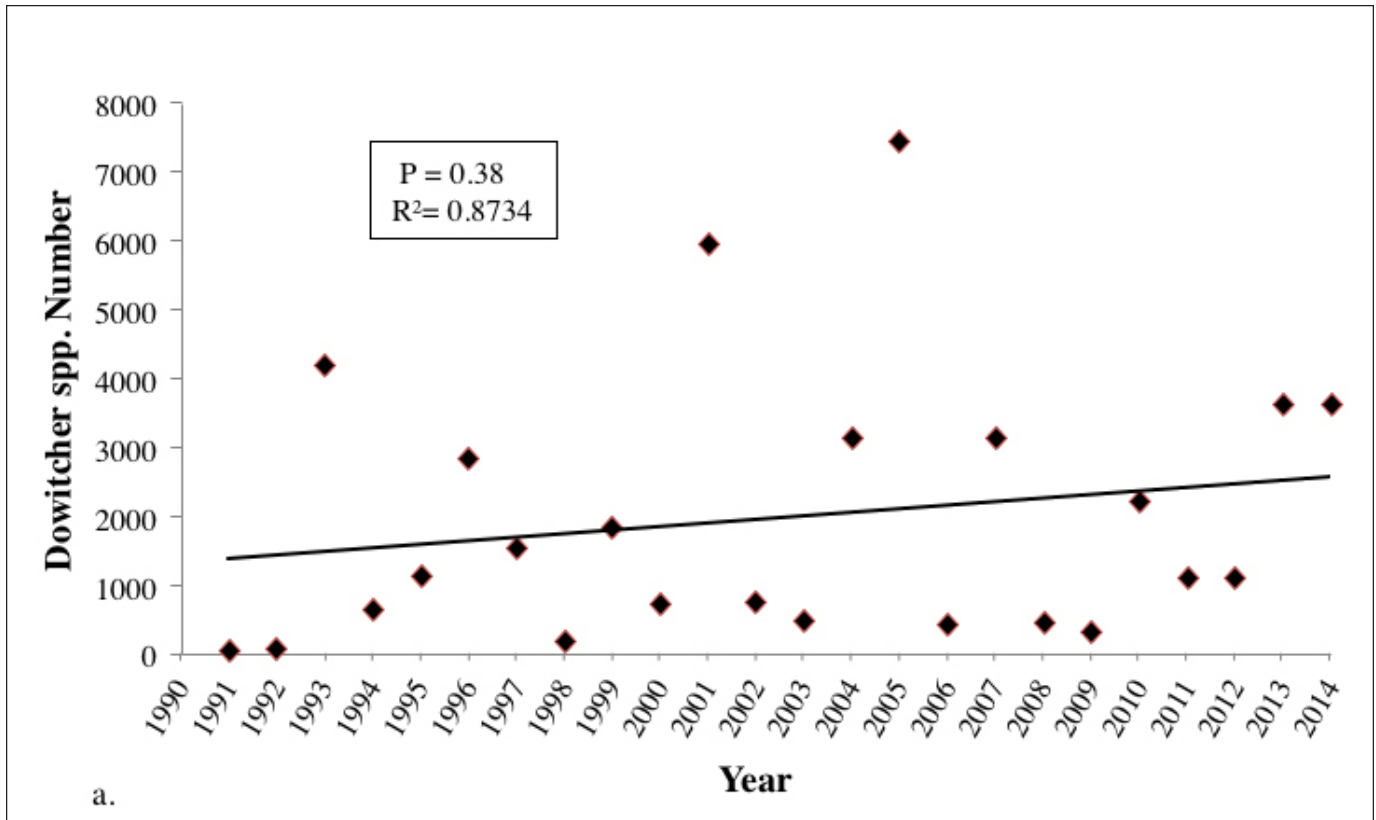


Figure 8a and b: Peak Spring Dowitcher spp. and Least Sandpiper Numbers and Trends at Chincoteague NWR: 1991-2014. These graphs depict spring Dowitcher spp. and Least Sandpiper numbers with stable trends.

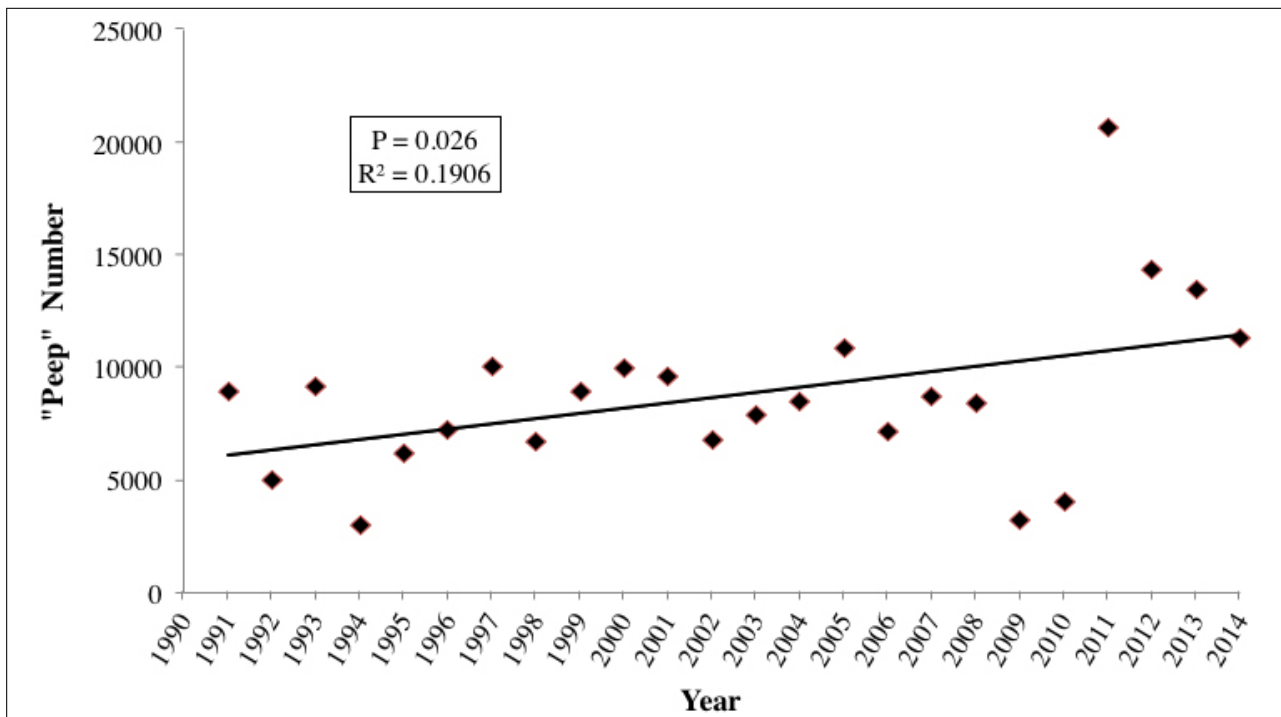


Figure 9: Peak Spring Numbers and Trends of "Peeps" at Chincoteague NWR: 1991-2014. This graph line combines the peak annual spring counts for the following species: Least Sandpiper, Semipalmated Sandpiper, White-rumped Sandpiper, Western Sandpiper, and small unidentified shorebirds. The data show a significantly increasing trend.

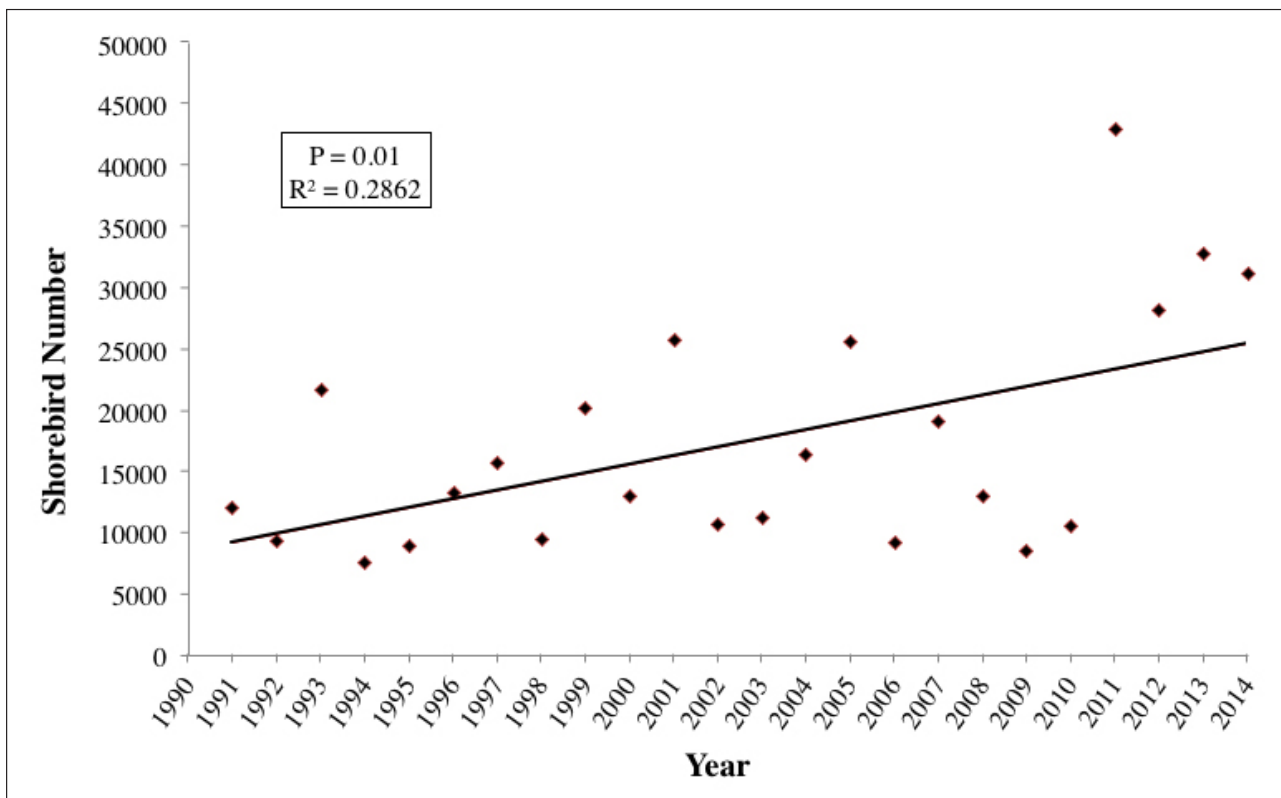


Figure 10: Peak Spring Numbers and Trends of All Shorebirds Combined at Chincoteague NWR: 1991-2014. The graph combines peak annual spring counts species for all species. Each peak was identified by summing the peaks for the following species: Black-necked Stilt (*Himantopus mexicanus*), American Avocet (*Recurvirostra americana*), American Oystercatcher (*H. palliatus*), American Golden Plover (*Pluvialis dominica*) Black-bellied Plover (*P. squatarola*), Wilson's Plover (*Charadrius wilsonia*), Semipalmated Plover, Piping Plover (*C. melodus*), Killdeer (*C. vociferus*), Spotted Sandpiper (*Actitis macularia*), Solitary Sandpiper (*Tringa solitaria*), Greater Yellowlegs (*T. melanoleuca*), willet (*T. semipalmata*), Lesser Yellowlegs (*T. flavipes*), Upland Sandpiper (*Bartramia longicauda*), Whimbrel, Marbled Godwit (*Limosa fedoa*), Ruddy Turnstone, Red Knot, Stilt Sandpiper (*Calidris himantopus*), Sanderling, Dunlin, Least Sandpiper, White-rumped Sandpiper, Buff-breasted Sandpiper (*C. subruficollis*), Pectoral Sandpiper (*C. melanotos*), Semipalmated Sandpiper, Western Sandpiper, Dowitcher, Wilson's Snipe (*Gallinago delicata*), and Phalaropes spp. (*Phalaropus* spp.). The trend is significantly increasing.

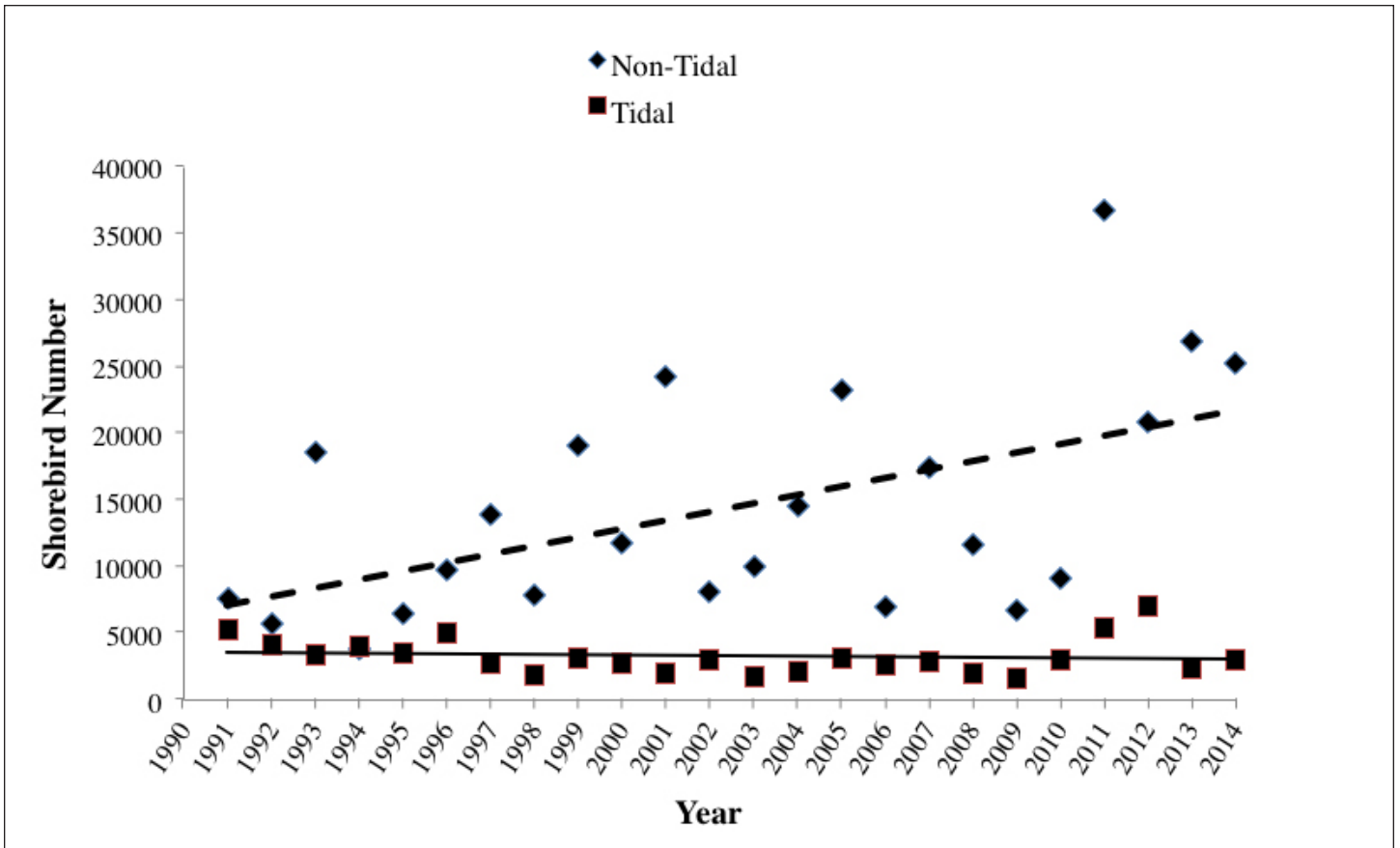


Figure 11: Peak Spring Shorebird Use in Managed Impoundments compared with Tidal/Beach Survey Units at Chincoteague NWR: 1991-2014. This graph shows peak shorebird use in managed freshwater/ brackish impoundments (non-tidal) compared with that of tidal areas (beaches and unmanaged tidal marshes) on the Refuge. It combines the sums of each species' peak as for Fig. 10. The trend was significantly increasing in managed impoundments and stable in tidal areas.

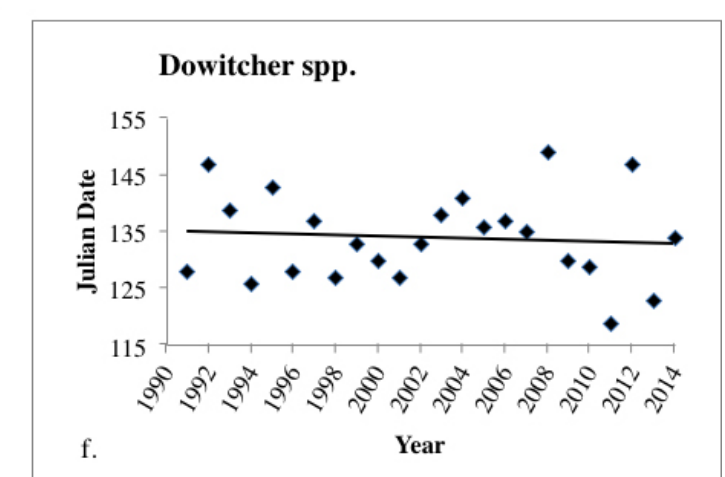
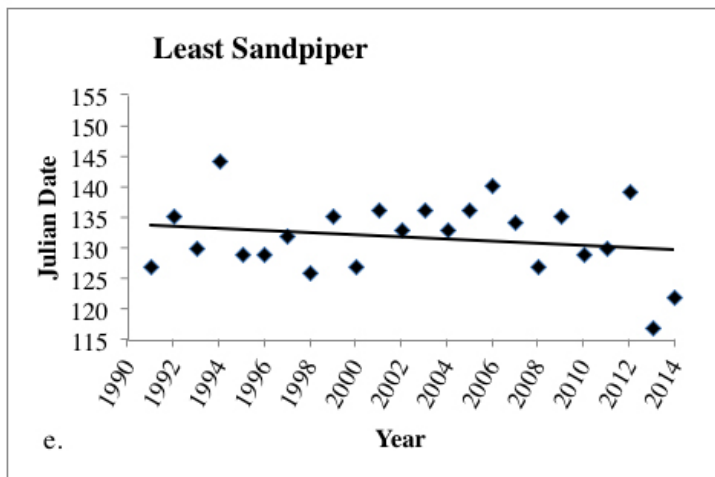
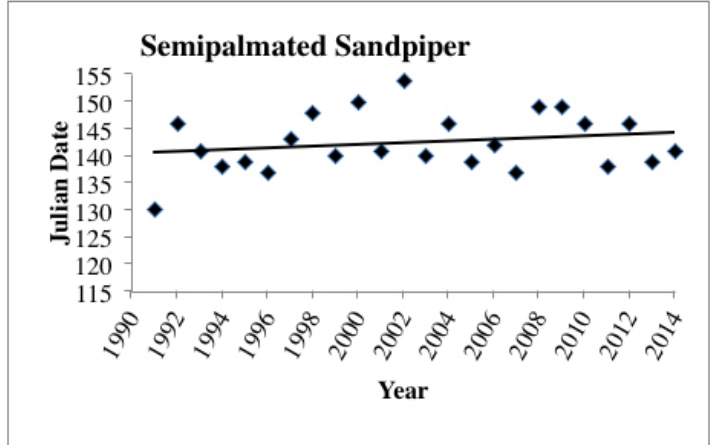
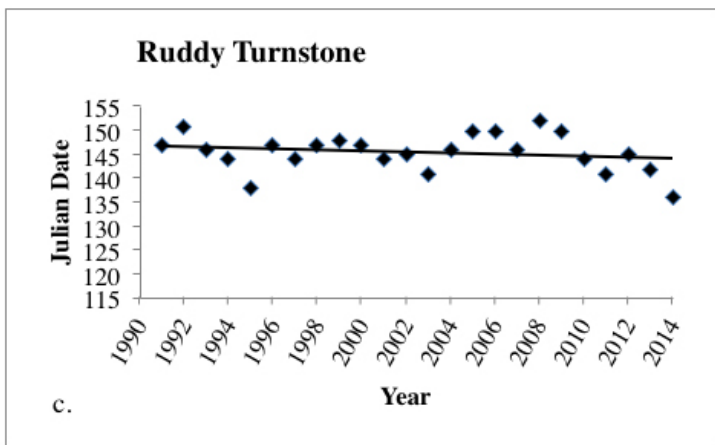
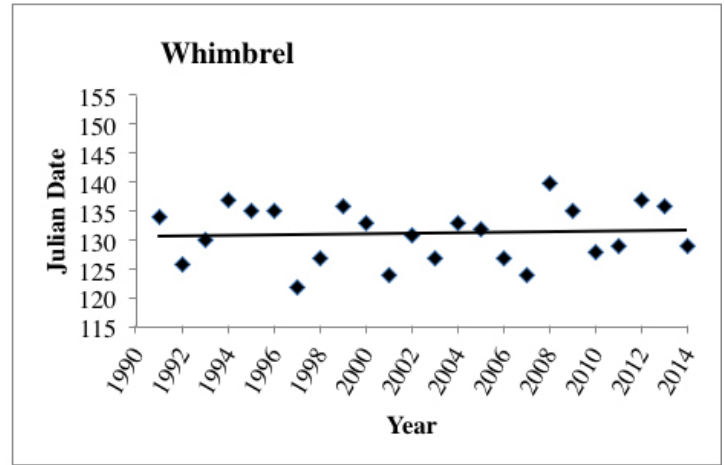
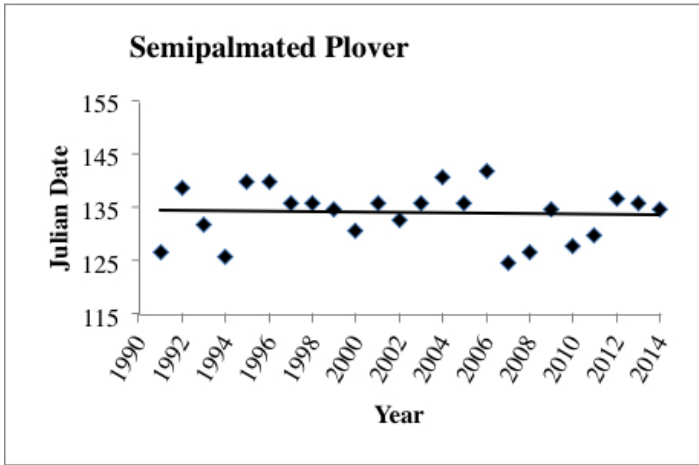


Figure 12 a-f: Spring Migration Chronology Trends for Six Shorebird Species at Chincoteague NWR: 1991-2014. These graphs depict Julian dates for spring peak use for the species analyzed. There was no significant shift in spring migration chronology for any species.

Northeast Coastal Region ISS Shorebird Number Trends

Five individual species had significantly decreasing trends in annual peak spring numbers over the period analyzed (1991-2013): Whimbrel ($P < 0.008$), Ruddy Turnstone ($P < 0.001$), Red Knot ($P = 0.001$), Least Sandpiper ($P < 0.001$), and Semipalmated Sandpiper ($P = 0.003$) (Fig. 13-14).

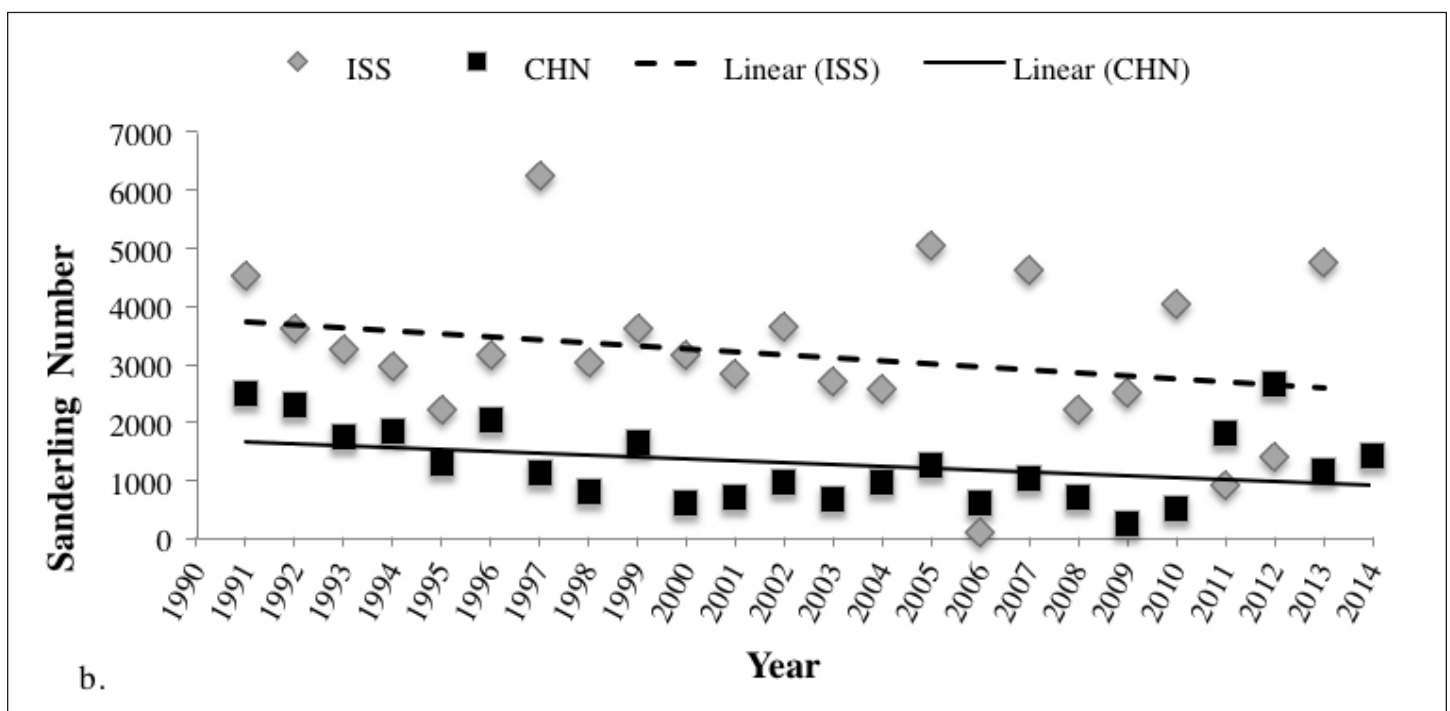
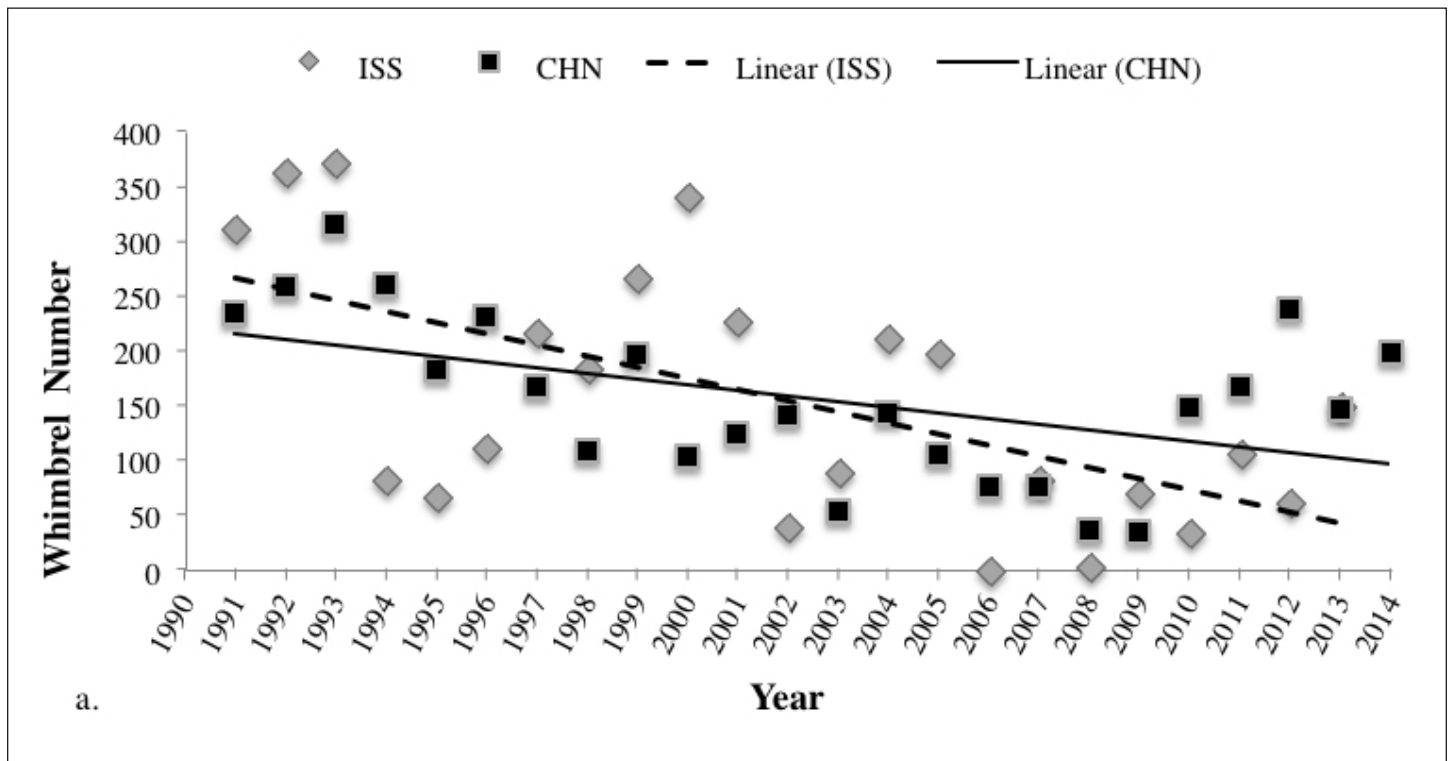


Figure 13 a and b: Spring Peak Whimbrel and Sanderling Trends at Northeast Coastal ISS compared to Chincoteague NWR.. Chincoteague trends (solid black line) significantly tracked the larger landscape trend (dashed black line).

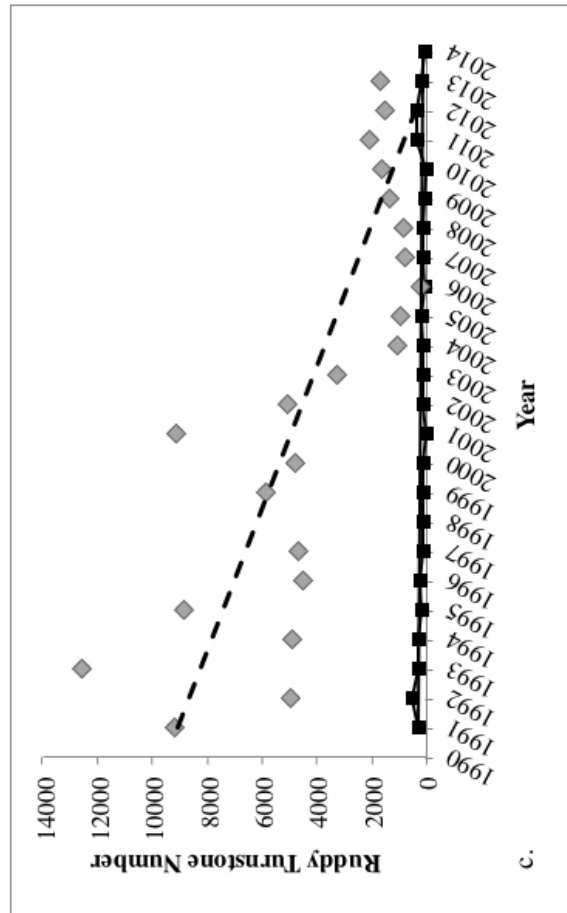
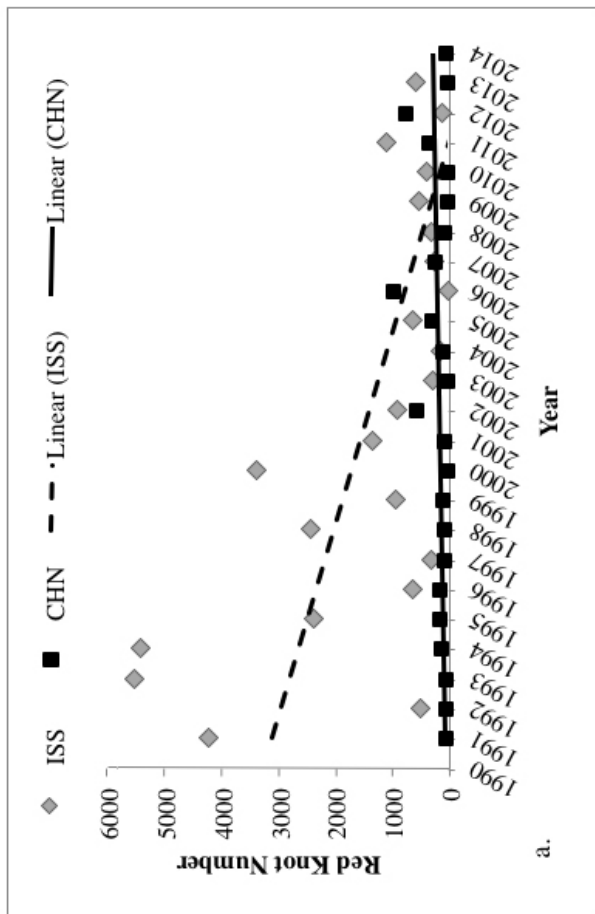
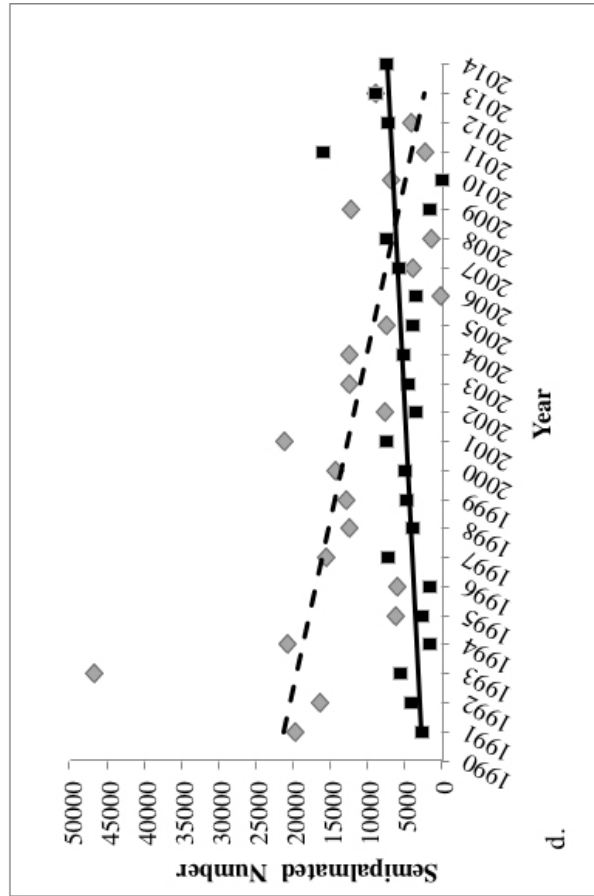
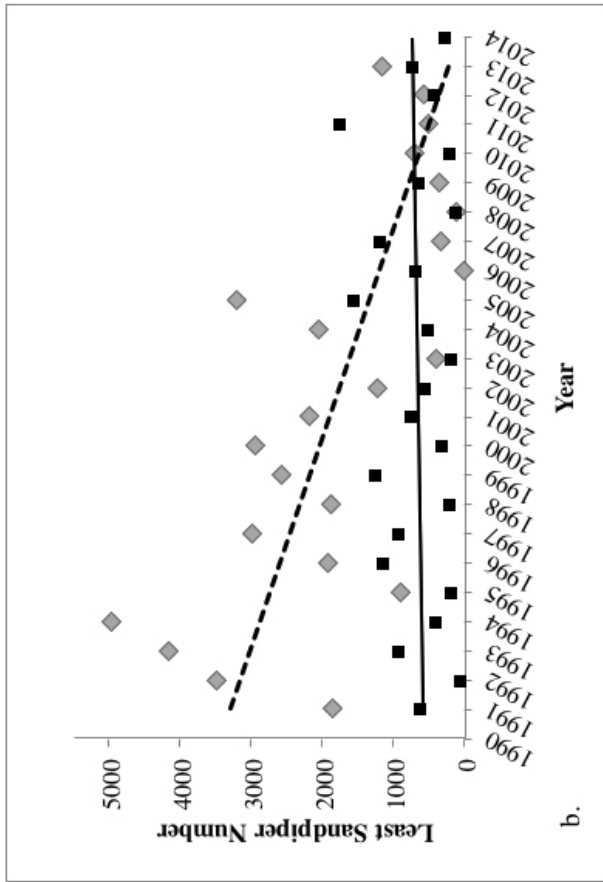


Figure 14 a-d: Spring Peak Trends for 4 shorebird species at Northeast Coastal ISS sites compared to Chincoteague NWR. Refuge trends tracked the landscape trends for Ruddy Turnstone, but did not for Red Knot, Least and Semipalmated Sandpiper.

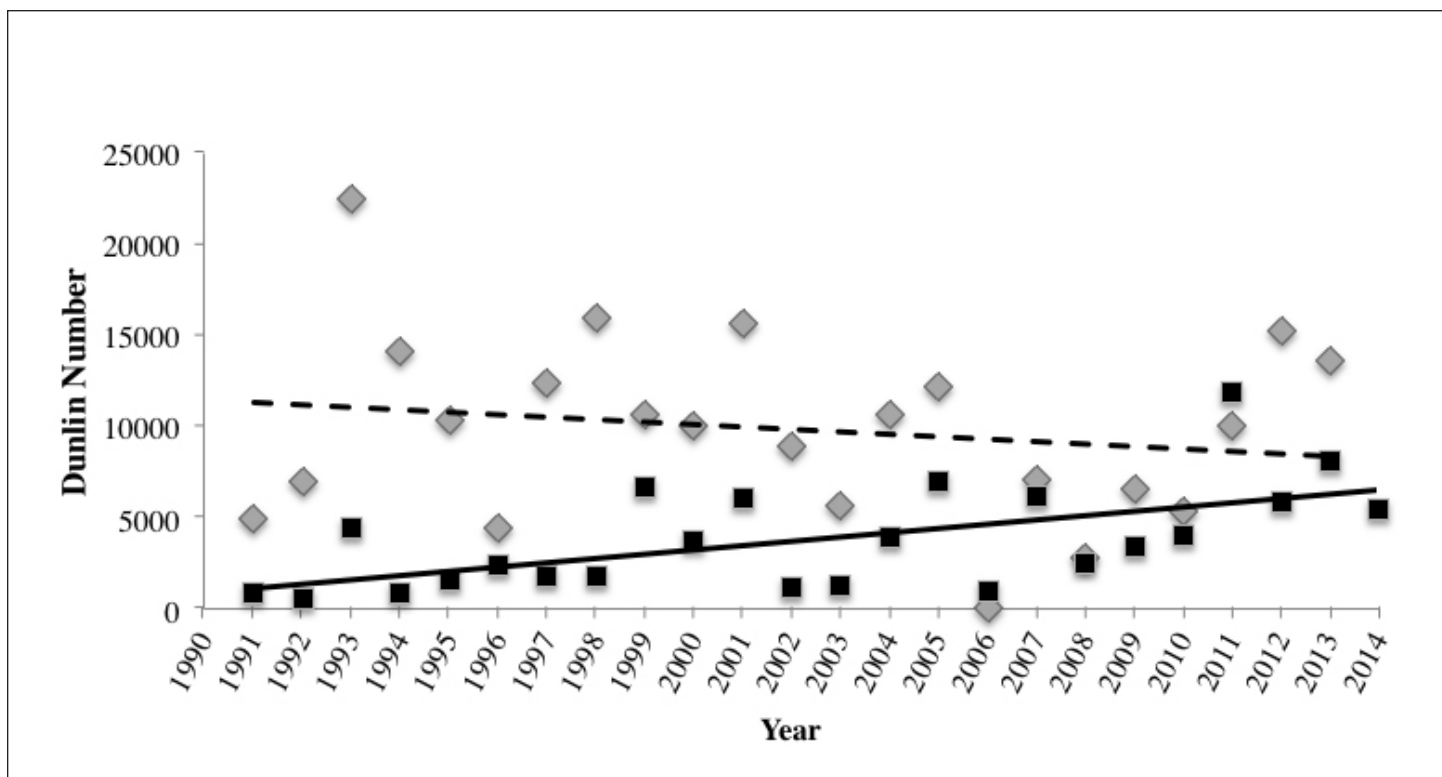
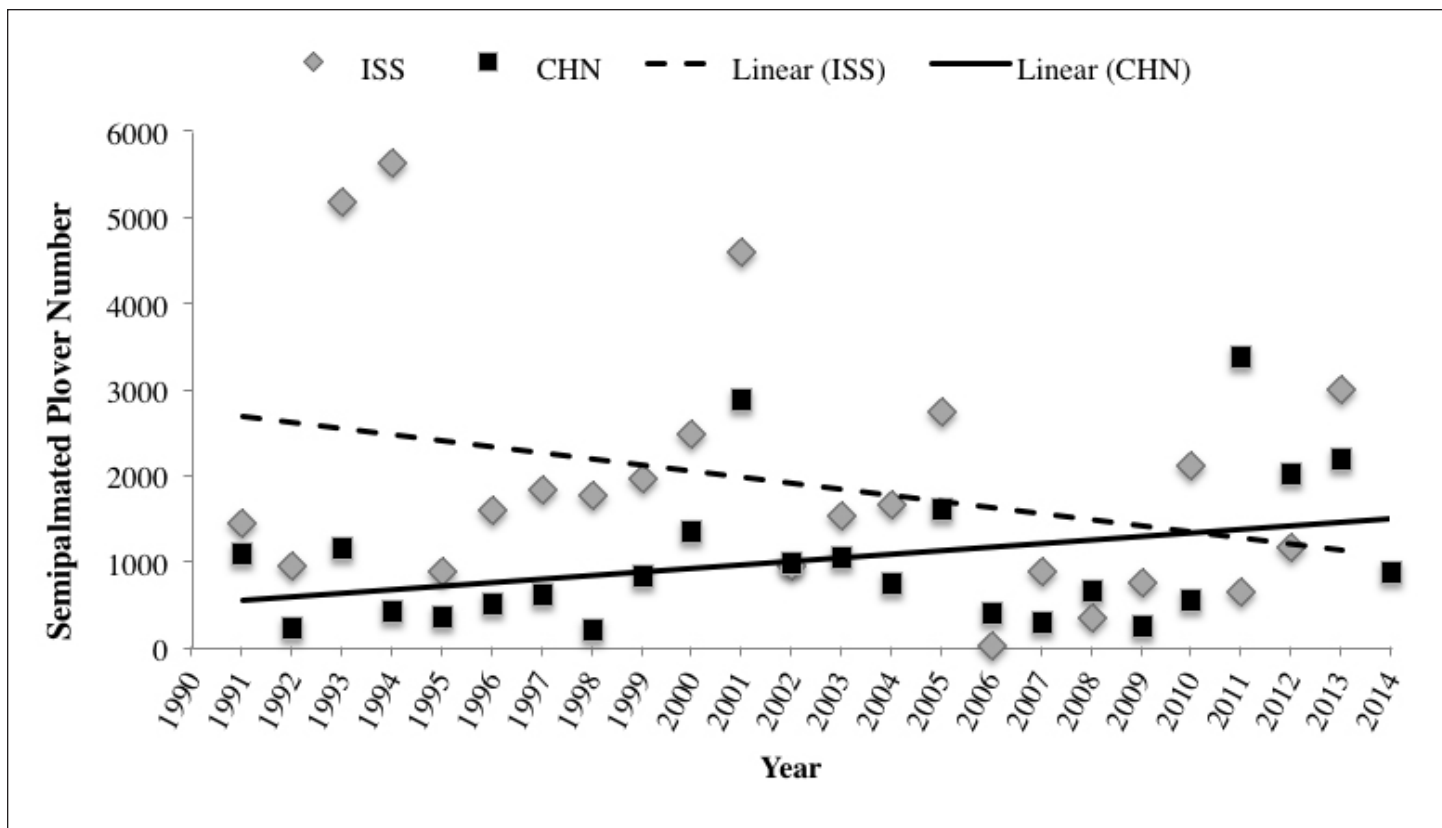


Figure 15 a and b: Spring Peak Trends for Semipalmated Plover and Dunlin at Northeast Coastal International Shorebird Survey Sites Compared to Chincoteague NWR. Numbers and trends are decreasing at the landscape level and increasing on the Refuge. The difference between the ISS trend (dashed line) and Chincoteague trend (solid line) is significant.

Our analysis suggests a decreasing, non-significant trend for Semipalmated Plover ($P = 0.08$) (Fig. 15) on Northeast Coastal Region ISS sites. P -values were too high to suggest any kind of trend for Sanderling ($P = 0.35$; Fig. 13) and Dunlin ($P = 0.40$; Fig. 15) over the 23-year period. None of the individual species that we analyzed showed an increasing trend. The trend in annual peak spring shorebird numbers, all species combined, for ISS Coastal Sites surveyed from Maine to Virginia is strongly downward ($P < 0.001$; Fig 16).

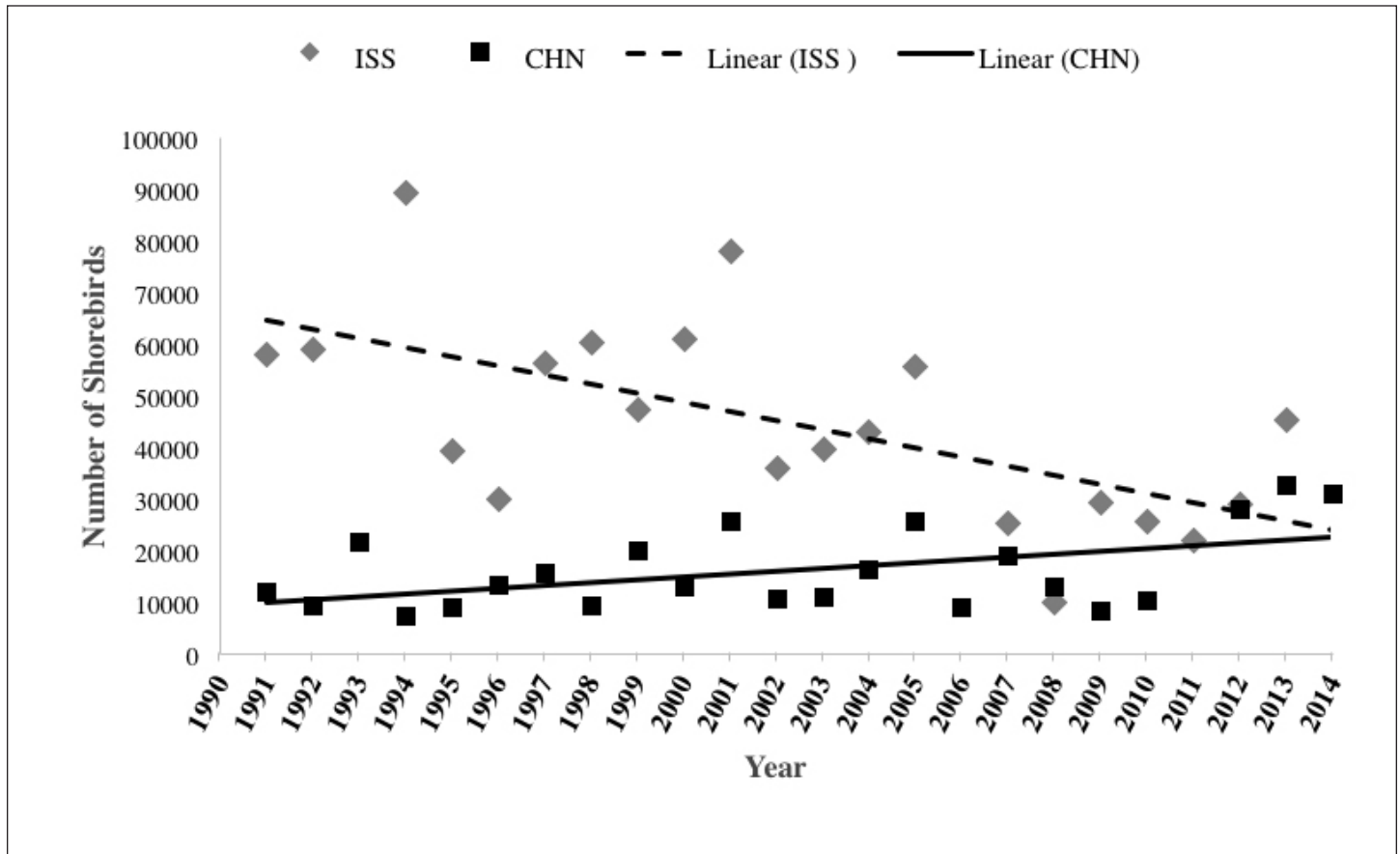


Figure 16: Comparison of Spring Peak Trends for All Shorebird surveyed at Chincoteague NWR and Northeast Coastal ISS Sites. Difference in trend lines is significant ($P < 0.001$). Three outlier data points deleted and data Log_{10} transformed.

DISCUSSION

Although Refuge spring migration trends tracked larger landscape trends for three species (Whimbrel, Sanderling and Ruddy Turnstone), shorebirds generally are doing better on the Refuge. Opposite trends were detected between Refuge and ISS sites for Least and Semipalmated Sandpiper, Dunlin, Red Knot, and all shorebird species combined (Fig. 14-16). Several possible explanations could account for these observed trends. Shorebird habitat at the Refuge could be improving relative to other sites in the Region, or as other sites deteriorate and/or are lost to either, development, disturbance, or sea level rise, Refuge habitats could be maintaining their quality.

We considered factors that could contribute to improving or maintaining habitat quality. In the 1990s, the USFWS National Wildlife Refuge System began placing greater emphasis on managing impoundments for shorebirds, which had been traditionally managed for waterfowl. Shorebird management courses were taught nationwide and technical information on how to manage water levels for shorebirds dispensed to Refuge biologists and managers. The Refuge began implementing management objectives and actions to protect shorebirds and enhance their habitat (USFWS 2015, Chincoteague NWR 1993, unpubl. Refuge Water Management Plans). Within constraints, water levels and vegetation cover in the impoundments are managed to create favorable shallow water and mudflats during migration periods. Additional evidence that trends for some species began improving in the 1990s comes from a comparison of our data set with Wilds' (2007) analysis of her 1970s/1980s data set. Our analysis indicated positive trends for Dunlin and Semipalmated Plover, whereas Wilds' (2007) observed declines during the late 1970s and 1980s. Both species are primarily found in impoundments.

In response to the 1986 listing of the Piping Plover (*Charadrius melodus*) as Threatened under the Endangered Species Act, the Refuge initiated management and monitoring actions to protect their breeding sites. To minimize human disturbance to plovers and other beach-nesting shorebirds, the public cannot drive on Toms Cove Hook during the nesting season (March 15 through August 31), and pedestrian use is also restricted on many areas of the beach (Fig. 2). These closures minimize disturbance to other migrating shorebirds during spring migration and the majority of southbound migration, and could be a factor explaining why Red Knots, a species that uses primarily beach habitats, are faring better on Chincoteague Refuge than on other ISS monitored sites (Fig. 14a).

Another factor which could have contributed to the positive spring shorebird trends we observed on the Refuge is the designation of The Maryland-Virginia Barrier Islands

as a WHSRN site of international importance in September 1990. This designation has lent and leveraged more partner and public support for management and protection in the area. The 24-year timeframe of our analysis spans the lifetime of this WHSRN site.

Our comparison of trends in tidal vs. managed impoundments will assist the Refuge in identifying where management emphasis may make the highest contribution for migrating shorebirds. Shorebird use of impoundments, where water levels are controlled, has trended upward, while use of tidal areas, where management actions are limited, has remained stable. The difference between the slopes of tidal and managed impoundments versus year is significant ($P = 0.004$), supporting our assumption of improved impoundment habitat for shorebirds. However, given the constraints of water availability and the Refuge's limited ability to control water levels in the impoundments, high use of impoundment habitat could also be an artifact of wet vs. dry rainfall years rather than a result of active impoundment management. The only species that show declining trends on the Refuge over the 24-year period (Whimbrel, Ruddy Turnstone, and Sanderling) are those that primarily use beach areas, where habitat management options are limited. Wilds (2007) also found marked declines in Ruddy Turnstone and Sanderling in the spring.

There is always a potential for bias with a change in observers, as occurred when a new set of observers took over the surveys in fall 2009. However, we looked at trends eliminating the period 2010-2014, and the results remained the same. We also considered the sharp rise in shorebird peak numbers in 2011 which was the second field season after new observers took over the shorebird survey (Fig. 6, 7, 8). The data for small shorebirds was combined into a category called "peeps" to account for possible difficulty in identifying small shorebirds, and the data still showed a strong, positive trend (Fig. 9). Examination of notes taken during spring 2011 surveys noted that water levels in impoundments were ideal for migrating shorebirds, and that these had been sustained throughout most of the spring migration.

Our chronology analysis did not show any changes in peak shorebird use. Future analyses that examine whether the period of migration has changed (i.e., starting earlier or becoming more compressed), would be of interest. To complete the assessment of migration patterns on Chincoteague, it is further recommended that trends in fall migratory shorebird use also be evaluated in a similar manner as this paper.

Our implication that shorebirds are responding to management actions at the Refuge must be considered preliminary and is not without assumptions. Additional

data analysis and/or models that incorporate weather, impoundment-specific management activities by year, and possibly observers are needed to determine the most significant predictors of shorebird use at the Refuge. Analyzing the Refuge's Annual Water Management Plans and completed water level management actions compared to shorebird use at each impoundment would be helpful in teasing out which particular management actions are most important to improving shorebird use at the Refuge. It could also demonstrate which impoundments hold the most potential for water management actions that improve or maintain shorebird use. This would help the Refuge identify their most efficient and highest contribution toward shorebirds, and evaluate costs of impoundment maintenance in the face of sea level rise.

REFERENCES

- Andres, B.A., P.A. Smith, R.I.G. Morrison, C.L. Gratto-Trevor, S.C. Brown and C.A. Friis. 2012. Population estimates of North American shorebirds, 2012. *Wader Study Group Bull.* 119(3): 178–194.
- Bart, J., S. Brown, B. Harrington, and R.I.G. Morrison. 2007. Survey trends of North American shorebirds: population declines or shifting distributions? *J. Avian Biol.* 38: 73-82.
- Brown, S., C. Hickey and B. Harrington. 2000. *United States Shorebird Conservation Plan*. Manomet Center for Conservation Sciences. [Online]. Available: <ftp://ftp.manomet.org/Usscp/USShorebirdplan.pdf>
- Chincoteague NWR. 1993. Master Plan Chincoteague National Wildlife Refuge. Unpubl. document. USFWS Chincoteague, VA. 122 pp. [December 26, 2015]
- Clark, K.E. and L.J. Niles. 2013. *North Atlantic Regional Shorebird Plan Version 1. National Shorebird Conservation Plan*. [Online]. Available: <http://www.shorebirdplan.org/wp-content/uploads/2013/01/NATLAN4.pdf>. [November 2, 2015]
- Howe, M.A., P.H. Geissler, and B.A. Harrington. 1989. Population trends of North American shorebirds based on the International Shorebird Survey. *Biological Conservation* 49(1989): 185-199.
- Steinkamp, Melanie. 2015. . Mid-Atlantic/Southern New England Bird Conservation Region Implementation Plan (BCR 30). U.S. Fish and Wildlife Service, Atlantic Coast Joint Venture, Laurel, MD. [Online]. Available: http://www.acjv.org/documents/BCR30_Draft_Plan06_0718.doc
- USFWS. 2015. *Chincoteague and Wallops Island National Wildlife Refuges Final Comprehensive Conservation Plan and Environmental Impact Statement*. [Online]. Available:http://www.fws.gov/refuge/Chincoteague/what_we_do/finalccpeis.html
- U.S. Fish and Wildlife Service (2014). *Rufa Red Knot*. [Online]. Available: <http://www.fws.gov/northeast/redknot/>. [August 30, 2015].
- U.S. Fish and Wildlife Service. 1995. (*Charadrius melodus*), Atlantic Coast population, revised recovery plan. USFWS Region 5, Hadley, Massachusetts. 225 pp.
- Western Hemisphere Shorebird Reserve Network (2009). *Maryland-Virginia Barrier Islands*. WHSRN Western Hemisphere Shorebird Reserve Network. [Online]. Available: <http://www.whsrn.org/site-profile/maryland-virginia-barrier-islands>. [August 17, 2015].
- Wilds, C.P. 2007. Shorebirds at Chincoteague Patterns of Migration on the Virginia Coast. Coastal VA Wildlife Observatory. 80pp.

ACKNOWLEDGEMENTS

We are grateful, and slightly in awe of, Refuge volunteers Paul and Ann Smith, who faithfully conducted shorebird surveys on Chincoteague National Wildlife Refuge for nearly 20 years (1991-2009), and other interns and volunteers who entered data and otherwise helped collect data. Paul Allen Smith, National Wildlife Research Centre of Environment Canada, generously supplied the complete ISS data set. He and Brad Winn of Manomet Bird Observatory provided helpful guidance during the planning stages of our data analysis. We acknowledge Manomet Bird Observatory for initiating the International Shorebird Surveys (ISS) in the early 1970s and for keeping it running with volunteer effort over four decades. We appreciate the early work of Claudia Wilds, who initiated the Chincoteague surveys, conducting them through the 1970s and into the 1980s, and compiling her results into a publication that was edited by Edward S. Brinkley.

2016 ANNUAL REPORT OF THE VIRGINIA AVIAN RECORDS COMMITTEE

BILL WILLIAMS, VARCOM CHAIR

154 Lakewood Dr, Williamsburg, VA 23185; billwilliams154@gmail.com

WENDY EALDING, VARCOM SECRETARY

2365 Bel Crest Circle, Midlothian, VA 23113; WEalding@aol.com

The members of the 2016 Virginia Avian Records Committee (VARCOM) were Bill Williams (Chair), Wendy Ealding (Secretary), Adam D'Onofrio, Mike Stinson, Lee Adams, Kieran Kilday, Ellison Orcutt, Todd Day and Gerry Hawkins

The Committee held its annual meeting in Fredericksburg on March 19, 2016. Among the topics discussed were:

- Reviewing and updating the Bylaws, including the development of an expedited review procedure for eBird records that have good quality media as part of the record. According to Gerry Hawkins, Massachusetts Avian Records Committee (MARC) had developed such a process and used it successfully for two years, resulting in a significant reduction in their workload. It also allowed them to review records that would not otherwise be submitted. A list of Virginia species eligible for expedited review was developed by Gerry Hawkins and Wendy Ealding. Details of the expedited review procedure can be seen at <http://www.virginiabirds.org/varcom/expedited-review/>
- Updating the Review List; details of the changes to the Review List can be seen in the meeting minutes at <http://www.virginiabirds.org/varcom/annual-meeting-minutes/>

These changes to the Bylaws were approved by the Virginia Society of Ornithology (VSO) Board of Directors at their annual meeting in Roanoke on April 29, 2016. Adam D'Onofrio agreed to serve as the Voting Member for the expedited review procedure.

In May 2016, Arun Bose stepped down as webmaster for VSO, and Rob Bielawski took over in his place. Rob developed a new website for VSO and VARCOM; the VARCOM portion can be seen at: <http://www.virginiabirds.org/varcom/overview/>

In July 2016, the American Ornithologist's Union published its annual update to the AOU Official List, which is the basis for Virginia's Official List. Although none of the splits or lumps affected the Virginia Official List, there was a major revision of the taxonomic sequence of species. This

necessitated revision of the State Official List and Review List which can be seen at: <http://www.virginiabirds.org/varcom/official-state-list/> and <http://www.virginiabirds.org/varcom/review-list/>.

Work was completed on DOVES (Database for Ornithological Verification and Submission) by Old Dominion University graduate student Bharath Kongara and undergraduate senior Grant Atkins. This included transfer of all accepted VARCOM archived records and their associated images into DOVES, which required contacting observers to obtain their permission to post their images in the public online archive. It has not proved possible to contact all of the observers, hence not all of the images are viewable. The DOVES site was officially launched to the public in October 2016 and all the records can be seen at <http://vsodoves.org>

The following decisions were made by the Virginia Avian Records Committee during calendar year 2016. Accepted records fall into one of the following Categories, as specified in VARCOM 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, Western Marsh-Harrier, Red-necked Stint, Eurasian Woodcock, Black Guillemot, Brown Noddy, Black-billed Magpie, Boreal Chickadee, Sage Thrasher, Sprague's Pipit, Bohemian Waxwing, 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 108 records in 2016; of these 98 were accepted and 10 were not accepted. 37 of the accepted records were by expedited review. Two full species, Zone-tailed Hawk (*Buteo albonotatus*) and Dusky Flycatcher (*Empidonax oberholseri*) were added to the official state list. The official list now stands at 473 species.

Highlights included the first state records of Zone-tailed Hawk and Dusky Flycatcher, the first state record for Red-tailed Hawk (Northern (*abieticola*) ssp.) and the first state photographic record for Townsend's Warbler, moving that species to the Category 1 list.

Abbreviations: ph. – photographed; † - written documentation submitted; vr. – video recording; * - specimen collected; CBC – Christmas Bird Count; eBird – accepted by expedited review; ML XXXXXXXX – Macaulay Library identification number

RECORDS ACCEPTED

Black-bellied Whistling-Duck (*Dendrocygna autumnalis*): Five records as follows:

Six individuals, Cheriton Landfill, Northampton County [ph. Kim Harrell, ph. Ned Brinkley] May 13, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/va/view/checklist?subID=S29622120> ML28680141 and <http://ebird.org/ebird/view/checklist?subID=S29609752> ML28657871. This was the ninth Coastal Plain record since the 2004 Review List

One individual, Lake Joyce & Shore Drive, Virginia Beach [ph. Bob Ake] June 15, 2016; accepted Category 1 (eBird); (<http://ebird.org/ebird/view/checklist/S30247742>, ML30248381; [ph. Ernie Miller] June 16, 2016 <http://ebird.org/ebird/view/checklist/S30262283> ML30277411; [ph. Adam Bollinger] June 17, 2016 <http://ebird.org/ebird/view/checklist/S30273076> ML30302331. This bird was first reported to eBird by Kim Garcia with an identifiable photograph as Duck sp. June 14, 2016. Last date reported to eBird by Ellison Orcutt on June 28, 2016. This was the tenth Coastal Plain record since the 2004 Review List.

Six individuals, Pond by Nicklaus 18th hole, Northampton County [Stephen Grimes, ph. Ron Wrucke] July 24, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S30831235>, ML31572431, ML31572441, ML31572451. These were possibly the same six birds reported May 13, 2016 by Kim Harrell and Ned Brinkley.

One individual, Glen Allen SW Atlas block, Henrico County [ph. Kim Harrell] June 29, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/atlasva/view/checklist/S30461574> ML30714201.

This was the fourth Piedmont record.

Eight individuals, Paul C. Edmunds, Jr. Memorial Park, Halifax County [ph. Jeff Blalock] August 7, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S31005947> ML32150261 ML32150271. This was the fifth Piedmont record.

Cackling Goose (*Branta hutchinsii*): Two records as follows:

Two individuals, Clarke County [ph. † James Fox] October 29, 2015; accepted Category 1. This was the fifth Mountains and Valleys record since the 2004 split from Canada Goose.

One individual, Purcellville, Loudoun County [ph. † Daniel Carrier] January 3, 2016; accepted Category 1. This was the seventh Piedmont record since the 2004 split from Canada Goose.

Trumpeter Swan (*Cygnus buccinator*): One immature, Silver Lake, Rockingham County [† Charles Ziegenfus and James Madison University ornithology class, ph. Dakota Kobler] January 20 – April 3, 2016; accepted Category 5. This was

the fifth Mountains and Valleys record since the species' status was redefined as Category 5 in 2014.

Surf Scoter (*Melanitta perspicillata*): One first winter bird, Lake Frederick, Frederick County [ph. † David Boltz, William Parkin] November 30 – December 2, 2015; accepted Category 1. This was the sixth Mountains and Valleys record since the 2004 Review List.

Black Scoter (*Melanitta americana*): Two females, Mud Fork Road, Tazewell County [ph. † Clancey Deel] November 1, 2014; accepted Category 1. This was the second Mountains and Valleys record since the 2004 Review List.

Common Merganser (*Mergus merganser*): Two records as follows:

One adult female and 17 young, Arcadia, Botetourt County [†John Pancake, ph. Steve Richards, m.obs.] May 24, 2014; accepted Category 1. This was the first breeding record for Botetourt County.

One adult female and two juveniles, Goshen Pass, Rockbridge County [† John Pancake, ph. Ann Olson] June 21, 2015; accepted Category 1. This was the first breeding record for Rockbridge County.

Western Grebe (*Aechmophorus occidentalis*): One individual, Machipongo River, Accomack and Northampton Counties [† Todd Day, m.obs.; photographs by Rob Bielawski and Matt Anthony] February 28, 2016; accepted Category 1. This was the third Coastal Plain record since the 2004 Review List.

Eurasian Collared-Dove (*Streptopelia decaocto*): One individual, private residence, Lynchburg [† Mark Johnson, ph. Jim Carrington] May 5, 2015; accepted Category 5. This was the first Piedmont record from the Lynchburg area.

White-winged Dove (*Zenaida asiatica*): Two records as follows:

One individual, private residence, Alexandria [ph. † Margaret Hawkins and Fred Redeker] May 23-24, 2015. Although the species is not on the Review List for the Coastal Plain, it was reviewed as a spring record. Although two individuals were reported, only one of the two birds was accepted as Category 1 as the second bird was not adequately documented.

One individual, private residence, Rockbridge County [ph. Jerry and Glenda Jackson *vide* Kieran Kilday] November 7, 2015; accepted Category 1. This was the third Mountains and Valleys record.

Virginia Rail (*Rallus limicola*): One adult, Bell's Lane, Staunton [ph. † Gabriel Mapel, m.obs.] February 19, 2016; accepted Category 1. Although the species is not on the Review List, this was reviewed as an extraseasonal record as the first February Mountains and Valleys record.

Purple Gallinule (*Porphyrio martinicus*): One individual, Princess Anne WMA—Beasley Tract, Virginia Beach [ph. Rob Bielawski] May 16, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/atlasva/view/checklist?subID=S29721917>. ML28921441 ML28921451 ML28921471.

Last date reported to eBird by David Clark on May 29, 2016. This was the third Coastal Plain record since the 2004 Review List.

Sandhill Crane (*Antigone canadensis*): Two records as follows:

Four individuals, private property, King George County [ph. † Fred Atwood, ph. † Matt Anthony, m.obs.] November 1-15, 2015; accepted Category 1. This was the eighth Coastal Plain record since the 2004 Review List.

20 individuals, Madison County [† Amy Neale] January 15, 2016; accepted Category 2. This was the fifth Piedmont record since the 2004 Review List.

American Avocet (*Recurvirostra americana*): Three records as follows

One individual, Shirley Plantation, Charles City County [ph. Ellison Orcutt] October 3, 2014; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S20017579>. This was the eighth chronological and the ninth accepted inland Coastal Plain record since the 2004 Review List. The eighth accepted record of three birds at Dyke Marsh on July 22, 2015, was actually the ninth chronological record (Williams and Ealding, 2016).

Two individuals, Shirley Plantation, Charles City County [ph. Ellison Orcutt] September 11, 2015; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S24989982>. This was the tenth inland Coastal Plain record since the 2004 Review List.

Two individuals, Swift Creek Reservoir, Chesterfield County [ph. Nancie Silva] August 17, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S31132555> ML32763811 ML32763831

ML32763851. This was the sixth Piedmont record and the first since 1980.

American Golden-Plover (*Pluvialis dominica*): 15 individuals, Lumber Mill Road, Rockingham County [vr., † Michael Godfrey, Jean Shutt] September 24, 2015 (also 13 birds reported [Dick Rowe] September 26, 2015 and 25 birds reported [William Leigh] September 27, 2015); accepted Category 1. This was the third Mountains and Valleys record since the 2004 Review List.

Piping Plover (*Charadrius melodus*): One juvenile, Hog Island WMA, Surry County [ph. † Adam D'Onofrio] August 5, 2015; accepted Category 1. This was the second

Coastal Plain record west of the Bay since the 2004 Review List.

Whimbrel (*Numenius phaeopus*): One individual, Staunton River State Park, Halifax County [ph. Jeff Blalock, m.obs.] September 5-10, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S31457658>; ML34321601 ML34322181 ML34336801. This was the fifth Piedmont record.

Hudsonian Godwit (*Limosa haemastica*): Two records as follows:

One individual, private property, King George County [ph., vr. † Matt Anthony, Geoff Giles, m.obs.] November 1 – 11, 2015; accepted Category 1. This bird, first found November 1, 2015 by Jan Frye, was the third Western Coastal Plain record since the 2004 Review List.

One individual, Hog Island WMA, Surry County [ph. Jason Strickland] September 2, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S31384558> ML34034381. This bird, first reported earlier that day by Elisa Flanders, was the fourth Western Coastal Plain record since the 2004 Review List.

Marbled Godwit: (*Limosa fedoa*): Three records as follows:

One individual, Jamestown Island, James City County [ph. Bill Williams] July 18, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S30749635> ML31377771 ML31379201. This was the 11th record for the Colonial Historic Triangle (Williamsburg, James City County, York County, Hog Island, Surry County) record.

One individual, Hog Island WMA, Surry County [ph. Adam D'Onofrio] August 14, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S31090261> ML32567101 ML32567141. This was the 12th record for the Colonial Historic Triangle (Williamsburg, James City County, York County, Hog Island, Surry County) record.

One individual, Spring Creek, Abingdon, Washington County [ph. Michael Sanders] August 31, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S31343948>. This was the fourth Mountains and Valleys record.

Red Knot (*Calidris canutus*): One individual, Staunton River State Park, Halifax County [ph. Adam D'Onofrio] September 10, 2016, present September 7-11, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S31519584>; ML34768941 ML34768991. This bird, first found September 7, 2016 by Evan Spears, Warren Rofe and Amanda Dymacek, was the first Piedmont record (Rottenborn and Brinkley, 2007).

Curlew Sandpiper (*Calidris ferruginea*) Two individuals reported, Craney Island Disposal Area, Portsmouth [†

Andrew Baldelli, ph. Bill Williams, m.obs.] May 6, 2014. Although the species was not on the Review List for the Eastern Coastal Plain at the time, it was reviewed for the Craney Island record and also because the presence of more than one individual is very unusual. Although two individuals were reported, only one was accepted as a Category 1 record as the second bird was not adequately documented. A single bird was present through May 15, 2014. There are only six prior records from Craney Island and all of these occurred between 1976 and 1995 (Rottenborn and Brinkley, 2007).

Sanderling (*Calidris alba*): Three individuals, Kerr Reservoir, Mecklenburg County [ph. † Frank Fogarty, Adam Bollinger, Jason Strickland] August 27, 2015. This was the second Piedmont record reviewed and accepted by VARCOM.

Baird's Sandpiper (*Calidris bairdii*): One individual, Staunton View Public Use Area, Halifax County [† Paul Glass, Jeff Blalock, ph. † Adam Bollinger] August 29 – September 7, 2015; accepted Category 1. This was the third Piedmont record since the 2004 Review List.

Buff-breasted Sandpiper (*Calidris subruficollis*): One individual, Dayton, Rockingham County [vr. † Michael Godfrey] September 24, 2015; accepted Category 1. This was the second Mountains and Valleys record since the 2004 Review List.

White-rumped Sandpiper (*Calidris fuscicollis*): Two individuals, Staunton River State Park, Halifax County [ph. Adam D'Onofrio, m.obs.] September 5-10, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S31457658>; ML34325871 ML34325901. This was the first Piedmont record since the 2004 Review List.

Willet (Western) (*Tringa semipalmata inornata*): Two records as follows:

One individual, Cavitt's Creek Park, Tazewell County [ph. Clancey Deel] July 19, 2014; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist?subID=S19151761>. ML34906551 ML34906561 ML34906571. This was the second Mountains and Valleys record for the Western subspecies.

One individual, Staunton River State Park, Halifax County [ph. Adam D'Onofrio, m.obs.] September 10, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S31519584> ML34770071 ML34770081. This was the second Piedmont record since the 2004 Review List.

Red Phalarope (*Phalaropus fulicarius*): One individual, Craney Island Disposal Area, Portsmouth [† Bill Williams, ph. Bob Ake] October 19, 2015; accepted Category 1. This was the fourth onshore Coastal Plain record since the 2004 Review List.

Pomarine/Parasitic Jaeger (*Stercorarius pomarinus/parasiticus*) one immature, Kerr Reservoir, Mecklenburg County [ph. † Paul Glass, ph. Bruce Richardson, m.obs.] February 22, 2014. This record, submitted as Parasitic Jaeger, was the subject of extensive review, including consultation with outside experts. The conclusion was that it could not be identified as to species and was finally accepted as Category 1 as Pomarine/Parasitic Jaeger

Long-tailed Jaeger (*Stercorarius longicaudus*): One individual, Ship Shoal Island, Northampton County [* † Bill Williams] June 26, 1975; accepted Category 1. This formal review of a specimen record was the first onshore Coastal Plain summer record of the species (Williams, 1976)

Black-legged Kittiwake (*Rissa tridactyla*): Three records as follows:

One juvenile, Bergton, Rockingham County [† ph. Benjamin Tyson, Gordon Shantz] November 30, 2015; accepted Category 1. This was the second Mountains and Valleys record.

One individual, Back Bay NWR (seen from Little Island Park), Virginia Beach [† ph. vr. Ernie Miller] December 31, 2015; accepted Category 1. This was the second onshore Coastal Plain record since the 2004 Review List.

One individual, Chesapeake Bay Bridge Tunnel - South Thimble Island (#1), Virginia Beach, [ph. James Fox, m.obs.] September 3, 2016, accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S31397299> ML34119071. This record, associated with Tropical Storm Hermine, was the third onshore Coastal Plain record since 2004 Review List.

Franklin's Gull (*Leucophaeus pipixcan*): Two individuals, Hunting Creek Bridge, Fairfax County [† Sherman Suter] November 17, 2015; accepted Category 2. This was the first fall record along the Potomac River since 1998.

Lesser Black-backed Gull (*Larus fuscus*): One adult *graellsii* ssp., Lunenburg Landfill, Lunenburg County [ph. † Mike Stinson] January 7, 2016; accepted Category 1. This was the fifth Southern Piedmont record since the 2004 Review List, and the first Lunenburg County record.

Sooty Tern (*Onychoprion fuscatus*): One adult, one juvenile, Chesapeake Bay Bridge Tunnel - South Thimble Island (#1), Virginia Beach [Arun Bose, ph. Rob Bielawski, m.obs.] September 3, 2016; accepted Category 1 (eBird) (ph. †) <http://ebird.org/ebird/view/checklist/S31396725>; ML34097811 ML34097831 ML34097841 ML34097861 ML34343741 ML34343761. Although as many as 20 birds were reported by some observers, the numbers of adults and juveniles were not stated, hence only one adult and one juvenile were accepted based on the photos. This record,

associated with the passage of Tropical Storm Hermine, was the sixth onshore Coastal Plain record since the 2004 Review List.

Bridled Tern (*Onychoprion anaethetus*): One individual, Cheriton Landfill, Northampton County, [ph. James Fox] September 3, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S31391871>; ML34119661, ML34119671 ML34119681. Like many of the onshore records for this species, this one followed an offshore hurricane, in this case Tropical Storm Hermine. It was the second such record since the 2004 Review List.

Arctic Tern (*Sterna paradisaea*): One individual, Chincoteague NWR, Accomack County [ph. † Frank Fogarty, Ernie Miller, Jason Strickland, Adam Bollinger] July 12, 2015; accepted Category 1. This was the second onshore Coastal Plain record since the 2004 Review List.

Pacific Loon (*Gavia pacifica*): Three records as follows:

One individual, Palmer Point, Mecklenburg County [ph. † Evan Spears] February 9, 2015; accepted Category 1. This bird was originally reported to eBird by Jeff Blalock and Adam D'Onofrio on December 6, 2014 and was last reported on March 15, 2015 by multiple observers. It was the tenth Piedmont record since the 2004 Review List. It may be the same individual returning in multiple winters since 2003.

One individual, Kerr Reservoir Dam Area, Mecklenburg County [ph. Adam D'Onofrio, m.obs.] April 3, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/atlasva/view/checklist?subID=S28718415>. ML26539631 ML26539681 ML26539711. This was the 11th Piedmont record since the 2004 Review List. This bird was originally reported to eBird by Jeff Blalock on November 14, 2015 and was last reported by Evan Spears on April 26, 2016. It may be the same individual returning in multiple winters since 2003.

One individual, Sandy River Reservoir, Prince Edward County [ph. Mike Stinson] May 9, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist?subID=S29516231>. ML28448521 ML28448571. This was the 12th Piedmont record since the 2004 Review List and one of only two Piedmont records outside of Kerr Reservoir.

Black-capped Petrel (*Pterodroma hasitata*): Two records as follows:

One individual, East of Norfolk Canyon, Northampton County, [ph. James Fox, m.obs.] August 20, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S31173121>; ML32994651

ML33019381 ML33038371 ML33149271. Although three

birds were reported, only the one bird in the photo was accepted. This was the third pelagic record since the 2004 Review List.

One individual, Norfolk Canyon, [ph. Matt Anthony, ph. Kate Sutherland, ph. Gerco Hoogeweg, m.obs.] September 10, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S31546658>; ML34890501 ML34894001 ML34894011 ML34908721 ML34908871 ML34908881. Although four birds were reported, only the one in the photo was accepted. This was the fourth pelagic record since the 2004 Review List.

Sooty Shearwater (*Ardenna grisea*): One individual, Back Bay NWR, Virginia Beach [Andrew Baldelli, ph. Tracy Tate] May 22, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist?subID=S29928438>. ML29338121. This bird, possibly sick or injured, was originally reported to eBird by Cathy Williamson on May 20, 2016. This was the second non-pelagic Coastal Plain record since the 2004 Review List.

Brown Booby (*Sula leucogaster*): One adult, Kerr Reservoir, Mecklenburg County [ph. † Jeff Blalock, ph. † Adam Bollinger, m.obs.] August 27 – September 20, 2015; accepted Category 1. This was the first Piedmont record.

Anhinga (*Anhinga anhinga*): Six individuals, Carson Wetland, Prince George County [Jason Strickland, Matt Anthony, ph. Todd Day, ph. James Fox, m.obs.] June 12, 2016 - September 4, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S30192234> ML30116061 ML30170751, [ph. Andrew Rapp, Robert Wood], <http://ebird.org/ebird/view/checklist/S30216090>. This was the second Western Coastal Plain record since the 2012 Review List.

American White Pelican (*Pelecanus erythrorhynchos*): Three records as follows:

Four individuals, Staunton View Public Use Area, Mecklenburg County [ph. † Jeff Blalock, Paul Glass, Fenton Day, Clyde Wilson] September 28 -30, 2015; accepted Category 1. This was the fourth Piedmont record

Five individuals, Orange County [† Thomas Jones and ph. Walker Catlett] April 26-27, 2016; accepted Category 1 and [ph. Todd Day] April 26, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/atlasva/view/checklist/S29222857>; ML27677111. This was the fifth Piedmont record

One individual, Lake Frederick, Frederick County [ph. David Boltz] May 3, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist?subID=S29377812> ML28075821 ML28075831 ML28076381. This was the ninth Mountains and Valleys record

Snowy Egret (*Egretta thula*): Two records as follows:

One individual, Lake Hollymeade, Albemarle County [ph.

† Janet Paisley] April 9, 2015; accepted Category 1. This was the fourth Piedmont record since the 2004 Review List.

One individual, Dick Cross WMA--Clyde's Pond, Mecklenburg County [ph. Clyde and Donna Wilson] July 10, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S30628397> ML31116831. This was the fifth Piedmont record since the 2004 Review List.

White Ibis (*Eudocimus albus*): One juvenile, Wildwood Park-Bridgewater, Rockingham County [Tom Mizell, ph. Diane Lepkowski] August 1, 2016 (through 8/15/16); accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S30944408> ML31898211. This was the seventh Mountains and Valleys record since the 2004 Review List.

Glossy Ibis (*Plegadis falcinellus*):

Two individuals, Lumber Mill Road, Rockingham County [ph. † William Leigh] August 27, 2015; accepted Category 1. This was the fifth Mountains and Valleys record since the 2004 Review List

Two individuals, Blandy Experimental Farm / State Arboretum of Virginia, Clarke County [ph. David Carr] May 13, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist?subID=S29624599>. ML28688051 ML28688151. This was the sixth Mountains and Valleys record since the 2004 Review List.

White-faced Ibis (*Plegadis chihi*): Two records as follows:

Two individuals, Chincoteague Causeway, Accomack County [ph. † James Fox, Matt Anthony] July 9, 2016; accepted Category 1. This was the sixth Eastern Shore record since the 2004 Review List.

One individual, Chincoteague NWR, Accomack County [ph. † Kim Harrell] August 11, 2016; accepted Category 1. May be one of the birds reported by Fox and Anthony on July 9, 2016.

Swallow-tailed Kite (*Elanoides forficatus*): Two records as follows:

One individual, Smyth County [ph. Alan Kneidel] August 7, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S31006679> ML32169661 ML32169671 ML32169681 ML32169691. This was the eighth Mountains and Valleys record.

Three individuals, Amelia County [ph. Julian and Amanda Dymacek] August 14, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist/S31089676> ML32539021. This was the sixth Piedmont record since the 2004 Review List.

Swainson's Hawk (*Buteo swainsoni*): Two records as follows:

One individual, Kiptopeke State Park Hawkwatch, Northampton County [† Eli Gross] September 21, 2015; accepted Category 2. This was a courtesy review for the Kiptopeke Hawk Watch as the species is not on the Review List for Northampton County.

One individual, Kiptopeke State Park Hawkwatch, Northampton County [† Eli Gross] September 22, 2015; accepted Category 2. This was a courtesy review for the Kiptopeke Hawk Watch as the species is not on the Review List for Northampton County. This may be the same bird reported the previous day.

Zone-tailed Hawk (*Buteo albonotatus*): One individual, Kiptopeke State Park Hawkwatch, Northampton County [† Eli Gross, ph. Charlie Boykin, ph. Zak Poulton, ph. Bob Anderson] September 23-28, 2015; accepted Category 1. This was the first state record.

Red-tailed Hawk (Northern (*abieticola*) ssp.) (*Buteo jamaicensis abieticola*): One adult, Gravelly Point Park, Arlington [ph. † Gerry Hawkins] December 18, 2015; accepted Category 1.

This was the first state record for the subspecies.

Snowy Owl (*Bubo scandiacus*): Four records as follows:

One individual, private property, Woodbridge east of I-95, Prince William County [ph. † Jim Hazzard] December 13, 2014 – March 8, 2015; accepted Category 1.

One individual, Yorktown Battlefield, York County [ph. *vide* Bill Williams] December 15, 2013; accepted Category 1. The photo, the only documentation available for this bird, was posted to a website. The photographer granted the Williamsburg Bird Club permission to retain the photo. No other details are known. This was the first York County record and the third record for the Colonial Historic Triangle.

One male, Craney Island Disposal Area, Portsmouth [ph. † Bill Williams] December 5, 2013 – March 11, 2014; accepted Category 1.

One female, Craney Island Disposal Area, Portsmouth [† Bill Williams, m.obs.] January 2 – February 26, 2014; accepted Category 2. This bird, first reported during the Nansemond River CBC, was identifiably a different individual from the bird reported and photographed at this location on December 5, 2013 (see previous record)

Dusky Flycatcher (*Empidonax oberholseri*): One individual, Norfolk Zoo, Norfolk [Eric Walters, ph. † Erin Heller, Ned Brinkley] January 27 and February 23, 2013; accepted Category 1. This first state record was the first to be positively identified by DNA analysis. (Heller et al., 2016)

Say's Phoebe (*Sayornis saya*): One individual, Mountain Road, Russell County [† Jerry and ph. Jane Thornhill,

Laverne Hunter and Peggy Herbert] January 2-3, 2016; accepted Category 1. This bird, discovered during the Blackford CBC, was the fourth Mountains and Valleys record.

Ash-throated Flycatcher (*Myiarchus cinerascens*): One individual, Kiptopeke State Park Hawkwatch, Northampton County [ph. † Eli Gross, Brian Taber, Ned Brinkley] November 8, 2015; accepted Category 1. This was the seventh Coastal Plain record since the 2004 Review List.

Scissor-tailed Flycatcher (*Tyrannus forficatus*): One adult, Yorktown Battlefield, York County [ph. Nancy Galliher *vide* Bill Williams] November 10, 2014; accepted Category 1. This was the sixth Coastal Plain record since the 2004 Review List.

Loggerhead Shrike (*Lanius ludovicianus*): One individual, Burwells Bay Road, Isle of Wight County [ph. Cheryl Jacobson] July 1, 2016 (according to eBird reports the bird was present May 4 – December 4, 2016); accepted Category 1 (eBird); <http://ebird.org/ebird/atlasva/view/checklist/S30479729> ML30759401. This is the third year that the species has been found at this location, as an individual was first reported at this location on May 3, 2014 by Frank Fogarty (Williams and Ealding, 2016). In 2015, it was reported to eBird May 19 – June 5, 2015 [ph. Ernie Miller and Jessica Ausura, m.obs.] accepted Category 1 (eBird) <http://ebird.org/ebird/view/checklist/S23541734>.

Northern Shrike (*Lanius excubitor*): One individual, Wolf Ridge Road, Augusta and Rockingham Counties [ph. † William Leigh, ph. Cory Taylor, ph. Gabriel Mapel, ph. † Diane Lepkowski] December 19-24, 2015; accepted Category 1. This bird, discovered during the Rockingham County CBC, was the fourth Mountains and Valleys record.

Common Raven (*Corvus corax*): One individual, Point of Rocks Park, Chesterfield County [† Wendy Ealding] September 20, 2015; accepted Category 2. This was the second Coastal Plain record reviewed and accepted by VARCOM since the 2004 Review List.

Cave Swallow (*Petrochelidon fulva*): Two records as follows: One individual, Colonial Beach, Westmoreland County [† Bruce Hill] November 16, 2015; accepted Category 2. This was the fifth Coastal Plain record west of the Bay since the 2004 Review List.

One individual, Chincoteague NWR, Accomack County [† Eli Gross, Jason Strickland] November 23, 2015; accepted Category 2. This was the 11th Coastal Plain record since the 2004 Review List and the second Chincoteague record.

Townsend's Solitaire (*Myadestes townsendi*): One individual, Reddish Knob, Rockingham County [ph. †

Teri Holland] February 28, 2016; accepted Category 2. Although a photograph was submitted, the Committee concluded that it was not sufficiently definitive evidence to support Category 1 status. It was the fifth state and third Mountains and Valleys record.

American Redstart (*Setophaga ruticilla*): One immature female, VPI Kentland Farm, Montgomery County [† Ryan Mays] December 19, 2015; accepted Category 2. Although the species is not on the Review List, this extraseasonal record was a courtesy review for the Blacksburg CBC. It was the second winter Mountains and Valleys record.

Black-throated Gray Warbler (*Setophaga nigrescens*): One individual (deceased), Merrimac Farm WMA, Prince William County [ph. Lyndon Hawkins] March 8, 2016; accepted Category 1. This was the second Piedmont record.

Townsend's Warbler (*Setophaga townsendi*): One individual, New Quarter Park, York County [ph. Nancy Barnhart +Bill Williams et al.] December 26, 2015; accepted Category 1. This was the third state and Coastal Plain record and also the first state photographic record.

Lark Sparrow (*Chondestes grammacus*): Two records as follows:

One individual, Richlands, Tazewell County [ph. + Clancey Deel] September 4, 2015; although two individuals were reported, only one of the two birds was accepted as Category 1 based on the photograph submitted; the second bird was not adequately documented. This was the fourth Mountains and Valleys record since the 2004 Review List.

One individual, Shirley Plantation, Charles City County [Arun Bose, ph. Ellison Orcutt] April 30, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist?subID=S29307666>; ML27942461. This was the second inland Coastal Plain record since the 2012 Review List.

Nelson's Sparrow (*Ammodramus nelson*): One individual, Bentivar Marsh, Albemarle County [ph. + David Shoch et al.] March 13, 2016; accepted Category 1. This was the first Piedmont record since the 2012 Review List.

Dark-eyed Junco (Oregon ssp.) (*Junco hyemalis montanus*): One adult male, Kiptopeke State Park, Northampton County [† Eli Gross, Graham Scarborough, ph. Ned Brinkley] October 16, 2015; accepted Category 1. This was the first accepted Coastal Plain record for the subspecies.

Western Tanager (*Piranga ludoviciana*): Two records as follows:

One adult male, Stuarts Draft, Augusta County [ph. + Brenda Tekin] May 3 - 5, 2015; accepted Category 1. This was the sixth Mountains and Valleys record.

One adult male, Settlers Mill, James City County [ph. + Bill

Williams, m.obs.] November 10, 2014 – March 21, 2015; accepted Category 1. This was the tenth Coastal Plain record since the 2004 Review List; seen at this location every year since 2009.

Lazuli Bunting (*Passerina amoena*): One adult male, private residence, Suffolk County [ph. + Brooke Gordon, m.obs.] February 16 – March 27, 2016; accepted Category 1. This was the third state and Coastal Plain record and the first since 1975.

Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*): One immature male, Woodbridge Veterans Memorial Park, Prince William County [ph. + James Fox, originally found by Kurt Gaskill] March 19, 2016; accepted Category 1, and [ph. Gerry Hawkins] March 19, 2016; accepted Category 1 (eBird); <http://ebird.org/ebird/view/checklist?subID=S28432753>. ML25903381 ML25903391. This was the second inland Coastal Plain record since the 2004 Review List.

RECORDS NOT ACCEPTED

Long-billed Dowitcher (*Limnodromus scolopaceus*): One individual, Burke's Garden--Spring Creek (MBC Pond), Tazewell County, May 5, 2016. The written documentation did not adequately rule out Short-billed Dowitcher.

Red-necked Phalarope (*Phalaropus lobatus*): One individual, Staunton View Public Use Area, Halifax County, September 7, 2015. While this was likely a *Phalaropus* sp., the written documentation did not definitively identify as to species, particularly given the viewing distance and lighting conditions.

California Gull (*Larus californicus*): One immature, King George County, February 14, 2015. As with many immature gulls, this was a challenging identification, and unfortunately there were no photos. Although the observer submitted a detailed written report, the Committee concluded that it did not eliminate the possibility of immature Herring Gull or Lesser Black-backed Gull.

Arctic Tern (*Sterna paradisaea*): One individual, Chincoteague NWR, Accomack County, August 12, 2015. The Committee concluded that the written description was not sufficiently detailed to distinguish the bird from Common Tern. Specifically, they commented on the lack of detail regarding the shape of the head, relative tail length, the color of the primaries, and the wing pattern as the bird flew away.

Great Shearwater (*Ardenna gravis*): One individual found dead on a beach on Metompkin Island, Accomack County, July 26, 2015. Although the identification was not in doubt, it was uncertain where the bird had died.

Neotropic X Double-crested Cormorant (*Phalacrocorax*

brasilianus X *Phalacrocorax auritus*): One individual, Jamestown Ferry Dock, James City County, January 12, 2016. The committee concluded that this bird was a small Double-crested Cormorant consistent with the size variations within this species across its range (Birds of North America Online). There was further consensus that there was insufficient documentation of this bird's tail length and inconclusive evidence of this bird's facial pattern and color to support that it was a hybrid Neotropic X Double-crested Cormorant.

American White Pelican (*Pelecanus erythrorhynchos*): Ten individuals, Rockingham County, May 1, 2016. The consensus of the Committee was that the very brief sighting and very poor viewing conditions did not allow adequate documentation of key field marks.

Scarlet Ibis (*Eudocimus ruber*): One individual, New River near Pembroke, Giles County, August 19, 2015. Although the identification was not in doubt, the bird did not fit the definition of a wild bird but, more likely, had escaped from a collection or breeder.

Ash-throated Flycatcher (*Myiarchus cinerascens*): Two individuals, Cavalier WMA, Chesapeake, December 16, 2015. The written documentation, which lacked key details, combined with the lack of images and observer experience, was insufficient for acceptance.

Cave Swallow (*Petrochelidon fulva*): Two individuals, Dutch Gap Conservation Area, Chesterfield County, December 30, 2015. The Committee concluded that these could not definitively be identified as Cave Swallows. Given the difficult lighting conditions, the photographs were not adequate to differentiate from Cliff Swallows, and certain aspects of the written documentation were not sufficiently detailed to eliminate Cliff Swallows.

Corrigendum for Raven 81(1) Gilmer, A. 2010. Annual Report of the [2009] Virginia Avian Records Committee. Raven 81(1): 30-33

The note regarding the Terek's Sandpiper Acceptance should be amended to read:

TEREK SANDPIPER (*Xenus cinereus*) 1 individual, Craney Island Disposal Area, Portsmouth, August 9, 2008, [Jane Frigo, Marc Nichols, Benjamin Copeland, James Harrison, ph. Mike Lowry].

LITERATURE CITED

- Birds of North America Online. Retrieved August 22, 2016 from <https://birdsna.org/Species-Account/bna/species/doccor/appearance>
- Heller, Erin L, Kevin C.R. Kerr, Nor F. Dahlan, Carla J. Dove and Eric L. Walters. 2016. Overcoming challenges to morphological and molecular identification of *Empidonax* flycatchers: a case study with a Dusky Flycatcher. J. Field Ornithol. 87(1): 96-103
- Rottenborn, S.C. and E.S. Brinkley. 2007. Virginia's Birdlife: An Annotated Checklist. Virginia Avifauna No. 7, Fourth Edition.
- Williams, B. 1976. A New Specimen Record for Virginia. The Raven 47: 54-55
- Williams, B and W. Ealding. 2016. 2015 Annual Report of the Virginia Avian Records Committee. The Raven 87(1): 18-25.

VIRGINIA CHRISTMAS BIRD COUNTS: 2016-2017 SEASON

TETA KAIN
7083 Caffee Creek Lane
Gloucester, VA 23061-3374
tkdragon7@gmail.com

The year 2016 saw quite a few changes in the line-up of Christmas bird counts in Virginia. For the first time since 2008, a new count was added and compilers changed on several counts. Along with the 48 counts submitted to the National Audubon Society, five other counts -- Chesapeake Bay, Darlington Heights, Giles County, Peaks of Otter, and Bristol -- appear in this report, but not in the summary appearing on the National Audubon Christmas Count website. In all, 53 counts were conducted in Virginia.

The inaugural Northumberland-Lancaster CBC, organized and compiled by Jeff Wright, is focused on the eastern ends of Northumberland and Lancaster counties, between the Rappahannock and Potomac rivers, bordering the Chesapeake Bay. The Circle incorporates a variety of the lands, wetlands, and waters of the two counties. The nearby Walkerton count to the southwest and Washington's Birthplace count to the north of this new circle, complement the coverage of Virginia's mid-eastern section of the state.

Overall weather conditions around the state were rather harsh. Thirty counts experienced light to very heavy rain, and high winds were a significant factor, especially for counts that bordered on Chesapeake Bay or were fairly close to it. Nassawaddox birders suffered extremely unfortunate weather conditions. Gale-force winds precluded the boat party from conducting its usual water census. Since the count area is about two-thirds water, it is a great disadvantage when weather doesn't allow boat observation. This situation has occurred almost every year of Nassawaddox's 11-year existence.

The Buchanan County effort, especially, was greatly hampered by freezing rain, heavy fog and snow, preventing all but two birders (the compiler and her husband) to do any outside birding at all. Augusta County birders were another group that encountered great difficulties with the weather. Fog was an annoying factor for several counts in the eastern sections along with poor lighting conditions which made field identification very tricky in some situations.

This year there was a rather extensive "changing of the guard" so to speak, for several count circles. New compilers submitting reports were George Armistead, replacing Harry Armistead at Cape Charles; Nick Flanders replacing Paul

Sykes at Little Creek; Laura Mae replacing Don Schwab at Dismal Swamp NWR; Jim Corliss replacing Bill Williams at Williamsburg; and Sue Gavin replacing Perri Rothemich at The Plains. Temporary substitute compilers were Phil Silas for Kurt Gaskill at Fort Belvoir; George Barlow for Tom Wieboldt at Big Flat Mountain; and Donna Finnegan for Michael Boatwright at Lake Anna; and William Boeh for Nancy Gruttman-Tyler at Newport News.

The number of feeder watchers at Williamsburg swelled to 66 this year, the highest number ever recorded on any one count in the state. Back in the 1980s and 1990s, Blacksburg occasionally had as many as 20 to 30, but this year, Williamsburg's 66 feeder watchers topped them all.

More and more birders are taking their smart phones into the field as they conduct their counts and in many instances, they have succeeded in obtaining photographs good enough to identify and verify unusual species or situations. Even though some shots are quite vague, enlarging and enhancing a photo can often help to determine the true identity of the bird in question. Some reports are hard to believe, but seeing is believing when a photo is provided for proof.

The total number of individual birds counted in Virginia this year was just under 900,000. That is about average, but what was higher than usual was the total number of species. Birders in previous years claimed the state-wide all-time high 221 species in 1973 and 1999, but this year's 223 beats all previous years.

Some of the very unusual sightings that swelled that total number were: a Western Grebe at Back Bay; Sandhill Cranes at Nokesville, Waynesboro, and Fincastle (and count week birds at Fort Belvoir and Gordonsville); Ruby-throated Hummingbird at Cape Charles; Allen's Hummingbird at Williamsburg; Red-cockaded Woodpeckers at Dismal Swamp; Nashville Warblers at Cape Charles, Little Creek, and Hopewell; Chuck-will's-widow at Little Creek; Yellow Warbler at Mathews; Trumpeter Swan and Dickcissel at Charlottesville; and an Indigo Bunting at Fincastle.

When a count has been ongoing for 91 years, it's mighty hard for birders to come up with new species or record high count, but at Lexington, one of the longest-running

counts in Virginia, birders did succeed, coming in with a first-time-ever Ross's Goose and five new all-time high counts to mark their efforts this year.

At Roanoke, birders had exceptionally good luck finding rarities, including Snow Geese which were new to that count and several other unusual species, namely, Rough-legged Hawk (fourth record); Great Egret (second record); and Yellow-crowned Night-Heron (third record). This last species is a summer breeder in that area, but is rarely seen in the winter months.

In the waterfowl department, 14 Ross's Geese (a record-high state total) appeared on seven counts, with Hopewell leading the pack with six birds. Another Ross's was present in Augusta County during count week. Cackling Geese also showed up in high numbers, with 32 individuals in all. Perhaps some of these higher totals might be attributed to the fact that birders tend to scan flocks more diligently now that there is a good chance of spotting one of these species, whereas before, Ross's Goose simply didn't appear very often in this area, and Cackling Geese were not classified as a separate and distinct species until just a few years ago. A hybrid Snow x Ross's Goose was identified at Cape Charles, a first for any Virginia Xmas count. Dismal Swamp had its second highest count of Tundra Swans (365), topped only other time with 275 in 1993.

Highly unusual were two Trumpeter Swans, one at Charlottesville on their 17 Dec count day and another the next day was photographed on the Northern Shenandoah Valley count. One has to wonder if this might be the same bird. The distance between the two count circles is short enough that a swan could easily make the trip in a few hours. These two sightings constitute only the sixth and seventh Xmas count sightings. From 2007 through 2010, two to five individuals were spotted on The Plains count and another individual was at Roanoke in 2010, making an all-time state high count of six birds that year. One was at Calmes Neck in 2012, and now these two in 2016.

One hundred seventy Gadwalls that showed up on the Augusta County count, more than doubling their previous high. The 4,213 individuals at Fort Belvoir were a big jump for there from the previous high of 2,793 set in 2008.

Two Eurasian Wigeons were present this year, one at Cape Charles and one at Nansemond River. This species has turned up quite regularly on both these counts for the past several years. American Wigeons occur at Fincastle with some regularity, but a high count of 11 was unusual for there.

For the first time in 11 years, one Blue-winged Teal showed up in the Northern Shenandoah circle, and 11 appeared at Chincoteague, breaking the all-time high of 9 birds set in 1960 and again in 1970. The only other counts reporting Blue-wings were Back Bay with four, and Fort Belvoir with one.

Canvasback numbers picked up nicely with a total of 3,188 after last year's abysmal state total of just 782 birds. Fort Belvoir led the pack with more than 2,300. Redheads were also low in numbers last year, and they, too, increased from 65 in 2015 to a respectable 718 this year. On the other hand, Ring-necked Ducks dropped to the lowest total in seven years.

Consistent with last year, a single Common Eider was spotted at Chincoteague, but for the fourth year in a row, no King Eiders were spotted anywhere. Three Harlequin Ducks were found at Cape Charles.

For the first time since 1986, the total yearly count of Surf Scoters dropped below a thousand birds. Only twice (1971 and 1989) has this species reached 5-digit numbers. All the other years from 1959 through the present average out to about 4,500 a year. The White-winged Scoter does not show up in such lofty numbers. Occasionally reaching triple-digit numbers, this species normally ranges from 50 to 100 birds. This year's three birds at Chincoteague and Chesapeake Bay represent the lowest count of Wing-wings since 1963 when none were recorded. Black Scoter numbers were close to the yearly average for that species.

Long-tailed Ducks were scarce again this year with a state total of only 65. Usually several hundred are around. Common Goldeneye numbers were up slightly this year with Nokesville reporting a record high of 13 and Washington's Birthplace racking up 75. Six circles (The Plains, Warren, Gordonsville, Lynchburg, Augusta County, and Lexington) had record numbers of Hooded Mergansers, establishing a new state high of over 4,000 individuals.

Still alarmingly scarce, Northern Bobwhites appeared in slightly larger numbers, especially on the Washington's Birthplace count where 33 were spotted. Charlottesville had 10, the first found there in 14 years, and Banister River observers found 15. Breaks Interstate Park birders found 8, only the second time recorded there. The first record was in 1983. One was at Nansemond River. Bobwhites there were found fairly frequently in the 1990s and early 2000s, but since then their occurrence has been scanty at best. If it hadn't been for Breaks Interstate Park birders finding eight Ruffed Grouse, the overall state total would have been grim, indeed. As it was only Big Flat Mountain, Glade Spring, Blackford, and Bristol chalked up one apiece to bring the total to 12 birds, a far cry from the time 30 or 40 years ago when every count in the western part of Virginia recorded this species almost every year. Ah, but the Wild Turkey story is a different matter. Since the state restocking program was instituted several years ago, it is now quite normal for observers to find flocks of 100 or more birds. In fact, with the exception of the Chesapeake Bay count,

which is completely conducted on the Chesapeake Bay bridge-tunnel islands, the only count in the state that has never recorded turkeys is Little Creek. With the circle area lying completely within the city limits of Virginia Beach and Norfolk, and the massive development and loss of suitable habitat in the area, it is understandable why both turkeys and bobwhites have disappeared from this area.

After last year's unprecedented state total of more than 23,000 Red-throated Loons streaming by the shores of Virginia, that species dropped back to expected levels in 2016. Most coastal count numbers of Red-throateds were normal, but surprisingly, neither Nassawadox or Wachapreague birders found any at all.

Only five Soras were found in the state. Four were at Back Bay, and one showed up at Chincoteague, the first for there since 1976. Just one Common Gallinule was present this year, that at Cape Charles. The only count reporting good numbers of American Coot (6,724) was Fort Belvoir. This is another species that used to be abundant at Back Bay. Totals of 20,000 to 40,000 coots were not uncommon there up until 1975. Then things began to change and coot numbers have gradually dwindled to double digits in the past couple of years. This year is the first time coots have been completely absent on that count since 2004.

This area seemed to be a "destination" for Sandhill Cranes in 2016. Seen on Virginia counts only a handful of times in the past, this year Sandhills showed up in the several places. Nokesville, Waynesboro, and Fincastle all had one apiece. That was a new species for all of those counts, and count-week birds were found at Gordonsville and Fort Belvoir.

Williamsburg observers found the only American White Pelican around. For several years these birds were quite numerous, but seem to have vacated their usual haunt at Back Bay for two years. Of the eight circles reporting Brown Pelican, Newport News led with 208 birds, the second-highest total ever for there. Birders on the new Northumberland-Lancaster count reported five. Single Green Herons were at Chincoteague, and Northumberland-Lancaster.

Black-crowned Night-Herons were scarcer than usual, with a total of only 13 state-wide. Shenandoah NP-Luray had the highest number with six each; Waynesboro and Bristol had one each. Fort Belvoir also had one individual, the first for that location since 2005. Numbers of wintering Black-crowned Night-Herons have plummeted to almost zero at Chincoteague over the past 20 years. The small ponds and sloughs that are their favorite haunts have been obliterated, one by one, thus there are few places to find them except on the refuge. Only one was found there this year.

The three Yellow-crowned Night-Herons comprised the third occurrence for Roanoke. In the 1950s, Yellow-crowns were quite numerous at Newport News, with eight

overwintering in the Hampton area in 1956. Several more were recorded in 1961 and 1962, and one was sighted in 1972. Since then, there has been a complete absence on that count until one was recorded in 2015, and now, once again, a bird appeared in 2016.

For the sixth year in a row, massive flocks of White Ibis have been counted at Back Bay. The only other sighting this year was one at Cape Charles where they used to occur in greater numbers than anywhere else for about 15 years.

Although occasionally seen on the more westerly counts, it is an unusual occurrence for Golden Eagle to show up on any count in the eastern section of Virginia. Whether it's the same individual is not known, but for six of the last seventeen years, a Golden Eagle has been sighted on the Walkerton count, which lies about 18 miles northeast of metropolitan Richmond. Augusta County in the western part of Virginia recorded its first sighting of Golden Eagle in its 54-year history. Another individual was at Glade Spring. Tazewell chalked up three birds for the second time, but as usual, Blackford led the pack with a total of seven birds this year.

As is often the case, Calmes Neck was the only count where birders found a Northern Goshawk. There was a time in the 1990s when two to five goshawks appeared regularly on the southside and Eastern Shore counts, but that phenomenon petered out around the beginning of the new century. None have been reported from any of those counts since 2002.

Nansemond River observers made a stunning find of 39 American Avocets at their usual hangout on Craney Island. That is most ever found on any Xmas count in Virginia. One other Avocet was at Chincoteague for that count's 11th record. From 1970 through 1976, this species was found there almost every year, but since then, it is rarely seen. American Oystercatchers seemed to go from riches to rags at Nassawadox. Just four individuals were hardly significant compared to last year's record-breaking 1,146 birds. Cape Charles helped to establish the second highest state-record of Black-bellied Plovers, 2,536 in all. The all-time high was 2,733, set in 1973.

Usually, Willets show up mostly on the Eastern Shore counts, but this year 13 were found in Mathews County, a high count for there. Lesser Yellowlegs numbers were low. Only nine were spotted on three counts. That's the lowest since 1983, when only eight were located. Cape Charles had all the Whimbrels, a total of seven. No other count recorded them, but that is often the case. Only rarely are they found elsewhere at Nassawadox or Wachapreague. Cape Charles also had another rarity, a Long-billed Curlew, only the third sighting since 1988.

It was a great year for Marbled Godwits with an all-time high total of 330. Nassawadox, Chincoteague, and Cape

Charles all had record highs. Compiler Harry Armistead paints a picturesque description of these birds: "Caught just at the moment when the tides are at their lowest, it is quite a sight to see great masses of Marbled Godwits feeding and lounging on the mudflats of Eastern Shore."

The only Red Knots seen were 11 at Cape Charles. In 1970, Chincoteague birders recorded 520 individuals at Chincoteague. The average for most years is around 20, with great variation in some years. From 2005 through 2010, however, this species was found in numbers sometimes reaching triple digits. After that, numbers dramatically dropped back to single digits, so the increase this year was rather unexpected. Knots are usually found only on the Eastern Shore counts, but occasionally, Nansemond River, Newport News, and Mathews come up with a few.

The only jaeger found this year was a Parasitic at Back Bay. Two alcids at Cape Charles could not be identified as to species.

Usually, there is a total of a thousand or more Bonaparte's Gulls around the state, but they were much scarcer than usual with this year with only 469 counted overall. There was one unusual occurrence, however. A Bonaparte's was at Roanoke for that count's eighth record. Black-headed Gulls have been showing up in the state quite regularly in the past several years. This year Chincoteague produced the lone record. Lesser Black-backed Gulls appeared in record numbers with a total of 326. The previous all-time high count was 219 in 2013.

This year's total of 64,000+ Ring-billed Gulls was the highest count since 2008. Herring Gull and Great Black-backed Gull numbers was noticeably lower. The only Glaucous Gull was a count-week bird at Fort Belvoir.

Forster's Tern numbers were down somewhat, with only Chincoteague reporting a higher total (111) than usual. As is fairly common, Little Creek was the only count reporting Black Skimmers.

Eurasian Collared-Doves continue to flourish in the state, with a total of 56 seen on six counts. Three Southside and Eastern Shore counts reported a total of 16, Blacksburg observers found 14, Glade Spring 6, and Rockingham County reported its second count record with a total of 14 there.

Warren birders found five Barn Owls, the most ever for that count. This species has been appearing in the Warren circle for five of the last six years. Eastern Screech-Owls were not as much in evidence. Only 153 were recorded, whereas in years past, between 200 and 400 have been common state totals. Great Horned Owl numbers were also down somewhat.

Even though a Snowy Owl hung around Chincoteague and was seen frequently before and after count day, it simply

wasn't there on count day. No other Snowys were found anywhere else in the state. Peaks of Otter reported its first Barred Owl since 1999. As is often the case, Northern Shenandoah Valley had the only Long-eared Owl. That same count added significantly to the Short-eared total with seven birds. The Plains reported four, and Augusta County two, for a state total of 13, the most in the state since 2008.

A well-documented Chuck-will's-widow observed at Little Creek by experienced birders was a big find. Only one other Virginia Xmas count record of this species has been verified. That was of a single individual at Chincoteague in 1971. This year's sighting must be approved by VARCOM to be officially accepted as a winter record. As of this writing, the evaluation has not been completed.

Hummingbirds still are finding their way to Virginia during the early winter months. Cape Charles chalked up its second record of a Ruby-throated Hummingbird and Little Creek observers saw one individual during count week. That's the sixth time that a Ruby-throat has been in that count circle since 2006, either on count day or during count week. A Rufous Hummingbird was Nansemond River's third record since 2000. The real rarity in the hummingbird department this year was an Allen's Hummingbird in Williamsburg. It had been coming to the feeder for quite a while, but left shortly after count day. That is only the fourth Virginia record. The first was sighted in the Virginia sector of the Bristol count circle in 1997; the second record was an individual at a Cape Charles feeder in 2005; the third on the Hopewell count in 2010; and now the Williamsburg occurrence this year. There have been five species of hummingbird that have appeared on all Virginia counts over the years.

On a couple of occasions in the past, Breaks Interstate Park has found an unusually high number of Belted Kingfishers for that count (16 in 2007, 11 in 2012, and 10 in 2014), but this year's total of 25 is, by far, the most for there. Numbers of kingfishers state-wide have remained quite steady over the past 20 years, with an average of between 575 and 800 birds found on the 50 or so counts each year. The all-time high count was at Northern Shenandoah Valley with 99 individuals recorded in 2006.

Count records show American Kestrel numbers declining, especially in the eastern part of Virginia. In Mathews County, from 1969 to 1990, the yearly American Kestrel count there ranged from 10 to 52 birds, but in 1991, there was a precipitous drop in numbers, and they have never recovered. Outwardly, habitat-wise, Mathews seems to have changed very little in those years, and one wonders what could have happened to cause such a dramatic and abrupt decline of this beautiful species in that area.

Very often, Mathews County birders have great luck spotting truly rare sightings for that section of Virginia. This year was no exception. Photographs of a Common Raven documented the count's first occurrence of this species, leaving no doubt that the raven has been making a dramatic invasion into the eastern-most parts of Virginia, where it has been completely absent for 100 years or more.

It is interesting to note that in 1929, Dr. J.J. Murray, founder of the Virginia Society of Ornithology, established the Society's journal and named it "The Raven." The range of that species had been receding westward for a number of years, and none had occurred in the eastern half of the state for decades. His reason for choosing that name for the journal was to honor this remarkable bird. He often expressed the wish that someday the Common Raven would return to its former range which included the entire state of Virginia. It seems that his wish might be slowly coming true.

The high numbers of Downy Woodpeckers on the northern Virginia counts appeared to drop back to more normal levels than they had maintained in that area over the past several years. The state total was about average, but Williamsburg observers posted a record high of downies. Pileated Woodpecker (our largest woodpecker species) totals dropped below one thousand birds for the first time in five years.

It was highly gratifying for Dismal Swamp birders to find two Red-cockaded Woodpeckers in their count circle. It raised hopes that the newly established restocking program of this species in the southern reaches of the Swamp may be working well.

Merlins were very much in evidence this year, with 47 birds seen on 23 counts. Single individuals appeared at Waynesboro, Fincastle, Roanoke, Blacksburg, Tazewell, and Bristol. The Merlin at Tazewell was a first for that location. Charlottesville racked up its first Peregrine Falcon.

Again, low counts of Loggerhead Shrikes prevail. Only 13 Loggerhead Shrikes were found on three counts: Calmes Neck, Glade Spring, and Blackford. On a happier note, Blackford birders found 11, an all-time high count for them. A first for Manassas-Bull Run was a Northern Shrike. A spectacular close-up photo of the bird was obtained.

Walkerton chalked up its third record of a White-eyed Vireo, while Dismal Swamp birders found two individuals. Nowhere in the state does it occur during the winter months with such regularity as in the Swamp. Usually Blue-headed Vireos occur during the count season on quite a few counts, and this year was no exception with seven circles reporting a total of 12 birds. The most unusual occurrence was the one individual that appeared at Blacksburg, the first sighting there since 2000.

For the second year in a row Horned Lark numbers were low, especially in the Piedmont. Much depends on weather conditions as to whether this species is located or not. Always unpredictable, Tree Swallows were quite scarce this year. Only 344 birds were recorded on four Eastern Shore and southside counts.

There were a few more Black-capped Chickadees around this year. A total of 68 were found on 11 of the 21 Mountains and Valleys counts. Red-breasted Nuthatches were missing on only seven of the 53 counts. That is the best showing in five years. Two Brown-headed Nuthatches were at Peaks of Otter for that count's second record. House Wren numbers were the highest since 2008. Record highs were recorded at Mathews, Hopewell, Walkerton, and Manassas-Bull Run. As usual, Back Bay birders found the most Sedge Wrens (10). This is another species whose presence becomes more precarious as time goes on. The only Blue-gray Gnatcatchers around were two at Hopewell. The only count that did not record Golden-crowned Kinglets was Wise County, and, of course, Chesapeake Bay, where this species would not be expected to occur. Wise has missed Golden-crowns only one other time (2009).

There was a surprising drop in European Starling numbers. Only 65,283 were recorded state-wide. That is the lowest total since 1956. Every year since then they have usually been found in the hundreds of thousands.

Usually, Snow Buntings are found on the Eastern Shore counts, but this year only Newport News and Nansemond River reported a total of 23 birds.

Ovenbirds seemed to stage a "mini invasion." Mathews County recorded its first record, and two individuals were seen at Dismal Swamp. The last time Ovenbirds were found on any Virginia count was in 1999 in the Swamp.

Black-and-white Warblers always manage to show up on a count somewhere just about every year, and 2016 was no exception when both Newport News and Little Creek recorded one individual each. The number of Orange-crowned Warblers topped any previous records with a state total of 44 state-wide. That's twice as many as seen in any previous Xmas count season. Little Creek and Back Bay had eight and seven respectively, Hopewell also had seven; and a totally unexpected Orange-crowned at Bristol was their first-ever record. Seven other counts on the Coastal Plain recorded from one to five birds. For the last seven years this species has appeared in double-digit numbers.

The most astonishing discovery this year was a Lucy's Warbler at Cape Charles. Alas, it was found the day after that count, but nevertheless, it is an unprecedented record. It was photographed and has been accepted by the state records committee, VARCOM.

For the first time ever, three Nashville Warblers were present, one each at Cape Charles, Little Creek, and Hopewell. Charlottesville birders recorded the second occurrence of a Common Yellowthroat, the only one since 1984; Yellowthroats at Nokesville and Central Loudoun were second records for each of those counts. The first Cape May Warbler seen on any Virginia count since 2000 was at Little Creek. Lastly, a Yellow Warbler was very cooperative when it visited a feeder on count day in Mathews County. It was the only one to appear on a Virginia Xmas count since one occurred at Manassas-Bull Run in 2008. Before that, only four other times has this species been found on a Virginia count: one at Clifton Forge in 1978; one at Warren in 1990; one at Williamsburg in 1994; and one at Little Creek in 1999.

The most Palm Warblers (132) showed up on 14 counts, three of which were identified as the western race at Chincoteague. Although there have been higher counts of this species in past years, this is the most seen since 2007. Another warbler species found in large numbers was Pine Warbler. The 237 seen around the state was the most since 2000. All were found on Coastal Plain counts, with the exception of one at Banister River and one at Bristol. Another rarity was a Yellow-throated Warbler at Williamsburg. A Yellow-breasted Chat appeared at Chincoteague for that count's ninth record.

Yellow-rumped Warbler numbers state-wide were down by half this year with only 6,773 recorded. Part of this drop might be attributed to changes wrought by storms at Chincoteague NWR. Roads have been washed away, and it is not possible to reach many areas where massive numbers of this species used to congregate in the shrubbery facing the ocean front. Much of that habitat no longer exists.

It has been quite a while since a Grasshopper Sparrow showed up on a Virginia Xmas count, so one that appeared at Nassawadox was a nice surprise and a new species for that count. A LeConte's Sparrow during count week at Back Bay is the only one that's been around since 2011. From 1991 through 2002 one to as many as seven LeContes' were recorded every year. Twenty-four Nelson's Sparrows on four counts was about average for that species. Cape Charles and Nansemond River were the only counts reporting Saltmarsh Sparrows.

American Tree Sparrow numbers keep dropping. Only 32 were found on all counts. That is the lowest state total since 2011, and it is a far cry from the triple-digit figures racked up in the early 2000s. Two Clay-colored Sparrows were present, one at Back Bay, and one at Hopewell. A lone Lark Sparrow was at Back Bay, the only one discovered on a count since 2011.

A Vesper Sparrow at Gordonsville was the second record for there. The previous sighting was in 1983. The only Lincoln's Sparrows around this year was one at Back Bay, and one at Manassas-Bull Run which constituted the second record for there. One also appeared for the second year in a row at Blackford.

A Western Tanager returned to the same Williamsburg feeder for the sixth year in a row. Perhaps this species finds something special in Virginia because another Western Tanager was spotted during count week in the Little Creek circle. The first ever Virginia count record of this species was at Back Bay in 1972.

An Indigo Bunting surprised birders at Fincastle. It was a first record for that count in its 43-year history. Painted Buntings have been showing up just about every count season for the past eight or so years, and 2016 was no exception. One was found on count day at Back Bay. Another unusual species was a Dickcissel at Charlottesville. The only previous sighting there was a count-week bird in 1963.

Overall numbers of Rusty Blackbirds were not greatly elevated, but it seemed that they appeared in many more places than usual. Twenty-one counts around the state reported them, but surprisingly, they were absent from Blacksburg where they are recorded almost every year. Individuals in a flock of 52 of this species was photographed at Chatham. A flock of 14 Brewer's Blackbirds were seen at Back Bay, and Augusta County birders found two for their third record. Surprisingly, Washington's Birthplace reported no Common Grackles this year, which perhaps accounted for lower numbers than usual. Grackles have occasionally been found by the thousands congregating in the marshes along the Rappahannock River as they come in to roost for the night.

After five years of finding very few Boat-tailed Grackles at Chincoteague, their numbers rose significantly this year. Found almost exclusively on the Eastern Shore and lower Chesapeake Bay counts, decreasing numbers of this species has been noticeable for the past 13 years. Perhaps alteration of shorelines due to a constant barrage of storms has something to do with the decline in numbers.

Sixteen Baltimore Orioles were present on 10 counts, the least expected was one at Charlottesville for its second record. One was also found and photographed at Chatham.

For five years now, Purple Finches have been very scarce throughout the state. While this year's state total of 180 is not the lowest, this downward trend in Purple Finches detections has persisted for almost 10 years. Pine Siskins have also demonstrated a sharp decline in recent years, and this year's state total is truly dismal - only 19 individuals found on nine counts.

As in years past, data from the counts are tabulated in three Tables on the following pages. In all three Tables, the counts ("Count Circles") are numbered in order from 1 to 53, 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 6-18, Piedmont Count Circles 19-32, and Mountains and Valleys Count Circles 33-53. Table 1 lists the number of individuals of each species seen, Table 2 & 3 the field conditions (primarily collection and meteorological data), compilers of counts and circle locations.

Blvd = Boulevard
 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
 LRS = Light rain and 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
 NE = Northeast
 NNW = North Northwest
 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
 W = West
 WMA = Wildlife Management Area
 WNW = West northwest
 WOP = Water open
 WPO = Water partly open
 WSW = West southwest
 V = Variable
 WMO = Water mostly open
 WPF = Water partly frozen
 WSW - West Southwest

Table 1. Species Counts (page 1 of 19)

Species Count Circle	Greater White-fronted Goose	Snow Goose	Ross's Goose	Snow x Ross's Goose (hybrid)	Brant	Cackling Goose	Canada Goose	Mute Swan	Trumpeter Swan	Tundra Swan	Wood Duck	Gadwall	Eurasian Wigeon
1. Chincoteague	...	24614	...	...	1,395	...	3,342	...	...	210	16	659	...
2. Wachapreague	...	161	...	...	256	...	2033	...	...	...	47	46	...
3. Nassawaddox	70	...	569	...	...	13	4	7	...
4. Cape Charles	...	562	1	1	793	...	2,743	...	...	1	10	561	1
5. Chesapeake Bay
6. Little Creek	...	8	...	...	32	...	620	...	...	...	81	99	...
7. Back Bay	8	1,220	1	...	...	4	2,116	...	...	404	3	328	...
8. Nansemond River	1,122	...	...	32	...	376	1
9. Dismal Swamp	32	...	...	365	16	...	...
10. Newport News	41	...	822	...	...	...	6	121	...
11. Mathews County	1,227	4	...	113	6	...	...
12. Williamsburg	1	...	7,725	6	...	32	12	156	...
13. Hopewell	...	3,002	6	...	...	10	15980	...	...	...	21	536	...
14. Walkerton	...	CW	3	...	...	5	10,255	...	...	5	21	417	...
15. Northumberland-Lancaster	1,287	...	...	71	...	...	...
16. Washingtons Birthplace	4	20,743	...	...	146	10	22	...
17. Brooke	1,742	8	...	578	...	2,217	...
18. Fort Belvoir	9,344	...	...	1058	36	4,213	...
19. Central Loudoun County	8,248	2	...	2	...	53	...
20. The Plains	...	1	...	...	...	...	6556	5	...	CW	3	77	...
21. Manassas-Bull Run	4919	...	...	...	1	5	...
22. Nokesville	3618	...	...	5	2	6	...
23. Chancellorsville	534	23	...	22	2	...	...
24. Lake Anna	25	...	...	...	...	...	...
25. Gordonsville	...	4	...	...	...	...	2,274	...	...	11	5	5	...
26. Charlottesville	1	...	...	...	246	...	1	...	3	2	...
27. Warren	189	...	...	...	...	8	...
28. Darlington Heights	256	...	...	...	3	2	...
29. Banister River W.M.A.	242	...	...	...	44	...	...
30. Lynchburg	891	...	...	1	...	39	...
31. Chatham	55	...	...	...	...	...	...
32. Danville	170	...	...	...	...	...	...
33. Calmes Neck	3051	...	...	...	...	4	...
34. N. Shenandoah Valley	...	6	1	...	...	8	2,197	...	1	26	1	19	...
35. Shenandoah NP-Luray	...	1	...	...	...	...	136	...	...	...	1	4	...
36. Big Flat Mountain
37. Rockingham County	252	5	...	...	3	6	...
38. Augusta County	...	CW	CW	...	...	1	963	...	...	...	CW	170	...
39. Waynesboro	743	...	...	...	...	8	...
40. Lexington	1	...	...	...	145	...	...	...	...	46	...
41. Peaks of Otter	1	...	...	...	...	...	...
42. Fincastle	...	1	...	...	...	...	205	...	...	...	...	43	...
43. Roanoke	...	3	...	...	...	...	236	...	...	...	...	61	...
44. Blacksburg	484	...	...	...	20	39	...
45. Giles County	314	...	...	...	...	...	...
46. Tazewell	405	...	...	...	...	...	...
47. Mount Rogers-Whitetop	13	...	...	...	...	...	...
48. Glade Spring	560	...	...	...	4	29	...
49. Blackford	135	...	...	...	5	...	...
50. Bristol	...	1	...	...	...	...	584	...	...	...	1	28	...
51. Buchanan County
52. Breaks Interstate Park	25	...	...	...	11	CW	...
53. Wise County	4	...	...
Totals:	8	29,584	14	1	2,588	32	120,374	53	2	3,095	402	10,412	2

Table 1. Species Counts (page 2 of 19)

Species Count Circle	American Wigeon	American Black Duck	Mallard	American Black Duck x Mallard (hybrid)	Blue- winged Teal	Northern Shoveler	Northern Pintail	American Green- winged Teal	dabbling duck sp.	Canvas back	Redhead	Ring- necked Duck	Aythya sp.
1. Chincoteague	171	1413	1,355	5	11	582	805	763	...	...	...	2	...
2. Wachapreague	2	494	216	...	...	5	5	70	5	...	...	...	...
3. Nassawadox	1	61	59	...	...	...	...	...	...	...	...	19	...
4. Cape Charles	215	451	306	2	...	79	46	68	...	...	45	108	...
5. Chesapeake Bay	...	1	7	...	...	...	...	...	...	...	...	...	1
6. Little Creek	368	59	493	...	...	159	1	11	...	2	2	18	...
7. Back Bay	100	174	300	...	4	1	15	2	...	250	...	5	...
8. Nansemond River	65	52	160	...	...	1687	7	271	...	520	10	395	...
9. Dismal Swamp	...	2	...	...	...	...	...	...	...	...	...	...	...
10. Newport News	61	48	455	...	...	4	...	18	...	...	7	154	...
11. Mathews County	...	7	102	...	...	...	1	...	...	25	...	...	...
12. Williamsburg	39	70	943	...	...	5	14	19	...	1	11	303	...
13. Hopewell	102	51	501	...	...	172	51	78	...	5	10	646	...
14. Walkerton	2	100	791	...	...	35	387	481	...	1	...	222	...
15. Northumberland-	...	29	123	...	...	...	...	...	...	...	...	...	...
16. Washingtons Birthplace	...	129	1500	...	...	...	3	87	...	...	2	14	...
17. Brooke	1	116	976	...	...	4	5	4	...	15	1	8	...
18. Fort Belvoir	517	1773	3989	...	1	161	429	75	...	2366	615	1,105	...
19. Central Loudoun County	28	38	375	...	...	...	3	35	...	...	...	29	...
20. The Plains	28	97	363	...	...	...	1	13	...	CW	4	318	...
21. Manassas-Bull Run	...	13	295	...	...	4	...	...	...	2	...	6	...
22. Nokesville	...	15	357	...	...	3	6	...	...	...	...	18	...
23. Chancellorsville	4	15	56	...	...	...	...	...	...	...	...	21	...
24. Lake Anna	...	...	22	...	...	...	...	...	...	...	...	12	...
25. Gordonsville	...	...	67	...	...	...	...	...	...	...	...	68	...
26. Charlottesville	...	6	107	...	...	...	...	15	...	...	...	3	...
27. Warren	...	...	25	...	...	...	4	...	...	1	1	11	...
28. Darlington Heights	...	2	34	...	...	...	...	...	...	...	...	4	...
29. Banister River W.M.A.	...	...	4	...	...	...	...	...	...	...	...	...	...
30. Lynchburg	3	8	364	...	...	...	...	1	...	...	1	54	...
31. Chatham	...	...	2	...	...	...	...	...	...	...	...	...	...
32. Danville	...	...	31	...	...	...	...	...	...	...	...	17	...
33. Calmes Neck	...	29	142	...	...	...	...	4	...	...	...	74	...
34. N. Shenandoah Valley	15	34	234	...	1	...	1	4	...	...	...	25	...
35. Shenandoah NP-Luray	1	5	67	...	...	...	...	5	...	...	...	2	...
36. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...	...	...	...
37. Rockingham County	1	...	454	...	...	3	...	1	...	...	3	1	...
38. Augusta County	3	34	383	...	...	5	...	1	...	...	2	40	...
39. Waynesboro	...	...	133	...	...	...	...	20	...	...	1	...	...
40. Lexington	...	15	117	...	...	...	...	7	...	...	...	2	...
41. Peaks of Otter	...	...	...	...	...	...	...	...	...	...	...	...	...
42. Fincastle	11	6	103	...	...	...	3	1	...	...	1	63	...
43. Roanoke	...	5	169	...	...	...	...	16	...	...	...	...	...
44. Blacksburg	12	3	309	...	...	1	...	...	...	...	1	11	...
45. Giles County	...	2	96	...	...	...	...	...	...	...	...	...	...
46. Tazewell	...	7	23	...	...	...	1	1	...	...	...	12	...
47. Mount Rogers-Whitetop	...	...	29	...	...	...	...	4	...	...	...	...	...
48. Glade Spring	...	...	164	...	...	1	...	...	...	...	...	...	...
49. Blackford	2	35	246	...	...	...	...	3	...	...	1	...	...
50. Bristol	3	...	208	...	...	...	1	15	...	...	...	18	...
51. Buchanan County	...	...	...	...	...	...	...	...	...	...	...	...	...
52. Breaks Interstate Park	...	...	57	...	...	...	...	1	...	...	...	...	...
53. Wise County	...	...	12	...	...	...	...	...	...	...	...	...	...
Totals:	1,755	5,399	17,324	7	17	2,911	1,789	2,094	5	3,188	718	3,808	1

Table 1. Species Counts (page 3 of 19)

Species Count Circle	Greater Scaup	Lesser Scaup	scaup sp.	Common Eider	Harlequin Duck	Surf Scoter	White-winged Scoter	Black Scoter	scoter sp.	Long-tailed Duck	Bufflehead	Common Goldeneye	Hooded Merganser
1. Chincoteague	...	25	1	1	...	221	2	634	98	1	1,540	7	246
2. Wachapreague	1	564	...	188
3. Nassawaddox	91	...	85
4. Cape Charles	...	5	...	...	3	65	...	78	250	9	1,588	8	454
5. Chesapeake Bay	1	...	...	...	...	255	1	103	200	19	102	...	...
6. Little Creek	...	1	...	...	...	40	...	26	...	...	849	...	266
7. Back Bay	2	5	...	...	...	26	...	297	56	1	174	...	85
8. Nansemond River	3	4	...	...	...	83	...	3	...	...	289	8	138
9. Dismal Swamp
10. Newport News	2	3	85	...	...	26	...	18	...	8	363	...	196
11. Mathews County	...	4	...	...	...	126	...	27	...	20	897	1	34
12. Williamsburg	CW	5	...	...	...	...	...	...	...	...	242	CW	271
13. Hopewell	...	4	2	...	...	4	...	...	...	...	350	...	209
14. Walkerton	...	10	...	...	...	...	...	...	...	...	137	3	83
15. Northumberland-Lancaster	...	23	...	...	...	...	...	...	...	1	370	1	85
16. Washingtons Birthplace	...	35	...	...	...	98	...	...	...	5	422	75	135
17. Brooke	...	79	...	...	...	...	...	...	...	...	132	13	44
18. Fort Belvoir	3	9,636	...	...	...	...	...	...	...	...	479	2	272
19. Central Loudoun County	19	1	40
20. The Plains	...	1	...	...	...	...	...	...	...	...	158	...	381
21. Manassas-Bull Run	...	3	...	...	...	...	...	...	...	...	2	...	171
22. Nokesville	...	1	...	...	...	...	...	...	...	...	1	13	41
23. Chancellorsville	...	2	...	...	...	...	...	...	...	...	54	...	15
24. Lake Anna	14	...	29
25. Gordonsville	...	CW	...	...	...	...	...	...	...	...	65	...	134
26. Charlottesville	1	...	11
27. Warren	58
28. Darlington Heights	1	...	32
29. Banister River W.M.A.	6	...	37
30. Lynchburg	2	...	77
31. Chatham
32. Danville	16
33. Calmes Neck	...	4	...	...	...	...	...	...	...	...	8	...	8
34. N. Shenandoah Valley	6	1	7
35. Shenandoah NP-Luray	3	...	...
36. Big Flat Mountain	3	...
37. Rockingham County
38. Augusta County	37
39. Waynesboro	6
40. Lexington	1	1	177
41. Peaks of Otter
42. Fincastle	...	3	...	...	...	...	...	...	...	...	4	...	13
43. Roanoke	3	...	3
44. Blacksburg	40	...	22
45. Giles County	33
46. Tazewell
47. Mount Rogers-Whitetop
48. Glade Spring	...	1	...	...	...	...	...	...	...	...	9	...	3
49. Blackford	...	2	...	...	...	...	...	...	...	...	...	...	2
50. Bristol	171	...	185
51. Buchanan County
52. Breaks Interstate Park	...	CW	...	...	...	...	...	...	...	...	CW	...	CW
53. Wise County
Totals:	11	9,856	88	1	3	944	3	1,186	604	65	9,157	137	4,329

Table 1. Species Counts (page 4 of 19)

Species Count Circle	Common Merganser	Red- breasted Merganser	Ruddy Duck	duck sp.	Northern Bobwhite	Ruffed Grouse	Wild Turkey	Red- throated Loon	Common Loon	loon sp.	Pied-billed Grebe	Homed Grebe	Red- necked Grebe
1. Chincoteague	...	239	1	...	...	...	36	71	62	1	18	94	...
2. Wachapreague	2	17	122	...	...	...	4	...	18	...	2	8	...
3. Nassawaddox	...	6	2	...	...	...	5	...	4	...	2	...	...
4. Cape Charles	...	359	26	...	...	...	2	762	58	...	33	29	...
5. Chesapeake Bay	...	15	...	...	...	...	...	265	11	...	...	...	...
6. Little Creek	...	278	114	...	...	...	...	47	10	...	63	10	2
7. Back Bay	...	176	426	...	...	...	47	315	73	...	37	11	...
8. Nansemond River	1	116	1,062	...	1	...	26	66	16	...	24	392	1
9. Dismal Swamp	...	...	...	...	...	...	...	...	...	...	...	...	...
10. Newport News	...	38	200	...	...	...	6	14	44	...	33	10	...
11. Mathews County	20	16	2,067	1,000	...	...	12	7	22	...	1	29	...
12. Williamsburg	...	1	1,045	...	...	...	6	...	1	...	28	1	...
13. Hopewell	...	...	174	...	...	...	...	...	...	...	15	...	...
14. Walkerton	...	...	19	...	...	...	27	...	2	...	22	1	...
15. Northumberland-Lancaster	17	4	713	...	...	...	9	...	15	...	4	1	...
16. Washingtons Birthplace	49	46	1,052	...	33	...	50	2	10	...	...	...	...
17. Brooke	...	1	759	...	...	...	2	...	6	...	49	5	...
18. Fort Belvoir	153	12	6,084	...	...	...	31	...	CW	...	85	28	...
19. Central Loudoun County	17	...	3	...	...	...	46	...	...	...	2	...	...
20. The Plains	4	...	27	...	...	...	119	...	1	...	7	4	...
21. Manassas-Bull Run	174	...	1	...	...	...	16	...	...	...	8	...	...
22. Nokesville	4	...	122	...	...	...	34	...	...	...	11	1	...
23. Chancellorsville	...	...	471	...	...	...	...	...	1	...	11	8	...
24. Lake Anna	...	...	...	...	...	...	...	...	14	...	6	12	...
25. Gordonsville	...	...	22	...	...	...	36	...	...	...	3	...	...
26. Charlottesville	...	...	2	...	10	...	...	...	...	...	3	...	...
27. Warren	...	...	4	...	...	...	...	...	...	...	7	...	...
28. Darlington Heights	...	...	...	...	...	...	13	...	...	...	...	...	...
29. Banister River W.M.A.	...	...	1	22	15	...	5	...	...	...	1	...	...
30. Lynchburg	...	...	...	...	...	...	15	...	1	...	23	...	...
31. Chatham	...	...	...	...	...	...	37	...	...	...	...	...	...
32. Danville	...	...	...	...	...	...	...	...	...	...	6	...	...
33. Calmes Neck	52	...	30	...	...	...	117	...	...	...	1	43	...
34. N. Shenandoah Valley	56	...	1	...	...	...	127	...	...	...	7	...	...
35. Shenandoah NP-Luray	...	...	8	...	...	...	10	...	...	...	7	...	...
36. Big Flat Mountain	...	...	...	...	...	1	...	...	...	...	...	...	...
37. Rockingham County	...	...	1	...	...	...	4	...	...	...	3	...	...
38. Augusta County	...	...	3	...	...	...	...	...	...	...	4	...	...
39. Waynesboro	...	...	4	...	...	...	9	...	...	...	2	5	...
40. Lexington	5	...	...	...	...	...	44	...	...	...	6	...	...
41. Peaks of Otter	...	...	...	...	...	...	9	...	...	...	...	...	...
42. Fincastle	...	...	1	...	...	...	...	...	...	...	9	...	...
43. Roanoke	...	...	...	...	...	...	...	...	...	...	11	...	...
44. Blacksburg	CW	...	6	8	...	...	39	...	...	...	15	...	...
45. Giles County	4	...	1	...	...	...	4	...	...	...	4	...	...
46. Tazewell	...	...	4	...	...	...	...	...	...	...	7	1	...
47. Mount Rogers-Whitetop	...	...	...	...	...	...	...	...	...	...	...	...	...
48. Glade Spring	...	...	...	...	...	1	33	...	...	...	6	...	...
49. Blackford	4	...	...	...	...	1	...	...	2	...	9	...	...
50. Bristol	...	...	3	...	...	1	100	...	1	...	21	73	...
51. Buchanan County	...	...	...	...	...	...	10	...	...	...	...	...	...
52. Breaks Interstate Park	...	...	...	...	8	8	40	...	...	...	2	...	...
53. Wise County	...	...	...	...	...	...	49	...	...	...	...	...	...
Totals:	562	1,324	14,581	1,030	67	12	1,179	1,549	372	1	618	766	3

Table 1. Species Counts (page 5 of 19)

Species Count Circle	Eared Grebe	Western Grebe	grebe sp.	Northern Gannet	Double-crested Cormorant	Great Cormorant	American White Pelican	Brown Pelican	American Bittern	Great Blue Heron (Blue form)	Great Egret	Snowy Egret	Little Blue Heron	Tricolored Heron
1. Chincoteague	3	...	...	39	5	...	...	...	1	96	93	6	...	2
2. Wachapreague	2	...	...	...	...	36	...	...	...	1
3. Nassawaddox	4	...	...	...	...	28	1	...	...	...
4. Cape Charles	331	200	6	...	42	...	71	36	4	7	5
5. Chesapeake Bay	166	240	16	...	19	...	...	...	...	...	...
6. Little Creek	759	2,812	1	...	53	...	73	44	2	...	...
7. Back Bay	...	1	...	39	210	...	...	65	3	46	127	10	1	2
8. Nansemond River	2	6,299	...	...	53	...	46	8	...	...	...
9. Dismal Swamp	3	...	...	...	...	10	...	...	...	...
10. Newport News	1	52	420	...	...	208	...	91	27	...	...	...
11. Mathews County	31	...	...	...	...	66	...	...	...	...
12. Williamsburg	1	1,117	...	1	9	...	84	2	...	...	...
13. Hopewell	377	...	...	...	...	60	2	...	...	...
14. Walkerton	27	...	...	...	...	50	...	...	...	...
15. Northumberland-Lancaster	9	...	...	...	5	...	13	...	...	...	...
16. Washingtons Birthplace	5	1,214	...	...	...	...	17	...	...	...	...
17. Brooke	166	...	...	...	...	43	...	...	...	...
18. Fort Belvoir	201	...	...	...	...	246	3	...	...	...
19. Central Loudoun County	29	...	...	...	...
20. The Plains	CW	...	...	...	...	24	...	...	...	...
21. Manassas-Bull Run	5	...	...	...	...	35	...	...	...	...
22. Nokesville	13	...	...	...	...
23. Chancellorsville	4	...	...	...	...
24. Lake Anna	7	...	...	...	...	18	...	...	...	...
25. Gordonsville	7	...	...	...	...
26. Charlottesville	1	...	...	...	...	13	...	...	...	...
27. Warren	7	...	...	...	...
28. Darlington Heights	3	...	...	...	...
29. Banister River W.M.A.	1	...	...	...	...	17	...	...	...	...
30. Lynchburg	15	...	...	...	...
31. Chatham	2	...	...	...	...
32. Danville	2	...	...	...	...
33. Calmes Neck	1	...	...	...	...	27	...	...	...	...
34. N. Shenandoah Valley	13	...	...	...	...
35. Shenandoah NP-Luray	6	...	...	...	...
36. Big Flat Mountain
37. Rockingham County	9	...	...	...	...
38. Augusta County	3	...	...	...	...
39. Waynesboro	11	...	...	...	...
40. Lexington	19	...	...	...	...
41. Peaks of Otter
42. Fincastle	10	...	...	...	...
43. Roanoke	14	2	...	...	...
44. Blacksburg	13	...	...	...	...
45. Giles County	9	...	...	...	...
46. Tazewell	4	...	...	...	...
47. Mount Rogers-Whitetop	4	...	...	...	...
48. Glade Spring	18	...	...	...	...
49. Blackford	14	...	...	...	...
50. Bristol	43	...	...	...	...
51. Buchanan County	CW	...	...	...	...
52. Breaks Interstate Park	13	...	...	...	...
53. Wise County
Totals:	3	1	1	1,403	13,343	23	1	454	4	1,495	345	22	8	10

Table 1. Species Counts (page 6 of 19)

Species Count Circle	Green Heron	Black- crowned Night- Heron	Yellow- crowned Night- Heron	White Ibis	Black Vulture	Turkey Vulture	Osprey	Golden Eagle	Northern Harrier	Sharp- shinned Hawk	Cooper's Hawk	Northern Goshawk	Accipiter sp.
1. Chincoteague	1	1	...	...	117	498	...	...	20	7	5	...	...
2. Wachapreague	64	463	...	...	6	7	3	...	...
3. Nassawaddox	60	192	...	...	13	10	7	...	...
4. Cape Charles	...	2	...	1	198	363	...	...	26	13	6	...	...
5. Chesapeake Bay	1	...	...	...	...	...	...	...
6. Little Creek	...	1	...	...	17	54	5	...	3	4	5	...	...
7. Back Bay	409	38	76	...	...	23	2	6	...	...
8. Nansemond River	...	CW	...	...	112	73	3	...	8	3	4	...	...
9. Dismal Swamp	18	29	...	...	1	1	2	...	...
10. Newport News	1	...	50	28	...	...	8	8	7	...	...
11. Mathews County	18	139	...	...	3	1	6	...	...
12. Williamsburg	211	322	...	...	3	4	9	...	...
13. Hopewell	112	184	CW	...	6	3	3	...	...
14. Walkerton	196	286	...	1	10	5	3	...	...
15. Northumberland-Lancaster	1	...	...	...	52	179	...	...	1	1	2	...	...
16. Washingtons Birthplace	77	184	...	...	8	2	2	...	...
17. Brooke	553	148	...	...	2	2	4	...	...
18. Fort Belvoir	...	1	...	...	189	59	...	...	8	8	11	...	4
19. Central Loudoun County	650	536	...	...	4	13	23	...	1
20. The Plains	250	269	...	...	13	4	4	...	...
21. Manassas-Bull Run	196	330	...	...	4	3	11	...	4
22. Nokesville	52	37	...	...	6	1	2	...	1
23. Chancellorsville	52	126	...	...	...	1	...	...	...
24. Lake Anna	2	20	...	...	...	...	...	...	...
25. Gordonsville	56	146	1	...	5	2	3	...	...
26. Charlottesville	164	235	...	...	1	4	6	...	...
27. Warren	41	177	...	...	4	1	2	...	...
28. Darlington Heights	53	119	...	...	3	3	1	...	...
29. Banister River W.M.A.	78	202	...	...	CW	1	...	...	...
30. Lynchburg	192	325	...	...	...	7	7	...	...
31. Chatham	4	2	...	...	1	...	...	...	...
32. Danville	7	32	...	...	2	2	...	...	...
33. Calmes Neck	57	121	...	...	3	6	9	1	2
34. N. Shenandoah Valley	127	228	...	...	12	3	9	...	...
35. Shenandoah NP-Luray	...	6	...	...	1	7	...	...	3	2	3	...	...
36. Big Flat Mountain
37. Rockingham County	...	CW	...	...	...	28	...	...	1	2	9	...	1
38. Augusta County	85	338	...	1	9	1	3	...	...
39. Waynesboro	...	1	...	...	24	43	...	...	3	...	3	...	...
40. Lexington	78	112	...	...	5	1	3	...	2
41. Peaks of Otter	2	2	...	...	...	...	...	...	...
42. Fincastle	83	63	...	...	...	3	2	...	...
43. Roanoke	3	...	48	12	...	...	...	1	2	...	...
44. Blacksburg	240	17	...	...	3	2	6	...	2
45. Giles County	13	15	1	...	...	4	1	...	...
46. Tazewell	2	3	...	3	2	1	2	...	...
47. Mount Rogers-Whitetop	9	16	...	...	...	...	3	...	...
48. Glade Spring	84	63	...	1	2	2	4	...	...
49. Blackford	52	3	...	7	...	...	1	...	...
50. Bristol	...	1	...	...	154	62	...	...	...	4	3	...	...
51. Buchanan County
52. Breaks Interstate Park	9	58	...	...	5	CW	...	...	...
53. Wise County
Totals:	2	13	4	410	4,947	7,025	10	13	240	155	207	1	17

Table 1. Species Counts (page 7 of 19)

Species Count Circle	Bald Eagle	Red-shouldered Hawk	Red-tailed Hawk	Rough-legged Hawk	hawk sp.	King Rail	Clapper Rail	Virginia Rail	Sora	Common Gallinule	American Coot	Sandhill Crane	American Avocet
1. Chincoteague	56	4	14	...	...	...	1	...	1	...	7	...	1
2. Wachapreague	54	6	8	...	...	...	3	...	...	...	...	...	...
3. Nassawaddox	41	2	12	...	...	...	...	...	...	...	1	...	...
4. Cape Charles	96	7	35	...	...	...	27	1	...	1	13	...	...
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Little Creek	21	6	9	...	...	...	15	...	...	...	76	...	...
7. Back Bay	14	7	17	...	...	15	...	8	4	...	...	...	...
8. Nansemond River	35	4	13	...	...	...	50	...	...	...	4	...	39
9. Dismal Swamp	5	6	3	...	...	...	...	...	...	...	...	...	...
10. Newport News	38	8	25	...	...	...	5	...	...	...	42	...	...
11. Mathews County	30	9	6	...	...	...	2	...	...	...	...	...	...
12. Williamsburg	63	18	23	...	...	...	...	1	...	...	16	...	...
13. Hopewell	57	14	11	...	...	2	...	...	...	...	43	...	...
14. Walkerton	48	22	16	...	...	...	...	...	...	...	17	...	...
15. Northumberland-Lancaster	16	20	6	...	2	...	...	...	...	...	...	...	...
16. Washingtons Birthplace	136	9	11	...	...	...	...	...	...	...	...	...	...
17. Brooke	183	19	17	...	...	...	...	...	...	...	350	...	...
18. Fort Belvoir	147	27	31	...	1	...	...	...	...	...	6,724	CW	...
19. Central Loudoun County	38	99	119	...	...	...	...	...	...	...	2	...	...
20. The Plains	25	51	49	...	...	...	...	...	...	...	1	...	...
21. Manassas-Bull Run	32	34	27	...	...	...	...	...	...	...	...	...	...
22. Nokesville	19	28	21	...	...	...	...	...	...	...	...	1	...
23. Chancellorsville	6	3	3	...	...	...	...	...	...	...	59	...	...
24. Lake Anna	4	2	1	...	...	...	...	...	...	...	13	...	...
25. Gordonsville	9	10	11	...	...	...	...	...	...	...	...	CW	...
26. Charlottesville	11	20	15	...	...	...	...	...	...	...	...	...	...
27. Warren	6	10	34	...	...	...	...	...	...	...	...	...	...
28. Darlington Heights	3	12	21	...	...	...	...	...	...	...	...	...	...
29. Banister River W.M.A.	5	11	11	...	...	...	...	...	...	...	...	...	...
30. Lynchburg	1	12	26	...	...	...	...	...	...	...	...	...	...
31. Chatham	1	1	2	...	...	...	...	...	...	...	...	...	...
32. Danville	1	5	7	...	1	...	...	...	...	...	...	...	...
33. Calmes Neck	27	64	50	...	...	...	...	...	...	...	2	...	...
34. N. Shenandoah Valley	21	27	53	...	...	...	...	...	...	...	...	...	...
35. Shenandoah NP-Luray	10	5	17	...	...	...	...	...	...	...	...	...	...
36. Big Flat Mountain	2	2	1	...	...	...	...	...	...	...	...	...	...
37. Rockingham County	2	3	40	...	...	...	...	...	...	...	1	...	...
38. Augusta County	1	9	45	...	...	...	...	...	...	...	6	...	...
39. Waynesboro	1	9	11	...	...	...	...	...	...	...	12	1	...
40. Lexington	2	2	15	...	...	...	...	...	...	...	8	...	...
41. Peaks of Otter	1	...	6	...	...	...	...	...	...	...	...	...	...
42. Fincastle	2	4	13	...	...	...	...	...	...	...	13	1	...
43. Roanoke	...	2	10	1	...	...	...	...	...	...	1	...	...
44. Blacksburg	2	6	22	...	...	...	...	...	...	...	3	...	...
45. Giles County	2	1	9	...	...	...	...	...	...	...	...	...	...
46. Tazewell	2	1	17	...	...	...	...	...	...	...	1	...	...
47. Mount Rogers-Whitetop	...	1	7	...	...	...	...	...	...	...	...	...	...
48. Glade Spring	2	1	29	...	...	...	...	...	...	...	26	...	...
49. Blackford	6	3	35	...	...	...	...	...	...	...	...	...	...
50. Bristol	4	...	21	...	...	...	...	...	...	...	29	...	...
51. Buchanan County	...	...	...	...	...	...	...	...	...	...	...	...	...
52. Breaks Interstate Park	CW	6	9	...	...	...	...	...	...	...	...	...	...
53. Wise County	...	...	2	...	...	...	...	...	...	...	...	...	...
Totals:	1,288	632	1,016	1	4	17	103	10	5	1	7,470	3	40

Table 1. Species Counts (page 8 of 19)

Count Circle \ Species	American Oystercatcher	Black-bellied Plover	Semipalmated Plover	Killdeer	Spotted Sandpiper	Greater Yellowlegs	Willet	Lesser Yellowlegs	Whimbrel	Long-billed Curlew	Marbled Godwit	Ruddy Turnstone	Red Knot
1. Chincoteague	66	49	7	36	1	97	151	4	...	...	81	12	...
2. Wachapreague	...	17	...	40	...	34	145	...	...	...	6	...	...
3. Nassawaddox	4	...	...	19	2	24	231	...	...	...	319	11	...
4. Cape Charles	198	2,536	26	130	CW	146	619	2	7	1	111	93	11
5. Chesapeake Bay	1	...	...	...	...	...	...	...	8	...
6. Little Creek	42	...	...	13	...	4	1	...	...	...	...	7	...
7. Back Bay	...	2	...	63	...	7	...	...	...	...	...	...	...
8. Nansemond River	9	201	...	18	...	...	...	...	...	2	...
9. Dismal Swamp
10. Newport News	...	12	1	38	...	5	...	...	...	...	...	15	...
11. Mathews County	...	11	...	53	...	2	13	...	...	...	...	3	...
12. Williamsburg	40	...	5	...	...	...	...	...	...	...
13. Hopewell	11	...	...	...	...	...	...	...	...	...
14. Walkerton	161	...	26	...	3	...	...	...	...	...
15. Northumberland-Lancaster	31	...	...	...	...	...	...	...	...	...
16. Washingtons Birthplace	19	...	...	...	...	...	...	...	...	...
17. Brooke	10	...	...	...	...	...	...	...	...	...
18. Fort Belvoir	46	...	13	...	...	...	...	...	...	...
19. Central Loudoun County	1	...	...	...	...	...	...	...	...	...
20. The Plains	6	...	...	...	...	...	...	...	...	...
21. Manassas-Bull Run	7	...	...	...	...	...	...	...	...	...
22. Nokesville
23. Chancellorsville	1	...	...	...	...	...	...	...	...	...
24. Lake Anna
25. Gordonsville
26. Charlottesville
27. Warren	1	...	...	...	...	...	...	...	...	...
28. Darlington Heights
29. Banister River W.M.A.	17	...	...	...	...	...	...	...	...	...
30. Lynchburg	23	...	...	...	...	...	...	...	...	...
31. Chatham	1	...	...	...	...	...	...	...	...	...
32. Danville	49	...	...	...	...	...	...	...	...	...
33. Calmes Neck	2	...	...	...	...	...	...	...	...	...
34. N. Shenandoah Valley	1	...	...	...	...	...	...	...	...	...
35. Shenandoah NP-Luray	4	...	...	...	...	...	...	...	...	...
36. Big Flat Mountain
37. Rockingham County	2	...	...	...	...	...	...	...	...	...
38. Augusta County	1	...	...	...	...	...	...	...	...	...
39. Waynesboro	3	...	...	...	...	...	...	...	...	...
40. Lexington	3	...	...	...	...	...	...	...	...	...
41. Peaks of Otter
42. Fincastle	17	...	...	...	...	...	...	...	...	...
43. Roanoke	16	...	...	...	...	...	...	...	...	...
44. Blacksburg	9	...	...	...	...	...	...	...	...	...
45. Giles County	7	...	...	...	...	...	...	...	...	...
46. Tazewell
47. Mount Rogers-Whitetop
48. Glade Spring	28	...	...	...	...	...	...	...	...	...
49. Blackford
50. Bristol	21	...	...	...	...	...	...	...	...	...
51. Buchanan County
52. Breaks Interstate Park	2	...	...	...	...	...	...	...	...	...
53. Wise County
Totals:	310	2,627	43	1,134	3	381	1,160	9	7	1	517	151	11

Table 1. Species Counts (page 9 of 19)

Species Count Circle	Sanderling	Dunlin	Purple Sandpiper	Least Sandpiper	Western Sandpiper	Short-billed Dowitcher	Long-billed Dowitcher	Wilson's Snipe	American Woodcock	shorebird sp.	Parasitic Jaeger	alcid sp.	Bonaparte's Gull
1. Chincoteague	418	551	...	1	25	2	...	18	14	...	...	...	4
2. Wachapreague	...	140	...	...	1	1	...	...	...	...	...	...	...
3. Nassawaddox	...	507	...	...	1	3	...	...	1	...	...	...	90
4. Cape Charles	478	14,140	5	9	266	70	1	4	78	...	...	2	...
5. Chesapeake Bay	15	...	17	...	...	...	...	...	...	...	...	...	...
6. Little Creek	217	74	2	...	...	...	...	1	...	...	...	...	...
7. Back Bay	199	...	...	...	...	...	...	4	12	...	1	...	1
8. Nansemond River	135	650	...	1	5	...	...	1	28	...	...	...	...
9. Dismal Swamp
10. Newport News	103	213	1	...	2	...	...	...	...	...	...	...	6
11. Mathews County	40	418	...	...	...	...	...	...	2	13	...	...	14
12. Williamsburg	...	185	...	...	...	...	...	...	...	...	...	...	157
13. Hopewell	11	...	...	...	2	9	...	...	...	10
14. Walkerton	...	43	...	...	...	...	...	69	33	...	...	...	...
15. Northumberland-Lancaster	16	1	...	...	...	...	...	...	...	...	...	...	43
16. Washingtons Birthplace	3	2	...	...	...	2
17. Brooke	7	...	...	...	...	1
18. Fort Belvoir	7	21	...	...	...	1
19. Central Loudoun County
20. The Plains	1	1	...	...	...	...
21. Manassas-Bull Run
22. Nokesville	2	...	...	...	...	...
23. Chancellorsville	1	...	...	...	...	...
24. Lake Anna
25. Gordonsville
26. Charlottesville	1	...	...	...	...	...
27. Warren
28. Darlington Heights	2	...	...	...	...
29. Banister River W.M.A.	CW	4	...	...	...	135
30. Lynchburg	1	...	...	...	...
31. Chatham
32. Danville
33. Calmes Neck
34. N. Shenandoah Valley	3	1	...	...	...	...
35. Shenandoah NP-Luray	7	...	...	...	...	...
36. Big Flat Mountain
37. Rockingham County	4	...	...	...	...	...
38. Augusta County	1	...	...	...	...	...
39. Waynesboro	2	...	...	...	...
40. Lexington
41. Peaks of Otter
42. Fincastle	3	...	...	...	...	...
43. Roanoke	1	...	...	...	...	1
44. Blacksburg	1	...	...	...	...	...
45. Giles County
46. Tazewell
47. Mount Rogers-Whitetop
48. Glade Spring
49. Blackford
50. Bristol	4
51. Buchanan County
52. Breaks Interstate Park
53. Wise County
Totals:	1,621	16,922	25	22	300	76	1	141	211	13	1	2	469

Table 1. Species Counts (page 10 of 19)

Species Count Circle	Black-headed Gull	Laughing Gull	Ring-billed Gull	Herring Gull	Lesser Black- backed Gull	Glauco us Gull	Great Black- backed Gull	gull sp.	Forster's Tern	Black Skimmer	Rock Pigeon (Feral Pigeon)	Eurasian Collared- Dove	Mourning Dove
1. Chincoteague	1	...	732	692	3	...	189	160	111	...	350	3	340
2. Wachapreague	615	807	...	...	20	129	8	...	7	...	156
3. Nassawaddox	530	106	...	...	10	...	...	...	32	...	176
4. Cape Charles	...	1	682	934	4	...	599	...	3	...	93	6	585
5. Chesapeake Bay	...	7	285	420	9	...	160	...	...	...	1	...	...
6. Little Creek	...	3	4,330	1,129	232	...	275	...	...	14	452	...	77
7. Back Bay	...	2	4,320	86	75	...	179	...	3	...	229	7	300
8. Nansemond River	...	3	1,601	134	CW	...	55	...	...	...	133	...	329
9. Dismal Swamp	75	4	...	...	...	...	...	...	...	...	16
10. Newport News	...	10	3,570	189	2	...	97	...	10	...	506	...	316
11. Mathews County	...	1	787	286	...	...	42	38	7	...	11	...	128
12. Williamsburg	...	22	762	43	1	...	28	...	37	...	161	...	184
13. Hopewell	...	333	15,121	2,046	...	...	5	...	...	...	129	...	206
14. Walkerton	...	4	174	...	...	...	...	33	...	...	64	...	209
15. Northumberland-Lancaster	...	3	210	14	...	...	18	1	5	...	35	...	62
16. Washingtons Birthplace	1,600	54	...	...	3	...	3	...	...	...	281
17. Brooke	...	1,560	11,983	665	...	...	24	...	4	...	103	...	108
18. Fort Belvoir	4,683	535	...	CW	99	310	...	...	355	...	586
19. Central Loudoun County	4,076	201	...	...	...	...	...	...	571	...	482
20. The Plains	550	...	...	...	...	30	...	...	61	...	421
21. Manassas-Bull Run	1,901	1	...	...	...	56	...	...	166	...	463
22. Nokesville	...	5	1,013	80	...	...	4	7	...	...	100	...	164
23. Chancellorsville	245	...	...	...	...	...	...	...	10	...	114
24. Lake Anna	1,847	140	...	...	222	...	...	...	1	...	61
25. Gordonsville	4	...	...	...	...	...	...	...	42	...	224
26. Charlottesville	121	...	88
27. Warren	30	...	128
28. Darlington Heights	11	...	354
29. Banister River W.M.A.	651	1	...	...	...	150	...	...	10	...	114
30. Lynchburg	137	...	224
31. Chatham	42
32. Danville	5	...	...	...	...	...	...	...	26	...	138
33. Calmes Neck	567	...	1,022
34. N. Shenandoah Valley	427	...	457
35. Shenandoah NP-Luray	143	...	201
36. Big Flat Mountain	1
37. Rockingham County	1,232	20	605
38. Augusta County	239	...	562
39. Waynesboro	5	...	...	...	...	...	...	...	75	...	270
40. Lexington	1	...	...	...	...	...	...	...	462	...	210
41. Peaks of Otter	1
42. Fincastle	14	...	...	...	...	...	...	...	56	...	219
43. Roanoke	7	...	...	...	...	...	...	...	144	...	173
44. Blacksburg	1,240	1	...	...	...	...	...	...	646	14	1,112
45. Giles County	60	...	...	...	...	...	...	...	59	...	57
46. Tazewell	1	...	...	...	...	...	...	...	115	...	31
47. Mount Rogers-Whitetop	55	...	158
48. Glade Spring	604	6	348
49. Blackford	33	...	282
50. Bristol	832	...	...	...	...	...	...	...	658	...	585
51. Buchanan County	13
52. Breaks Interstate Park	107	...	145
53. Wise County	133	...	50
Totals:	1	1,954	64,512	8,568	326	CW	2,029	914	191	14	9,702	56	13,578

Table 1. Species Counts (page 11 of 19)

Species Count Circle	Barn Owl	Eastern Screech-Owl	Great Horned Owl	Snowy Owl	Barred Owl	Long-eared Owl	Short-eared Owl	Chuck-will's-widow	Ruby-throated Hummingbird	Rufous Hummingbird	Allen's Hummingbird	Belted Kingfisher	Red-headed Woodpecker
1. Chincoteague	1	24	14	CW	...	...	...	...	...	...	...	29	1
2. Wachapreague	...	1	...	...	...	...	...	...	...	...	...	22	...
3. Nassawaddox	...	2	1	...	...	...	...	...	...	...	...	8	1
4. Cape Charles	...	3	4	...	...	...	...	...	1	...	...	14	3
5. Chesapeake Bay
6. Little Creek	...	9	1	...	...	...	...	...	CW	...	...	26	3
7. Back Bay	...	7	12	...	...	...	...	1	...	...	...	15	...
8. Nansemond River	1	8	3	...	...	...	...	...	...	1	...	24	6
9. Dismal Swamp	6	2
10. Newport News	1	...	...	...	...	...	...	...	...	14	2
11. Mathews County	4	...	4	...	...	...	...	...	...	39	1
12. Williamsburg	...	CW	8	...	3	...	...	...	...	...	1	21	7
13. Hopewell	...	3	2	...	2	...	...	...	...	...	...	14	11
14. Walkerton	...	3	9	...	8	...	...	...	...	...	...	21	11
15. Northumberland-Lancaster	8	1
16. Washingtons Birthplace	1	...	...	...	...	...	...	8	10
17. Brooke	24	54
18. Fort Belvoir	...	9	8	...	16	...	...	...	...	...	...	49	66
19. Central Loudoun County	1	6	5	...	9	...	...	...	...	...	...	17	21
20. The Plains	...	1	...	...	3	...	4	...	...	...	...	19	23
21. Manassas-Bull Run	2	...	...	...	...	...	...	19	23
22. Nokesville	1	...	...	...	...	...	...	7	12
23. Chancellorsville	...	1	...	...	...	...	...	...	...	...	...	4	...
24. Lake Anna	2	...	...	...	...	...	...	...	...	4	2
25. Gordonsville	CW	...	...	...	CW	...	...	...	...	...	...	7	...
26. Charlottesville	...	1	...	...	...	...	...	...	...	...	...	17	1
27. Warren	5	1	3	...	...	...	...	...	...	...	...	8	4
28. Darlington Heights	...	3	1	...	1	...	...	...	...	...	...	5	2
29. Banister River W.M.A.	2	...	4	...	...	...	...	...	...	4	19
30. Lynchburg	...	5	2	...	1	...	...	...	...	...	...	12	7
31. Chatham
32. Danville	1	7
33. Calmes Neck	2	3	4	...	3	...	...	...	...	...	...	22	16
34. N. Shenandoah Valley	...	8	1	...	4	1	7	...	...	...	...	28	3
35. Shenandoah NP-Luray	...	2	...	...	...	...	...	...	...	...	...	8	...
36. Big Flat Mountain	1	...	...	...	...	...	...	2	...
37. Rockingham County	1	...	...	...	...	...	...	...	...	13	3
38. Augusta County	1	12	1	...	...	...	2	...	...	...	...	7	...
39. Waynesboro	1	1	...	...	1	...	...	...	...	...	...	8	1
40. Lexington	...	8	1	...	...	...	...	...	...	...	...	13	...
41. Peaks of Otter	1	...	...	...	...	...	...	...	...
42. Fincastle	...	1	...	...	...	...	...	...	...	...	...	8	1
43. Roanoke	1	...	...	...	...	...	...	...	...	5	...
44. Blacksburg	...	7	1	...	1	...	...	...	...	...	...	22	16
45. Giles County	...	2	1	...	...	...	...	...	...	...	...	9	...
46. Tazewell	...	2	1	...	1	...	...	...	...	...	...	9	3
47. Mount Rogers-Whitetop	1	...	...	...	...	...	...	3	...
48. Glade Spring	...	4	4	...	3	...	...	...	...	...	...	14	3
49. Blackford	...	5	...	...	...	...	...	...	...	...	...	9	10
50. Bristol	...	4	5	...	4	...	...	...	...	...	...	15	...
51. Buchanan County	1	...	...	...	...	...	...	1	...
52. Breaks Interstate Park	...	7	CW	...	6	...	...	...	...	...	...	25	...
53. Wise County	2	...
Totals:	12	153	103	CW	82	1	13	1	1	1	1	689	356

Table 1. Species Counts (page 12 of 19)

Species Count Circle	Red-bellied Woodpecker	Yellow- bellied Sapsucker	Downy Woodpecker	Hairy Woodpecker	Red- cockaded Woodpecker	Northern (Yellow- shafted) Flicker	Pileated Woodpecker	woodpecker sp.	American Kestrel	Merlin	Peregrine Falcon
1. Chincoteague	53	8	41	9	...	103	18	...	10	6	3
2. Wachapreague	18	1	9	...	...	52	3	...	23	...	...
3. Nassawadox	14	5	5	1	...	31	8	...	17	...	2
4. Cape Charles	30	15	16	2	...	78	4	...	15	7	6
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...	2
6. Little Creek	45	17	39	3	...	45	14	...	1	1	3
7. Back Bay	60	9	23	...	...	66	10	...	16	5	...
8. Nansemond River	73	14	41	6	...	86	18	...	9	1	1
9. Dismal Swamp	43	6	28	21	2	41	21	...	2	...	...
10. Newport News	77	6	46	3	...	55	3	...	4	2	1
11. Mathews County	48	16	22	6	...	85	14	1	4	...	...
12. Williamsburg	159	45	121	16	...	106	27	...	3	1	1
13. Hopewell	82	17	45	3	...	118	16	...	7	2	2
14. Walkerton	53	26	49	13	...	106	32	...	14	2	2
15. Northumberland-Lancaster	43	8	16	2	...	50	6	...	7	...	1
16. Washingtons Birthplace	59	12	20	10	...	77	13	...	13	3	...
17. Brooke	139	13	77	15	...	65	46	...	1	1	...
18. Fort Belvoir	546	42	288	79	...	319	96	...	5	2	1
19. Central Loudoun County	176	58	188	40	...	157	58	...	9	1	...
20. The Plains	145	22	130	19	...	154	28	...	...	...	...
21. Manassas-Bull Run	228	24	233	31	...	142	47	...	3	3	...
22. Nokesville	90	8	50	10	...	121	21	...	18	1	...
23. Chancellorsville	29	4	19	12	...	17	10	...	2	1	...
24. Lake Anna	11	...	5	...	...	15	3	...	3	...	...
25. Gordonsville	32	12	21	5	...	43	11	...	10	...	...
26. Charlottesville	129	47	93	24	...	88	46	...	4	2	1
27. Warren	68	32	54	5	...	62	26	...	11	...	...
28. Darlington Heights	22	5	33	...	...	32	13	...	16	...	...
29. Banister River W.M.A.	61	21	25	9	...	58	18	...	6	...	...
30. Lynchburg	100	30	71	10	...	36	39	...	...	...	...
31. Chatham	5	1	5	1	...	5	1	...	1	...	...
32. Danville	12	3	12	...	...	11	2	...	2	...	...
33. Calmes Neck	128	42	116	20	...	71	44	...	28	...	...
34. N. Shenandoah Valley	46	30	206	10	...	28	27	...	22	...	...
35. Shenandoah NP-Luray	44	8	37	4	...	7	7	...	12	...	...
36. Big Flat Mountain	5	3	9	7	...	2	...	...	...	...	...
37. Rockingham County	56	6	41	10	...	22	18	...	51	...	...
38. Augusta County	51	5	39	5	...	8	3	...	45	CW	1
39. Waynesboro	47	5	38	4	...	17	11	...	16	1	...
40. Lexington	44	20	45	12	...	5	23	...	7	...	...
41. Peaks of Otter	14	5	17	7	...	7	10	...	...	...	...
42. Fincastle	28	5	22	2	...	11	7	...	9	1	...
43. Roanoke	36	17	22	7	...	14	6	...	3	1	...
44. Blacksburg	120	23	104	22	...	26	38	...	17	1	...
45. Giles County	25	11	53	9	...	9	7	...	2	...	...
46. Tazewell	7	2	11	3	...	5	3	...	8	1	...
47. Mount Rogers-Whitetop	13	2	21	2	...	7	8	...	4	...	...
48. Glade Spring	22	2	39	...	...	10	7	...	22	...	...
49. Blackford	36	3	17	8	...	17	6	...	25	...	...
50. Bristol	62	5	38	8	...	34	23	...	23	1	...
51. Buchanan County	4	...	4	2	...	2	1	...	...	...	...
52. Breaks Interstate Park	8	5	25	5	...	17	18	...	3	...	...
53. Wise County	8	1	12	4	...	2	2	...	1	...	...
Totals:	3,454	727	2,741	506	2	2,745	941	1	534	47	27

Table 1. Species Counts (page 13 of 19)

Species Count Circle	diurnal raptor sp.	Eastern Phoebe	flycatcher sp.	Logger- head Shrike	Northern Shrike	White- eyed Vireo	Blue- headed Vireo	Blue Jay	American Crow	Fish Crow	crow sp.	Common Raven	Horned Lark
1. Chincoteague	...	15	...	...	...	...	...	101	386	37	4	...	10
2. Wachapreague	...	5	...	...	...	...	...	52	1,126	81	48	...	...
3. Nassawaddox	...	1	...	...	...	...	...	6	416	70	28	...	12
4. Cape Charles	...	7	...	...	...	...	2	28	350	7	32	...	4
5. Chesapeake Bay
6. Little Creek	...	3	...	...	...	...	2	48	2,778	1,270	...	...	...
7. Back Bay	...	8	...	...	...	...	1	78	930	19	...	...	...
8. Nansemond River	...	6	...	...	...	CW	1	176	176	530	300	...	...
9. Dismal Swamp	...	7	...	...	...	1	4	7	1	...	...	...	...
10. Newport News	...	2	1	...	...	...	...	155	870	141	...	...	...
11. Mathews County	2	10	...	...	...	...	...	93	531	6	...	1	...
12. Williamsburg	...	8	...	...	...	...	1	137	479	2	26	...	...
13. Hopewell	...	23	...	...	...	...	...	74	341	...	...	...	3
14. Walkerton	...	56	...	...	...	1	...	62	650	...	...	...	32
15. Northumberland-Lancaster	...	4	...	...	...	...	...	32	600	8	...	...	...
16. Washingtons Birthplace	...	6	...	...	...	...	...	44	589	...	...	...	86
17. Brooke	...	4	...	...	...	...	...	169	890	20	...	...	...
18. Fort Belvoir	...	5	...	...	...	...	...	902	1,940	810	944	2	...
19. Central Loudoun County	...	3	...	...	...	...	...	334	959	712	228	21	18
20. The Plains	...	4	...	...	...	...	...	543	661	13	...	21	21
21. Manassas-Bull Run	...	2	...	...	1	...	...	594	692	534	540	9	...
22. Nokesville	...	13	...	...	...	...	...	250	211	465	...	9	...
23. Chancellorsville	1	...	...	...	...	...	...	45	174	2	...	...	...
24. Lake Anna	...	2	...	...	...	...	...	55	122	...	...	1	...
25. Gordonsville	...	5	...	...	...	...	...	78	319	...	...	...	...
26. Charlottesville	...	4	...	...	...	...	...	319	484	190	...	10	...
27. Warren	...	12	...	...	...	...	...	215	527	2	...	7	...
28. Darlington Heights	...	16	...	...	...	...	...	146	630	...	...	2	8
29. Banister River W.M.A.	...	5	...	...	...	...	...	199	446	1	...	2	CW
30. Lynchburg	...	13	...	...	...	...	...	272	585	4	...	6	...
31. Chatham	...	1	...	...	...	...	...	37	29	...	...	...	...
32. Danville	64	121	...	...	...	...
33. Calmes Neck	1	...	...	...	254	870	3	1	18	248
34. N. Shenandoah Valley	...	1	...	...	...	...	...	275	897	19	...	25	...
35. Shenandoah NP-Luray	...	2	...	...	...	...	...	114	759	50	...	19	...
36. Big Flat Mountain	1	9	...	...	5	...
37. Rockingham County	225	170	34	4	25	68
38. Augusta County	...	1	...	...	...	...	...	283	416	14	...	...	CW
39. Waynesboro	...	1	...	...	...	...	...	351	543	2	3	4	...
40. Lexington	...	5	...	...	...	...	...	374	653	4	...	13	...
41. Peaks of Otter	...	4	...	...	...	...	...	10	45	...	...	12	...
42. Fincastle	...	6	...	...	...	...	...	189	366	...	...	4	...
43. Roanoke	...	5	...	...	...	...	...	92	151	3	...	1	...
44. Blacksburg	...	6	...	...	...	...	1	414	661	...	...	12	55
45. Giles County	...	11	...	...	...	...	...	170	152	...	...	6	...
46. Tazewell	...	6	...	...	...	...	...	44	123	...	...	11	...
47. Mount Rogers-Whitetop	...	5	...	...	...	...	...	52	210	...	...	9	...
48. Glade Spring	...	15	...	1	...	...	...	163	469	...	...	10	70
49. Blackford	...	4	...	11	...	...	...	137	377	...	...	20	...
50. Bristol	...	23	...	...	...	...	...	296	510	...	...	3	...
51. Buchanan County	...	CW	...	...	...	...	...	8	23	...	...	CW	...
52. Breaks Interstate Park	...	6	...	...	...	...	...	53	255	...	...	6	45
53. Wise County	39	261	...	...	...	...
Totals:	3	351	1	13	1	2	12	8,859	26,933	5,053	2,158	294	680

Table 1. Species Counts (page 14 of 19)

Count Circle \ Species	Tree Swallow	Carolina Chickadee	Black-capped Chickadee	chickadee sp.	Tufted Titmouse	Red-breasted Nuthatch	White-breasted Nuthatch	Brown-headed Nuthatch	Brown Creeper	House Wren	Winter Wren	Sedge Wren	Marsh Wren
1. Chincoteague	9	147	...	...	44	18	7	67	19	10	18	2	4
2. Wachapreague	...	51	...	...	24	5	1	40	2	...	...	...	...
3. Nassawadox	...	75	...	...	29	6	1	18	3	...	...	...	1
4. Cape Charles	77	138	...	...	43	16	6	16	17	17	9	4	10
5. Chesapeake Bay
6. Little Creek	...	121	...	...	47	13	19	49	11	...	9	...	...
7. Back Bay	114	112	...	...	63	1	9	42	5	4	4	10	19
8. Nansemond River	144	156	...	...	91	1	13	18	8	6	9	...	10
9. Dismal Swamp	...	59	...	...	15	...	11	3	2	...	15	...	...
10. Newport News	...	236	...	...	95	2	21	9	4	3	3	...	2
11. Mathews County	...	143	...	...	111	11	8	49	3	11	4	1	3
12. Williamsburg	...	415	...	...	367	14	122	20	23	2	5	1	2
13. Hopewell	...	127	...	...	71	1	25	4	8	11	13	...	...
14. Walkerton	...	123	...	...	116	11	41	...	15	3	13	1	...
15. Northumberland-Lancaster	...	59	...	...	51	11	7	2	1	...	1	...	1
16. Washingtons Birthplace	...	55	...	...	52	3	13	...	4	...	3	...	...
17. Brooke	...	223	...	...	209	5	92	...	11	...	4	...	1
18. Fort Belvoir	...	797	...	...	818	17	295	...	38	...	23	...	...
19. Central Loudoun County	...	552	1	...	308	13	210	...	34	...	10	...	...
20. The Plains	...	467	...	...	301	18	168	...	14	...	4	...	...
21. Manassas-Bull Run	...	612	...	...	409	13	263	...	13	1	11	...	...
22. Nokesville	...	117	...	...	76	11	39	...	5	...	3	...	...
23. Chancellorsville	...	90	...	...	81	2	34	...	2	...	...	...	...
24. Lake Anna	...	22	...	...	18	1	6	...	2	...	...	...	...
25. Gordonsville	...	46	...	...	53	1	23	...	...	...	3	...	...
26. Charlottesville	...	251	...	...	268	15	122	...	6	...	20	...	...
27. Warren	...	95	...	...	81	2	75	...	5	...	3	...	...
28. Darlington Heights	...	67	...	...	68	9	27	...	1	...	5	...	...
29. Banister River W.M.A.	...	73	...	...	82	2	31	4	8	...	38	...	...
30. Lynchburg	...	195	...	...	193	10	96	...	13	...	11	...	...
31. Chatham	...	3	...	...	6	...	4	1	1	...	...	...	...
32. Danville	...	55	...	...	28	...	17	3	...	1	...	...	...
33. Calmes Neck	...	459	2	...	247	3	176	...	24	...	10	...	...
34. N. Shenandoah Valley	...	322	20	...	190	4	120	...	17	...	4	...	...
35. Shenandoah NP-Luray	...	95	5	...	75	1	52	...	7	...	3	...	...
36. Big Flat Mountain	...	47	1	...	28	2	14	...	4	...	2	...	...
37. Rockingham County	...	95	3	5	79	9	71	...	4	CW	2	...	...
38. Augusta County	...	100	1	...	57	1	50	...	2	...	2	...	...
39. Waynesboro	...	190	...	...	152	...	62	...	6	...	1	...	...
40. Lexington	...	79	19	23	129	8	61	...	7	...	1	...	...
41. Peaks of Otter	...	56	...	...	32	1	30	2	...	...	2	...	...
42. Fincastle	...	46	1	...	37	5	29	...	1	...	1	...	...
43. Roanoke	...	97	...	...	60	...	48	...	1	...	...	...	...
44. Blacksburg	...	316	1	22	321	23	172	...	15	...	23	...	...
45. Giles County	...	117	12	12	108	2	40	...	6	...	11	...	...
46. Tazewell	...	29	2	...	54	6	16	...	2	...	...	...	...
47. Mount Rogers-Whitetop	...	64	...	16	49	2	30	...	1	...	4	...	...
48. Glade Spring	...	94	...	...	104	1	41	...	1	...	1	...	...
49. Blackford	...	65	...	...	53	3	30	...	1	...	3	...	...
50. Bristol	...	144	...	...	106	8	57	1	2	...	8	...	...
51. Buchanan County	...	6	...	...	4	2	3	...	...	...	CW	...	...
52. Breaks Interstate Park	...	86	...	...	102	5	36	...	10	...	19	...	...
53. Wise County	...	59	...	...	36	...	14	...	...	...	...	...	...
Totals:	344	8,248	68	78	6,241	318	2,958	348	389	69	338	19	53

Table 1. Species Counts (page 15 of 19)

Count Circle \ Species	Carolina Wren	Blue-gray Gnatcatcher	Golden-crowned Kinglet	Ruby-crowned Kinglet	kinglet sp.	Eastern Bluebird	Hermit Thrush	American Robin	Gray Catbird	Brown Thrasher	Northern Mockingbird	European Starling	American Pipit
1. Chincoteague	147	...	36	29	...	69	23	1,573	36	23	49	1,607	1
2. Wachapreague	51	...	6	1	...	195	1	1,132	1	1	39	2,166	10
3. Nassawaddox	88	...	11	6	...	142	9	237	...	2	35	934	...
4. Cape Charles	113	...	39	53	...	131	29	610	6	11	76	2,413	1
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...	...	...	1
6. Little Creek	98	...	27	21	...	63	7	560	1	10	28	1,037	...
7. Back Bay	138	...	10	12	...	96	10	1,343	20	6	42	1,300	...
8. Nansemond River	210	...	54	45	...	173	9	1,201	2	20	76	1,798	28
9. Dismal Swamp	57	...	53	38	...	1	30	273	76	7	7	12	...
10. Newport News	81	...	26	29	...	136	7	1,600	4	23	64	1,824	...
11. Mathews County	74	...	13	11	...	226	9	1,130	3	9	63	236	1
12. Williamsburg	203	...	77	82	...	273	16	525	3	24	62	680	...
13. Hopewell	116	2	43	66	...	98	14	203	1	21	44	607	7
14. Walkerton	151	...	61	35	...	175	24	358	...	22	47	731	177
15. Northumberland-Lancaster	33	...	6	3	...	121	4	475	...	2	38	345	11
16. Washingtons Birthplace	82	...	20	21	...	65	4	957	...	3	23	328	2
17. Brooke	132	...	30	18	...	263	21	667	...	5	63	6,056	...
18. Fort Belvoir	578	...	115	75	...	230	79	6,447	2	8	106	2,897	...
19. Central Loudoun County	246	...	110	16	...	593	6	301	...	...	208	2,024	3
20. The Plains	307	...	15	9	...	236	11	111	1	...	125	903	43
21. Manassas-Bull Run	319	...	30	4	...	175	5	579	2	1	72	3,185	13
22. Nokesville	72	...	22	8	...	59	3	13	...	2	37	862	...
23. Chancellorsville	40	...	28	7	...	68	2	90	...	...	14	295	...
24. Lake Anna	12	...	5	3	...	33	2	92	...	1	7	35	...
25. Gordonsville	29	...	13	...	...	111	...	29	1	...	30	640	...
26. Charlottesville	274	...	53	26	...	237	22	369	2	...	62	1,092	...
27. Warren	93	...	41	15	...	166	14	21	...	...	39	651	30
28. Darlington Heights	44	...	12	17	...	143	4	14	...	...	36	269	...
29. Banister River W.M.A.	90	...	52	30	...	93	20	24	...	8	21	206	1
30. Lynchburg	155	...	32	8	...	181	8	139	1	2	76	1,095	...
31. Chatham	7	...	8	1	...	24	2	...	...	1	2	...	...
32. Danville	31	...	1	2	...	53	2	69	...	...	26	177	...
33. Calmes Neck	177	...	18	5	...	428	3	162	1	...	123	1,475	...
34. N. Shenandoah Valley	111	...	65	5	...	318	17	152	...	1	157	7,021	...
35. Shenandoah NP-Luray	52	...	13	4	...	66	6	8	...	...	31	2,665	...
36. Big Flat Mountain	11	...	54	...	...	7	1	2	...	...	...	...	...
37. Rockingham County	69	...	14	5	...	159	5	37	...	1	51	3,932	100
38. Augusta County	57	...	15	...	...	54	...	33	...	1	74	3,182	...
39. Waynesboro	52	...	20	3	...	101	2	109	...	...	53	1,849	...
40. Lexington	57	...	47	7	...	110	7	89	...	...	39	182	...
41. Peaks of Otter	18	...	6	...	...	14	1	...	...	...	1	8	...
42. Fincastle	36	...	20	8	...	56	1	7	...	1	51	601	...
43. Roanoke	89	...	14	8	...	38	1	100	...	...	14	513	...
44. Blacksburg	217	...	67	3	1	161	5	58	1	1	119	1,283	47
45. Giles County	46	...	14	...	1	41	...	...	...	...	42	59	...
46. Tazewell	14	...	13	...	...	14	...	7	...	...	9	991	...
47. Mount Rogers-Whitetop	20	...	16	1	...	67	...	...	...	...	22	208	...
48. Glade Spring	37	...	10	4	...	102	3	3	...	...	64	1,176	...
49. Blackford	38	...	12	1	...	102	...	4	...	2	39	654	...
50. Bristol	92	...	35	7	...	107	9	208	...	...	92	2185	...
51. Buchanan County	2	...	CW	...	...	CW	...	...	...	...	...	44	...
52. Breaks Interstate Park	75	...	33	9	...	26	CW	12	...	4	5	191	...
53. Wise County	10	...	...	...	...	19	1	9	...	...	6	659	...
Totals:	5,351	2	1,535	761	2	6,619	459	22,142	164	223	2,609	65,283	476

Table 1. Species Counts (page 16 of 19)

Count Circle	Species													Yellow-rumped (Myrtle) Warbler
	Cedar Waxwing	Snow Bunting	Ovenbird	Black-and-white Warbler	Orange-crowned Warbler	Lucy's Warbler	Nashville Warbler	Common Yellowthroat	Cape May Warbler	Yellow Warbler	Palm Warbler	Pine Warbler		
1. Chincoteague	125	...	...	...	3	...	...	4	...	...	10	8	1,564
2. Wachapreague	69	...	...	...	...	...	...	...	...	...	1	7	310
3. Nassawaddox	310	...	...	...	...	...	...	...	...	...	17	4	365
4. Cape Charles	197	...	...	...	5	CW	1	...	...	...	56	31	954
5. Chesapeake Bay	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Little Creek	11	...	...	1	8	...	1	...	1	...	10	43	268
7. Back Bay	...	...	...	...	7	...	...	...	...	...	16	25	1,590
8. Nansemond River	85	8	...	...	2	...	...	1	...	...	16	22	193
9. Dismal Swamp	...	...	2	...	4	...	...	...	...	...	...	9	8
10. Newport News	88	17	...	1	2	...	...	...	...	...	...	18	262
11. Mathews County	275	...	1	...	...	...	...	1	...	1	1	21	287
12. Williamsburg	84	...	...	...	4	...	...	...	...	...	...	27	424
13. Hopewell	7	...	...	...	7	...	1	3	...	...	1	1	45
14. Walkerton	25	...	...	...	...	...	...	1	...	...	1	12	41
15. Northumberland-Lancaster	256	...	...	...	...	...	...	...	...	...	...	6	191
16. Washingtons Birthplace	168	...	...	...	...	...	...	...	...	...	...	1	6
17. Brooke	89	...	...	...	...	...	...	1	...	...	...	...	12
18. Fort Belvoir	698	...	...	...	1	...	...	...	...	...	...	...	10
19. Central Loudoun County	56	...	...	...	...	...	...	1	...	...	2	...	13
20. The Plains	37	...	...	...	...	...	...	...	...	...	...	...	4
21. Manassas-Bull Run	107	...	...	...	...	...	...	...	...	...	...	...	12
22. Nokesville	8	...	...	...	...	...	...	...	...	...	...	...	14
23. Chancellorsville	13	...	...	...	...	...	...	...	...	...	...	...	...
24. Lake Anna	3	...	...	...	...	...	...	...	...	...	...	...	4
25. Gordonsville	22	...	...	...	...	...	...	...	...	...	...	...	17
26. Charlottesville	41	...	...	...	...	...	...	2	...	...	...	...	13
27. Warren	6	...	...	...	...	...	...	...	...	...	...	...	4
28. Darlington Heights	...	...	...	...	...	...	...	...	...	...	...	...	1
29. Banister River W.M.A.	9	...	...	...	...	...	...	...	...	...	...	1	41
30. Lynchburg	94	...	...	...	...	...	...	...	...	...	2	...	2
31. Chatham	...	...	...	...	...	...	...	...	...	...	...	...	...
32. Danville	10	...	...	...	...	...	...	...	...	...	...	...	7
33. Calmes Neck	15	...	...	...	...	...	...	...	...	...	...	...	2
34. N. Shenandoah Valley	42	...	...	...	...	...	...	...	...	...	...	...	8
35. Shenandoah NP-Luray	...	...	...	...	...	...	...	...	...	...	...	...	...
36. Big Flat Mountain	...	...	...	...	...	...	...	...	...	...	...	...	...
37. Rockingham County	...	...	...	...	...	...	...	...	...	...	1	...	10
38. Augusta County	...	...	...	...	...	...	...	...	...	...	...	...	3
39. Waynesboro	40	...	...	...	...	...	...	...	...	...	...	...	4
40. Lexington	...	...	...	...	...	...	...	...	...	...	...	...	2
41. Peaks of Otter	...	...	...	...	...	...	...	...	...	...	...	...	...
42. Fincastle	19	...	...	...	...	...	...	...	...	...	...	...	...
43. Roanoke	...	...	...	...	...	...	...	...	...	...	...	...	5
44. Blacksburg	129	...	...	...	...	...	...	...	...	...	...	...	18
45. Giles County	...	...	...	...	...	...	...	...	...	...	...	...	21
46. Tazewell	14	...	...	...	...	...	...	...	...	...	...	...	...
47. Mount Rogers-Whitetop	...	...	...	...	...	...	...	...	...	...	1	...	9
48. Glade Spring	4	...	...	...	...	...	...	...	...	...	...	...	7
49. Blackford	...	...	...	...	...	...	...	...	...	...	...	...	7
50. Bristol	258	...	...	...	1	...	...	...	...	...	...	1	5
51. Buchanan County	...	...	...	...	...	...	...	...	...	...	...	...	...
52. Breaks Interstate Park	4	...	...	...	...	...	...	...	...	...	...	...	9
53. Wise County	...	...	...	...	...	...	...	...	...	...	...	...	1
Totals:	3,418	25	3	2	44	CW	3	14	1	1	135	237	6,773	

Table 1. Species Counts (page 17 of 19)

Count Circle \ Species	Yellow-throated Warbler	Yellow-breasted Chat	Grasshopper Sparrow	Le Conte's Sparrow	Nelson's Sparrow	Saltmarsh Sparrow	sharp-tailed sparrow sp.	Seaside Sparrow	American Tree Sparrow	Chipping Sparrow	Clay-colored Sparrow
1. Chincoteague	...	1	...	...	1	...	1	2	2	84	...
2. Wachapreague	55	...
3. Nassawaddox	1	...	1	...	...	...	...	113	...
4. Cape Charles	12	17	12	6	...	373	...
5. Chesapeake Bay
6. Little Creek	16	...
7. Back Bay	CW	...	...	...	...	...	161	1
8. Nansemond River	10	15	...	4	...	226	...
9. Dismal Swamp	9	...
10. Newport News	3	...	...	42	...
11. Mathews County	55	...
12. Williamsburg	CW	...	...	...	...	...	...	...	...	221	...
13. Hopewell	32	1
14. Walkerton	15	...
15. Northumberland-Lancaster	9	...
16. Washingtons Birthplace
17. Brooke
18. Fort Belvoir	8	5	...
19. Central Loudoun County	20	...
20. The Plains	8	11	...
21. Manassas-Bull Run	4	...
22. Nokesville	2	1	...
23. Chancellorsville
24. Lake Anna	4	...
25. Gordonsville	16	...
26. Charlottesville	45	...
27. Warren	8	...
28. Darlington Heights	81	...
29. Banister River W.M.A.	86	...
30. Lynchburg	29	...
31. Chatham	18	...
32. Danville
33. Calmes Neck	15	...
34. N. Shenandoah Valley	9	...	...
35. Shenandoah NP-Luray
36. Big Flat Mountain
37. Rockingham County	4	...
38. Augusta County	2	...
39. Waynesboro	6	...
40. Lexington	2	...
41. Peaks of Otter	1	...
42. Fincastle	4	...
43. Roanoke
44. Blacksburg	27	...
45. Giles County	1	...
46. Tazewell
47. Mount Rogers-Whitetop
48. Glade Spring
49. Blackford	2	...
50. Bristol	92	...
51. Buchanan County
52. Breaks Interstate Park	31	...
53. Wise County	3	2	...
Totals:	CW	1	1	CW	24	32	16	12	32	1,928	2

Table 1. Species Counts (page 18 of 19)

Count Circle	Species												
	sparrow sp.	Western Tanager	Northern Cardinal	Indigo Bunting	Painted Bunting	Dickcissel	Red-winged Blackbird	Eastern Meadowlark	Rusty Blackbird	Brewer's Blackbird	Common Grackle	Boat-tailed Grackle	Brown-headed Cowbird
1. Chincoteague	195	...	...	...	3,163	72	17	...	325	393	19
2. Wachapreague	8	...	110	...	...	...	2,241	72	...	...	65	...	27
3. Nassawadox	4	...	49	...	...	...	978	57	...	...	215	2	408
4. Cape Charles	166	...	...	...	960	79	11	...	1	161	201
5. Chesapeake Bay
6. Little Creek	...	CW	91	...	...	...	961	...	...	...	564	10	143
7. Back Bay	151	...	1	...	5,100	102	1	14	2,565	306	690
8. Nansemond River	228	...	...	...	6,755	46	3	...	554	66	245
9. Dismal Swamp	13	...	...	...	135	16	38	...	4	...	...
10. Newport News	168	...	...	...	1,881	4	65	...	341	22	128
11. Mathews County	25	...	197	...	...	...	1,593	21	1	...	201	...	40
12. Williamsburg	...	1	482	...	...	...	2,478	4	156	...	476	...	45
13. Hopewell	226	...	...	...	654	117	49	...	...	...	11
14. Walkerton	281	...	...	...	3,661	17	14	...	5,019	...	155
15. Northumberland-Lancaster	2	...	101	...	...	...	1,330	39	...	...	875	8	2
16. Washingtons Birthplace	139	...	...	...	981	19	2	...	...	...	3
17. Brooke	257	...	...	...	420	...	3	...	2	...	39
18. Fort Belvoir	1,117	...	...	...	1,988	28	184	...	220	...	133
19. Central Loudoun County	696	...	...	...	245	9	...	...	18	...	121
20. The Plains	490	...	...	...	141	24	2	...	2	...	...
21. Manassas-Bull Run	3	...	600	...	...	...	135	38	...	...	2	...	...
22. Nokesville	222	...	...	...	124	9	1	...	...	...	40
23. Chancellorsville	69	...	...	...	...	13	...	...	...	...	...
24. Lake Anna	43	...	...	...	...	10	...	...	...	...	...
25. Gordonsville	114	...	...	...	...	48	...	...	...	...	...
26. Charlottesville	367	...	...	1	10	...	3	...	2	...	19
27. Warren	161	...	...	...	100	53	...	...	2,229	...	...
28. Darlington Heights	151	...	...	...	7	74	...	...	2	...	...
29. Banister River W.M.A.	127	...	...	...	17	11	52	...	...	...	...
30. Lynchburg	292	...	...	...	1	1	...	...	...	...	...
31. Chatham	13	...	...	...	...	9	52	...	...	...	...
32. Danville	91	...	...	...	1	7	...	...	8	...	...
33. Calmes Neck	563	...	...	...	320	15	...	...	401	...	404
34. N. Shenandoah Valley	360	...	...	...	800	22	2	...	4	...	140
35. Shenandoah NP-Luray	97	...	...	...	201	13	...	...	1	...	11
36. Big Flat Mountain	10	...	...	...	...	...	...	...	...	...	...
37. Rockingham County	200	...	...	...	1	2	...	...	...	...	1
38. Augusta County	151	...	...	...	2	15	3	2	4,000	...	CW
39. Waynesboro	185	...	...	...	1	1	1	...	4	...	10
40. Lexington	312	...	...	...	2	20	...	...	4	...	...
41. Peaks of Otter	49	...	...	...	...	...	...	...	...	...	...
42. Fincastle	89	1	...	...	1	2	...	...	...	...	...
43. Roanoke	91	...	...	...	...	...	...	...	...	...	...
44. Blacksburg	295	...	...	...	12	25	...	...	...	...	...
45. Giles County	104	...	...	...	...	...	...	...	...	...	...
46. Tazewell	24	...	...	...	100	3	...	...	...	...	1
47. Mount Rogers-Whitetop	36	...	...	...	...	3	...	...	...	...	...
48. Glade Spring	114	...	...	...	...	16	...	...	...	...	8
49. Blackford	111	...	...	...	1	2	...	...	...	...	...
50. Bristol	201	...	...	...	1	1	...	...	...	...	...
51. Buchanan County	11	...	...	...	CW	...	...	...	CW	...	CW
52. Breaks Interstate Park	136	...	...	...	8	1	...	...	1	...	2
53. Wise County	38	...	...	...	1	1	...	...	...	...	...
Totals:	42	1	10,584	1	1	1	37,511	1,141	660	16	18,105	968	3,046

Table 1. Species Counts (page 19 of 19)

Species Count Circle	Baltimore Oriole	blackbird sp.	House Finch	Purple Finch	Pine Siskin	American Goldfinch	House Sparrow	Total species	Total individuals
1. Chincoteague	...	600	42	5	2	169	26	153	57,763
2. Wachapreague	...	5,080	17	3	...	100	30	97	21,334
3. Nassawaddox	...	25	20	...	...	125	9	102	8,823
4. Cape Charles	1	...	110	9	...	152	14	158	42,412
5. Chesapeake Bay	...	...	...	...	...	...	...	28	2,349
6. Little Creek	2	...	48	3	1	147	1	125	23,634
7. Back Bay	...	...	65	...	...	98	52	136	29,619
8. Nansemond River	5	...	92	1	...	136	12	135	32,604
9. Dismal Swamp	...	20	...	3	...	21	...	68	1,913
10. Newport News	...	...	201	...	...	98	97	122	18,568
11. Mathews County	...	...	60	...	3	105	55	113	14,952
12. Williamsburg	1	...	206	1	2	425	61	117	25,126
13. Hopewell	2	...	15	1	...	67	24	111	45,877
14. Walkerton	...	125,615	38	1	...	221	14	107	155,009
15. Northumberland-Lancaster	...	100	9	...	...	25	1	91	8,936
16. Washingtons Birthplace	1	...	34	1	...	170	3	97	33,378
17. Brooke	...	...	62	...	...	223	24	93	34,417
18. Fort Belvoir	1	143	137	7	...	768	784	108	90,022
19. Central Loudoun County	...	51	244	4	...	299	201	91	28,337
20. The Plains	...	10	85	9	...	351	63	92	18,574
21. Manassas-Bull Run	...	2	197	...	...	418	410	85	22,093
22. Nokesville	...	...	16	...	...	118	48	87	10,330
23. Chancellorsville	...	...	7	...	...	94	3	67	3,528
24. Lake Anna	...	...	2	...	...	38	10	61	3,388
25. Gordonsville	...	...	21	2	...	88	1	65	5,648
26. Charlottesville	1	...	62	...	...	221	36	81	8,040
27. Warren	...	...	10	...	...	233	2	73	7,507
28. Darlington Heights	...	...	37	12	...	69	7	69	4,066
29. Banister River W.M.A.	1	...	16	3	...	140	6	78	4,721
30. Lynchburg	...	...	160	2	...	187	69	75	7,890
31. Chatham	1	...	10	...	...	5	...	47	498
32. Danville	...	...	22	7	...	23	2	57	1,637
33. Calmes Neck	...	...	148	8	7	207	154	85	14,920
34. N. Shenandoah Valley	...	...	144	20	1	227	110	93	17,691
35. Shenandoah NP-Luray	...	...	24	6	...	69	33	72	5,713
36. Big Flat Mountain	...	...	...	...	...	24	...	34	357
37. Rockingham County	...	...	148	3	1	223	231	78	9,780
38. Augusta County	...	...	75	...	...	80	68	77	12,471
39. Waynesboro	...	...	90	2	...	158	75	78	6,769
40. Lexington	...	...	70	20	...	189	4	74	5,599
41. Peaks of Otter	...	...	...	...	...	24	...	36	570
42. Fincastle	...	...	9	...	1	31	11	80	2,980
43. Roanoke	...	...	29	1	...	72	15	66	2,962
44. Blacksburg	...	...	150	6	...	317	57	87	11,058
45. Giles County	...	...	12	24	...	63	10	62	2,478
46. Tazewell	...	...	3	...	...	47	34	67	2,382
47. Mount Rogers-Whitetop	...	...	6	...	...	29	3	49	1,363
48. Glade Spring	...	...	84	...	...	139	18	72	5,194
49. Blackford	...	...	14	6	...	156	34	69	3,236
50. Bristol	...	...	145	CW	...	104	46	80	9,257
51. Buchanan County	...	...	8	CW	...	16	...	24	210
52. Breaks Interstate Park	...	...	49	1	1	93	29	67	2,372
53. Wise County	...	...	46	9	...	91	2	42	1,683
Totals:	16	131,646	3,299	180	19	7,693	2,999	223	893,038

Table 2. Data Collection Methods and Conditions (Page 1 of 3)

Count Circle	Count date	Number of observers	Minimum number of parties	Maximum number of parties	Number of feeder observers	Hours at feeders	Hours owling	Km owling	Hours on foot	Hours by car
1. Chincoteague	Dec 29	41	19	19	1	1.00	5.00	17.70	57.00	52.00
2. Wachapreague	Dec 17	20	3	11	1	0.50	0.50	0.80	32.00	58.00
3. Nassawaddox	Dec 18	27	10	10	...	...	...	...	28.00	22.00
4. Cape Charles	Dec 30	44	8	8	1	1.00	...	...	52.00	41.50
5. Chesapeake Bay	Dec 26	3	1	1	...	...	...	...	8.50	0.50
6. Little Creek	Dec 31	25	10	10	3	7.00	0.50	0.80	64.50	21.50
7. Back Bay	Dec 29	24	11	16	...	...	4.00	0.00	73.00	21.00
8. Nansemond River	Jan 03	23	11	11	4	5.00	5.50	20.12	52.00	43.50
9. Dismal Swamp	Dec 14	15	1	6	...	...	...	...	19.00	19.50
10. Newport News	Dec 17	46	13	15	2	12.00	...	...	52.00	48.00
11. Mathews County	Jan 01	34	16	16	...	...	1.00	19.31	39.00	63.50
12. Williamsburg	Dec 18	67	15	23	66	127.00	4.00	25.75	82.00	49.00
13. Hopewell	Dec 18	30	13	13	...	...	3.00	0.00	57.50	26.00
14. Walkerton	Jan 01	27	6	8	...	...	6.50	87.71	57.50	32.50
15. Northumberland-Lancaster	Dec 20	37	10	12	2	0.50	...	...	20.50	30.50
16. Washingtons Birthplace	Dec 18	20	6	7	...	...	2.50	16.09	29.00	27.00
17. Brooke	Dec 14	35	10	15	...	...	...	...	66.00	44.50
18. Fort Belvoir	Jan 02	185	76	78	10	9.00	17.00	45.87	284.00	52.50
19. Central Loudoun County	Dec 28	110	21	31	2	2.00	2.50	0.00	108.50	60.00
20. The Plains	Dec 18	46	15	20	...	...	2.50	27.36	71.00	52.50
21. Manassas-Bull Run	Dec 18	121	35	38	4	3.00	8.50	9.66	150.50	62.00
22. Nokesville	Dec 26	44	9	12	...	...	...	...	40.00	16.00
23. Chancellorsville	Dec 18	23	8	8	2	1.00	...	...	19.00	30.00
24. Lake Anna	Jan 02	14	4	4	...	...	...	...	6.50	20.50
25. Gordonsville	Dec 18	23	6	7	...	...	...	...	15.50	34.50
26. Charlottesville	Dec 18	38	18	20	3	10.50	...	...	92.00	18.00
27. Warren	Jan 01	19	9	9	...	...	...	...	43.00	13.50
28. Darlington Heights	Jan 14	16	4	4	3	2.00	2.00	29.77	24.50	13.50
29. Banister River W.M.A.	Dec 18	12	7	7	...	...	3.00	23.34	41.50	13.50
30. Lynchburg	Dec 17	33	13	13	12	11.50	4.50	27.36	34.00	42.50
31. Chatham	Dec 18	1	1	1	1	0.50	...	...	1.50	4.50
32. Danville	Dec 31	7	5	5	5	3.50	...	...	12.00	20.00
33. Calmes Neck	Jan 02	52	14	17	4	6.00	6.50	8.05	45.00	84.00
34. N. Shenandoah Valley	Dec 17	42	1	18	1	3.00	3.00	26.55	47.00	58.00
35. Shenandoah NP-Luray	Dec 18	17	4	7	4	14.00	1.00	...	18.50	29.00
36. Big Flat Mountain	Jan 02	5	3	3	...	...	...	...	14.50	4.50
37. Rockingham County	Dec 17	28	1	10	11	21.00	0.50	...	9.00	44.50
38. Augusta County	Dec 17	20	7	7	4	3.00	9.00	143.23	0.50	39.00
39. Waynesboro	Jan 02	27	11	11	...	...	2.00	21.73	14.50	47.00
40. Lexington	Dec 17	24	15	15	4	4.00	2.00	40.23	27.00	26.00
41. Peaks of Otter	Dec 20	17	6	6	...	...	...	...	4.50	11.00
42. Fincastle	Dec 18	23	10	10	...	...	...	...	12.00	35.00
43. Roanoke	Dec 17	20	1	11	...	...	...	...	11.00	11.00
44. Blacksburg	Dec 17	47	16	19	11	34.50	6.00	24.94	69.00	31.50
45. Giles County	Dec 31	19	7	7	1	2.00	...	...	23.00	45.00
46. Tazewell	Dec 28	8	4	4	2	8.00	...	...	5.00	28.00
47. Mount Rogers-Whitetop	Jan 02	8	3	3	...	...	...	...	4.00	17.50
48. Glade Spring	Dec 28	19	6	6	...	...	3.00	37.01	15.00	36.00
49. Blackford	Jan 2	12	5	5	...	...	6.00	48.28	5.00	65.00
50. Bristol	Jan 01	16	6	6	...	...	3.00	43.45	28.50	25.50
51. Buchanan County	Dec 18	2	1	1	1	1.00	1.00	0.00	1.00	1.00
52. Breaks Interstate Park	Dec 17	11	4	6	1	2.00	2.00	1.61	22.00	32.00
53. Wise County	Dec 17	10	8	8	...	...	...	...	14.00	22.00
Totals:	...	1,637	527	638	167	295.50	117.50	746.73	2,123.00	1,746.50

Table 2. Data Collection Methods and Conditions (Page 2 of 3)

Count Circle	Hours by golfcart	Km by bicycle	Km by motor boat	Km by non- motorized boat	Total party miles	Time count started	Time count ended	Low temperature (deg. F)	High temperature (deg. F)
1. Chincoteague	251.00	0615	1700	39	53
2. Wachapreague	396.00	0630	1630	43	57
3. Nassawaddox	255.00	0630	1700	58	74
4. Cape Charles	16.09	...	253.00	0600	1800	32	46
5. Chesapeake Bay	2.00	0700	1600	39	49
6. Little Creek	24.14	3.22	265.50	0615	1730	25	49
7. Back Bay	423.00	0530	1700	42	52
8. Nansemond River	8.85	...	340.00	0530	1745	41	55
9. Dismal Swamp	98.50	0700	1615	39	49
10. Newport News	4.02	...	361.00	0700	1600	40	48
11. Mathews County	...	4.02	...	...	466.00	0600	1745	42	51
12. Williamsburg	3.22	1.61	385.00	0500	1700	42	77
13. Hopewell	3.22	...	397.50	0545	1730	37	70
14. Walkerton	388.50	0415	1830	40	57
15. Northumberland-Lancaster	2.50	...	...	...	246.50	0645	1715	28	42
16. Washingtons Birthplace	273.50	0600	1745	59	70
17. Brooke	209.00	0645	1645	34	48
18. Fort Belvoir	372.00	0545	1800	39	45
19. Central Loudoun County	723.50	0530	2000	32	48
20. The Plains	424.50	0700	1700	41	64
21. Manassas-Bull Run	487.50	0400	1700	33	63
22. Nokesville	198.00	0700	1600	39	45
23. Chancellorsville	301.00	0700	1645	30	68
24. Lake Anna	252.00	0600	1900	41	44
25. Gordonsville	366.00	0730	1700	40	55
26. Charlottesville	222.00	0630	1700	58	66
27. Warren	199.00	0645	1900	29	56
28. Darlington Heights	245.00	0700	1630	38	45
29. Banister River W.M.A.	182.00	0500	1700	56	63
30. Lynchburg	315.50	0600	1730	27	57
31. Chatham	59.00	0930	1530	61	63
32. Danville	184.00	0600	1900	32	46
33. Calmes Neck	596.00	0530	1700	38	43
34. N. Shenandoah Valley	17.70	532.00	0600	1800	26	42
35. Shenandoah NP-Luray	216.50	0600	1900	45	62
36. Big Flat Mountain	45.50	0730	1600	40	45
37. Rockingham County	373.00	0515	1730	27	55
38. Augusta County	415.00	0900	2100	32	58
39. Waynesboro	384.00	0700	1600	37	45
40. Lexington	216.00	0600	1700	16	25
41. Peaks of Otter	22.50	0730	1200	17	UNK
42. Fincastle	178.00	0645	1500	54	59
43. Roanoke	113.00	0700	1800	28	40
44. Blacksburg	330.50	0445	1730	24	57
45. Giles County	208.50	0800	1600	19	41
46. Tazewell	136.00	0800	1730	36	57
47. Mount Rogers-Whitetop	183.00	0830	1700	41	57
48. Glade Spring	389.50	0530	1800	25	55
49. Blackford	224.50	0400	1800	28	47
50. Bristol	376.50	0700	1800	37	50
51. Buchanan County	11.00	0730	2100	29	41
52. Breaks Interstate Park	157.00	0600	1800	42	56
53. Wise County	188.50	0730	1730	39	52
Totals:	2.50	4.02	59.54	22.53	14,838.50	...	...	...	...

Table 2. Data Collection Methods and Conditions (Page 3 of 3)

Count Circle	Wind direction	Wind speed (miles/hr)	Water conditions	a.m. skies	p.m. skies
1. Chincoteague	NW	0-21	WOP	CLD, LGR	PCD
2. Wachapreague	E	5-20	WOP	CLD, LGR	CLD, LGR
3. Nassawaddox	SW	10-40	WOP	CLR	PCD
4. Cape Charles	UNK	17-31	WOP	CLR	CLR
5. Chesapeake Bay	NNW	12	WOP	CLD	CLD
6. Little Creek	S	0-15	WOP	PCD	PCR
7. Back Bay	NW	5-10	WOP	CLD, LGR	PCD
8. Nansemond River	SW	0-7	WOP	FOG, HLR	CLD
9. Dismal Swamp	UNK	3-10	WOP	CLR	CLR
10. Newport News	SW	7-18	WOP	FOG, LGR	CLD
11. Mathews County	SW	5-10	WOP	CLD	CLD
12. Williamsburg	SW	6-24	WOP	PCD	PCD, LGR
13. Hopewell	SW	14-30	WOP	PCR	CLD, LGR
14. Walkerton	S	0-10	WOP	PCD	PCD
15. Northumberland-Lancaster	V	1-6	SPW, MWO	CLR	CLR
16. Washingtons Birthplace	S	10-30	WOP	PCD	PCD, HVR
17. Brooke	W	4-10	WOP	PCD	PCD
18. Fort Belvoir	NE	0-5	WOP	FOG, LGR	CLD, LGR
19. Central Loudoun County	N	1-12	WOP	CLR	CLR
20. The Plains	NW	5-25	SPF, MWO	CLD, LGR	CLD, LGR
21. Manassas-Bull Run	NE	16-36	WOP	CLD	CLD, LGR
22. Nokesville	E	4-6	WOP	CLD	CLD
23. Chancellorsville	NW	5-40	WOP	CLD, LNR	CLD, HLR
24. Lake Anna	UNK	UNK	WOP	CLD, LGR	CLD, LGR
25. Gordonsville	CALM	2-5	WOP	PCD, LGR	CLD, LGR
26. Charlottesville	SW	0-11	WOP	CLD, LGR	CLD
27. Warren	UNK	0-10	WOP	PCD	PCD
28. Darlington Heights	WSW	10-15	WOP	CLD	CLD
29. Banister River W.M.A.	SW	7-15	WOP	CLD	CLD, LGR
30. Lynchburg	SW	0-20	SPF, MWO	CLD, LGR	PCR
31. Chatham	UNK	6	WOP	PCD	PCD, LGR
32. Danville	S	0-7	WOP	PCD	CLD
33. Calmes Neck	CALM	...	WOP	FOG, HVR	CLD, LGR
34. N. Shenandoah Valley	SE	6-13	SPF, MWO	CLD, LGR	CLD
35. Shenandoah NP-Luray	SW	0-20	WOP	CLD, HVR	CLD
36. Big Flat Mountain	NE	0-5	WOP	FOG, LGR	FOG
37. Rockingham County	SW	5-13	SPO, MPF	CLD, LRS	CLD
38. Augusta County	NW	2-5	WPF	PCD, LGR	PCD
39. Waynesboro	CALM	...	WOP	CLD, LGR	CLD, LGR
40. Lexington	NW	0-10	UNK	PCD	CLR
41. Peaks of Otter	UNK	0-5	SFZ, MWO	CLR	PCD
42. Fincastle	CALM	...	WOP	CLD, LGR	CLD
43. Roanoke	W	0-10	WOP	CLD, LGR	PCD
44. Blacksburg	WPF	2-8	WPF	PCD, LGR	PCD
45. Giles County	SE	UNK	WMO	MCD	PCD
46. Tazewell	NE	3-5	WOP	PCD	PCD
47. Mount Rogers-Whitetop	S	0-15	WOP	CLD, LGR	PCR
48. Glade Spring	V	5-10	SPO, MWO	CLR	CLR
49. Blackford	CALM	...	WOP	PCR	PCR
50. Bristol	N	0-10	WOP	PCD	PCD
51. Buchanan County	UNK	2-15	UNK	FOG, HVR	FOG, LSN
52. Breaks Interstate Park	UNK	2-11	WOP	CLD, LGR	PCD
53. Wise County	unk	0-15	WOP	CLD, LGR	CLD, LGR
Totals:	...	...	...	...	...

Table 3. Compiler information.

Count Circle	Primary compiler	Primary compiler email	Secondary compiler	Sponsors & Organizations
1. Chincoteague	Kevin Holcomb	kevin_holcomb@fws.gov	...	Chincoteague NWR, Chincoteague Natural History Assoc.
2. Wachapreague	Marilyn Ailes	imailes@verizon.net	...	...
3. Nassawaddox	Henry Armistead	harryarmistead@hotmail.com	...	Coastal Virginia Wildlife Observatory
4. Cape Charles	George Armistead	armistead.george@gmail.com	Ned Brinkley	Coastal Virginia Wildlife Observatory
5. Chesapeake Bay	Ned Brinkley	thalassoica@gmail.com	...	...
6. Little Creek	Nick Flanders	flicknanders@hotmail.com	Elisa Flanders	Cape Henry Audubon
7. Back Bay	Paul Sykes	jjsykes@charter.net	...	Cape Henry Audubon Society
8. Nansemond River	Bob Ake	rake@cox.net	...	Cape Henry Audubon Society
9. Dismal Swamp	Laura Mae	lauralovesbirds@gmail.com	Don Schwab	Great Dismal Swamp Coalition
10. Newport News	Nancy Gruttman-Tyler	gruttmantyler@gmail.com	William Boeh	Hampton Roads Bird Club
11. Mathews County	Joyce Mckelvey	mathewsbirdcount@yahoo.com	Don McKelvey	...
12. Williamsburg	Jim Corliss	jcorliss240@cox.net	Bill Williams	Williamsburg Bird Club
13. Hopewell	Arun Bose	arun1bose@gmail.com	...	Richmond Audubon Society
14. Walkerton	Fred Atwood	fredatwood@yahoo.com	...	...
15. Northumberland-Lancaster	Jeff Wright	pec11908@mac.com	...	Nothern Neck Audubon Society
16. Washingtons Birthplace	Bill Portock	portlock@bealenet.com	...	...
17. Brooke	Odetta James	o.b.james@verizon.net	Laurel Bybell	...
18. Fort Belvoir	Kurt Gaskill	kurtcapt87@verizon.net	Phil Silas	One Good Tern
19. Central Loudoun County	Joseph Coleman	joecoleman@rstarmail.com	...	Loudoun Wildlife Conservancy
20. The Plains	Sue Garvin	sgarvin@envstudies.org	Todd Day	...
21. Manassas-Bull Run	Robert Shipman	ships333@yahoo.com	...	Audubon Society of Northern Virginia
22. Nokesville	Kim Hosen	khosen@pwconserve.org	...	Prince William Conservation Alliance
23. Chancellorsville	Beverly Arnold	catbirds@verizon.net	...	Fredericksburg Bird Club
24. Lake Anna	Michael Boatwright	mboater@att.net	Donna Finnegan	...
25. Gordonsville	Buzz VanSantvoord	vansantvoord@verizon.net	...	...
26. Charlottesville	Jennifer Gaden	jengaden@gmail.com	...	Monticello Bird Club
27. Warren	Allen Hale	super@buteobooks.com	...	Monticello Bird Club
28. Darlington Heights	Carolyn Wells	cwells@kinex.net	...	Margaret Watson Bird Club
29. Banister River W.M.A.	Jeff Blalock	jcbabirder@gcronline.com	...	...
30. Lynchburg	John Styrsky	styrsky.j@lynchburg.edu	...	Lynchburg Bird Club
31. Chatham	Mary Foster	chathambirds08@hotmail.com	...	Southside Bird Club
32. Danville	Laura Meder	laura.meder@averett.edu	...	...
33. Calmes Neck	Margaret Wester	margaretwester@hotmail.com	...	Shenandoah Audubon
34. N. Shenandoah Valley	Charles Hagan	naturetrekr@gmail.com	Rob Simpson	Lord Fairfax Community College
35. Shenandoah NP-Luray	Alan Williams	alanbwill@gmail.com	...	...
36. Big Flat Mountain	Tom Wieboldt	thos.wieboldt@gmail.com	George Barlow	...
37. Rockingham County	William Benish	wcbenish@comcast.net	...	Rockingham County Bird Club
38. Augusta County	Allen Lerner	larnersky@mindspring.com	...	Augusta Bird Club
39. Waynesboro	Crista Cabe	cristacabe@gmail.com	...	Augusta Bird Club
40. Lexington	Dick Rowe	rowera@vmi.edu	...	...
41. Peaks of Otter	Ken Davis	kedjr@cox.net	...	Roanoke Valley Bird Club
42. Fincastle	Barry Kinzie	peckerridge@ntelos.net	...	Woodpecker Nature Center, Roanoke Valley Bird Club
43. Roanoke	William Hunley	wjhunley@gmail.com	...	...
44. Blacksburg	Patricia Polentz	polentz@va.net	Bruce Grimes	New River Valley Bird Club
45. Giles County	Bill Opengari	alcyon1@hughes.net	...	...
46. Tazewell	Sarah Cromer	cromersml@gmail.com	...	...
47. Mount Rogers-Whitetop	Allen Boynton	allenboynton@twc.com	...	...
48. Glade Spring	Ron Harrington	roneharrin@bvu.net	...	Bristol Bird Club
49. Blackford	Robert Riggs	bob26@insight.rr.com	...	...
50. Bristol	Richard Lewis	mountainbirds@gmail.com	...	...
51. Buchanan County	Lynda Mayhorn	lsmayhorn@gmail.com	...	Buchanan County Bird Club
52. Breaks Interstate Park	Dave Raines	rainbrk@gmail.com	...	...
53. Wise County	Randy Stanley	randy_stanley@comcast.net	...	...

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.

Format of *The Raven* generally follows guidelines set by the Council for Biology editors as outlined in the *CBE style manual, 6th edition, 1994* (Council of Biology Editors, Inc., 11250 Roger Bacon Dr., Reston, VA 20190). Recent volumes of *The Raven* should be inspected for style. Vernacular and scientific names of birds should be those in the most recent edition (and supplement) of the A.O.U.’s Check-list of North American Birds (www.aou.org/checklist/north). Scientific names should be italicized. All size, temperature and other measurements should be in metric units.

