



The Raven

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TWENTY-FIFTH ANNIVERSARY
VIRGINIA SOCIETY OF ORNITHOLOGY

With the coming of 1954 the Virginia Society of Ornithology will celebrate its Silver Anniversary. Organized at Lynchburg College on December 7, 1929, it has had an active and reasonably successful career. Since its primary appeal has been to those who have an interest in at least a semi-scientific study of birds, it has never been large in numbers, yet its membership has steadily grown. Worthwhile work has been done by its members, particularly in the field of bird distribution. The bird life of Virginia is probably as well known as that of any Southern state. The 24 volumes of THE RAVEN have totaled almost 2000 pages, and have covered all phases of Virginia ornithology. In 1952 a book, "A Check-List of the Birds of Virginia", was published, summarizing our knowledge to date. During the coming anniversary year the achievements of the Society will be summed up, some of its history related, and suggestions made as to ways in which our purposes may be better carried out. In connection with the 25th Anniversary Meeting an enlarged issue of THE RAVEN will be published.

Twenty-fifth Anniversary Meeting

Lynchburg, Virginia

Friday & Saturday, April 23 & 24

Dr. Maurice Brooks will speak at the Friday session on "The Appalachian Mountains as a Place for Bird Study".

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THE RELATION OF BOUNTIES ON HAWKS AND OWLS
TO MOUSE INJURY IN ORCHARDS

By Merriam Garretson Lewis

(It is fitting that this anniversary volume of THE RAVEN should begin with an unpublished article by one of our three founders, Merriam Garretson Lewis. Lewis was born in 1893 and died at his home in Salem, January 5, 1941. He made the first talk at the organization meeting of the Virginia Society of Ornithology in Lynchburg on December 7, 1929, and for the remainder of his all too short life was active in the affairs of the Society. During 1938 and 1939 he served as President; and until his death was a regular contributor to THE RAVEN. As County Demonstration Agent successively in Scott, Rockbridge, and Roanoke Counties, Lewis was particularly interested in the economic aspects of ornithology. This article is still pertinent, not because of any great danger of the renewal of the absurd bounty system in Virginia, but because of the need for more positive protection of the birds of prey.)

Injury to the main roots of apple tree by several species of field mice has been a serious problem of fruit growers for many years. This injury is caused by mice gnawing away the outer bark in order that they may eat the tender inner bark and cambium layer. Most of this injury in Virginia, where snowfall is usually light, is to the larger roots immediately below the base of the tree and under the surface of the soil. At time of heavy snowfall, the injury may extend a short distance upward from the soil surface. Trees of all sizes and ages are injured and sometimes completely ruined in this way. Observations and studies indicate that the pine mouse, Pitymys pinetorum, is the chief offender. However, injury is also commonly caused by the meadow mouse, Microtus pennsylvanicus, and occasionally by one or two other species.

The writer has made a careful study during the past several years to determine the relation of the destruction of hawks and owls resulting from bounty payments in the fruit growing sections of Virginia to mouse injury in orchards. Definite facts are difficult to obtain since very few actual records have been kept. However, it is the general opinion of fruit growers throughout the fruit growing section of the State that mouse injury has been more serious in recent years than in the past. Due allowance must be made in this connection for the inaccuracy of memory and general observation without records. With the majority of people the same circumstances and conditions create a decidedly different impression after ten or fifteen years.

It is an undisputable fact that the number of hawks and owls in the State has very greatly decreased since the early history of the county. This decrease in numbers is undoubtedly due to the general prejudices against these birds, which in more recent years has been greatly stimulated by payment of bounties.

The first Acts of General Assembly of Virginia, providing for bounty payments on wild animals classed as pests, was passed in 1887. Numerous amendments and changes were made during the next fifty years. In 1914 the first was passed, which stimulated any great amount of interest in killing hawks and owls. It reads in part as follows: "The Board of Supervisors in each county

in their discretion may pay a premium not exceeding 50¢ for each scalp of chicken hawks and owls, except screech owl, when satisfactory evidence that the same were recently killed within the limits of the county and by the person in whose behalf the same may be presented, to be paid on warrant of said Board on the county Treasurer". In 1918 the Act was changed to read as follows: "The Board of Supervisors of any county are hereby authorized to pay a reward of 50¢ for each scalp of Goshawk and 50¢ on the scalp of Cooper's Hawk if the said hawks have been killed in the said county, but no reward is to be paid for the scalp of the Sparrow Hawk". It is of interest to note that the scientific names of each of these three species of hawks were stated in this Act. In 1922 an act was passed which states, "The bounties hereinafter specified shall be paid for the killing of predatory animals hereinafter named, that is to say, Sharp Shinned Hawk, 50¢; Goshawk, 50¢; Cooper's Hawk, 50¢; Crow, 15¢; Great Horned Owl, 50¢; and Weasel, \$1.00. No bounty for the killing of crows, however, shall be paid except on those killed in the months of May, June, July, August or September". This act eliminated any authority on the part of Board of Supervisors in any county by making payment of bounty mandatory in all counties. This act also provided that the applicant who produces before the County Clerk the head of the bird or animal killed must make affidavit before the Clerk that the same was killed within the said county and no fee shall be charged by the Clerk for taking such affidavit. On March 24, 1930, an act was passed which repealed the Act of March 10, 1920. However, this did not repeal previous acts providing that the Board of Supervisors in any county be authorized to pay the bounties previously stated.

At the special session of the Legislature in January 1933 all acts providing for the payment of bounties on hawks and owls were repealed. This was brought about largely by consistent abuse of bounty payments by unscrupulous parties bringing in hawk and owl scalps from other counties and states, as well as scalps and furs of predatory animals upon which bounties were paid. These bounties resulted in thousands of hawk and owl's scalps being brought into these county seats for payment of bounties, the large majority of which were killed by hunters who went out for the purpose in order to obtain the bounty.

In 1920 Professor G.S. Ralston, then Extension Horticulturist at V.P.I. wrote as follows in a Bulletin on "Rodent Control in the Orchard": "A few years ago certain species of mice, which have always been present in a limited way, increased greatly in numbers. On account of large numbers and their method of feeding great injury occurred in certain "Valley" orchards. Since that time, mouse injury has increased over a constantly widening area until the important fruit growing sections of the state are now known to be more or less heavily infested with these pests".

It is very significant that this situation developed only a few years following the wholesale destruction of hawks and owls in many counties as a result of bounty payments.

All fruit growers who have given any particular attention to the question are of the unanimous opinion that injury is much less in orchards in the few localities in which hawks and owls, particularly the Screech Owl and the Sparrow Hawk, are common. One prominent grower in Roanoke County makes a practice of attracting Screech owls by erecting nest boxes, thereby protecting his orchards. Several pairs breed regularly in this orchard. He states that he has entirely eliminated mouse injury in recent years. He is a careful observer and is convinced that the commoner species of hawks are also an

important factor in this connection. The question has been discussed with no less than thirty-five other orchard men in Roanoke, Rockbridge and Augusta Counties. The large majority, however, are indifferent to the question and have given it no careful thought or study. Some five or six who have considered the question are very much impressed with the value of hawks and owls to fruit growers. It seems of great importance that the facts in the question be brought to the attention of fruit growers throughout the State for their own benefit.

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TWENTY-FIVE YEARS OF CHRISTMAS BIRD COUNTS IN VIRGINIA

By John H. Grey

1954 marks the twenty-fifth anniversary of the Virginia Society of Ornithology. It is a good time to encourage ourselves by the progress which we have made in our study of birds, and also to outline some larger plans for future work.

There have been 263 Christmas Counts published in THE RAVEN in these years, beginning with six counts made in 1929, and there are 24 counts for 1953. In the 14 years, 1929-1942, there were 108 counts, but we were just about holding our own as the total each year varies usually from six to eight; except that in 1940 we reached our peak of 10. Then came the war, and in 1941 and 1942 we had seven counts each year.

Actually it is much easier to take our last ten years as a basis of study as to just what progress we have made. Back Bay Refuge was not established till 1936, and even when Harry Bailey and I made the first count there it was rather inadequate. Many counts in the earlier years were made by people who knew little about birds, though some were experts, so that we had a rather poor coverage of our territory.

The last ten years are revealing. There are 155 counts from 40 localities reporting 184 species of birds, subspecies being in addition. These counts cover a varied habitat: from the ocean front at Chincoteague Island near the Maryland line to Back Bay and the North Carolina line, all the way across the State to our highest mountain, Mt. Rogers in southwestern Virginia. Not many states are blessed with as interesting and varied an area as are we.

Some of our progress is indicated by comparing the 1944 count with the 1953. (Since 1944 was a war year with limited travel and observers displaced, I am including 1943 also. The reason: in the two years there were only four places that had counts both years, a total of 20 counts covering 16 places; 57 observers, maximum count 80 species, and total individuals some 20,000.) In 1954 we have 24 counts made by 127 observers, with Back Bay stepped up from 80 species to 105 (at one time they had 108). We have individual counts with more birds reported than the total number of birds seen on the 1944 count. In 1943-44 there were 124 different species reported as compared with 154 for 1953. Not only are we making better counts today than ten years ago, but we have added Southwest Virginia, Eastern Shore, Chesapeake Bay, and the James River Peninsula which were not in the earlier counts.

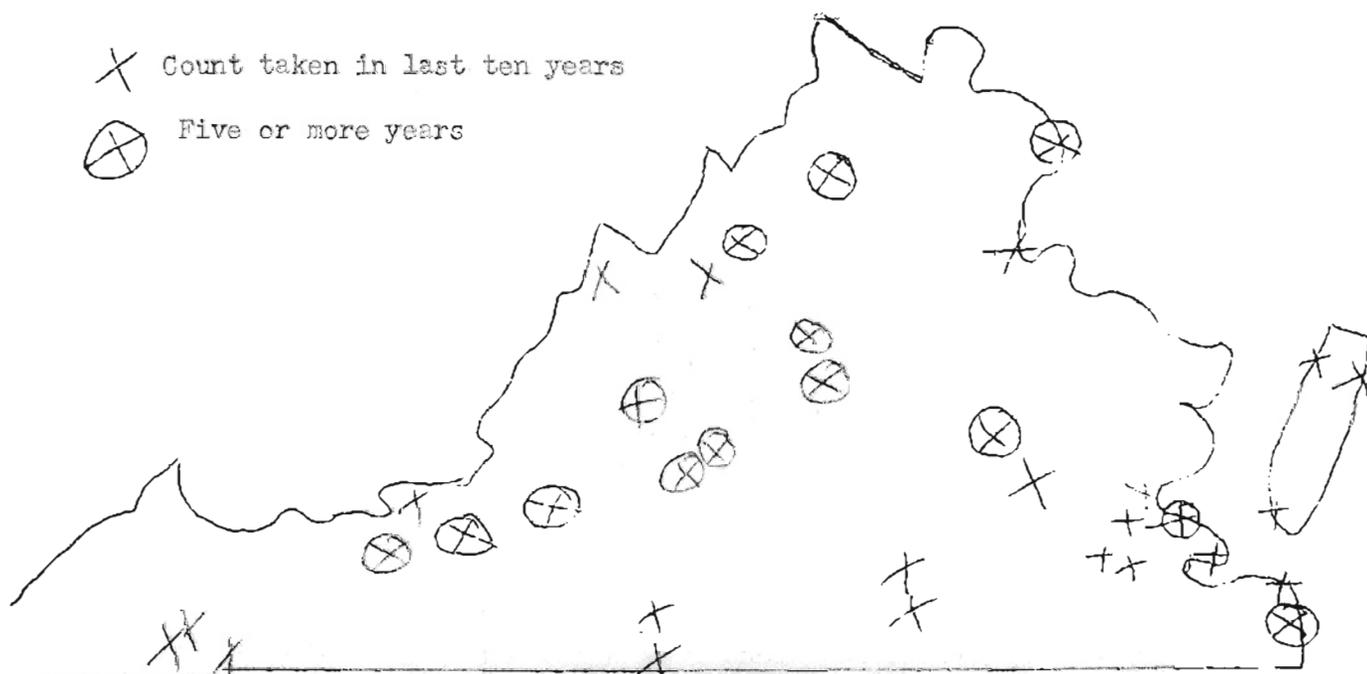
I Localities Taking Counts

The places which have been reported in these last ten years, together with the number of years reporting are: Abingdon, 4; Allegheny Mountain in Highland County, 1; Back Bay, 10; Blacksburg, 10; Bridgewater (Ottobine), 1; Brooke, 2; Cape Charles, 1; Cape Henry, 1; Charlottesville, 8; Chatham, 1; Chesapeake Bay-Little Creek to Cape Charles, 3; Chincoteague, 2; Claytor Lake in Pulaski County, 1; Danville, 4; Emory, 2; Fairfield, 2; Fort Belvoir, 6; Harrisonburg, 8; Hopewell, 1; Lexington, 10; Lynchburg, 8; Mountain Lake, 1; Mt. Rogers, 4; Mt. Vernon, 1; Naruna, 2; Newport News, 2; Peaks of Otter, 1; Richmond, 9; Roanoke, 10; Saxis, 1; Seward Forest in Brunswick County, 1; Shenandoah National Park, 7; Surrey, 2; Sweet Briar, 5; Toano, 1; Triplett in Brunswick County, 1; Warren, 5; Waverly, 2; Williamsburg, 1; Yorktown, 7.

There are 13 places which have made counts in five years or more. Since five years is considered the minimum time in which to summarize data on a place, it would be a great service if someone would take each area and make a study of the birds recorded. Two good studies have been done of Blacksburg and might serve as a pattern: "The Christmas Bird Census - Ten Years in Montgomery County", C.O. Handley, Junior and Senior, Raven XVII, p.1, January, 1946; "Christmas Bird County Statistics - Blacksburg, Virginia", C.O. Handley, Jr., Raven XXI, p.13, January, 1950.

One is also impressed with the 15 places where only one count has been made, and we wish someone might take up the work there and complete five years observation. Some of these one-year places, of course are not neglected, for some are with us for the first time - Hopewell being substituted for Richmond; and Williamsburg dropped in favor of Toano, Yorktown, and Newport News. However, there are still many areas that have been unreported for a long time.

To visualize the regions that are being worked, I have marked each count by an X on the outline map of Virginia. Those with a circle around the X have reported five or more counts.



Christmas Bird Counts 1944-1953 in Virginia

The clear spaces are the ones being neglected. If you live anywhere near one of these, you could make a genuine contribution to bird study in Virginia by mapping out a territory and working it for a few years. A big help in choosing a territory, and knowing what kinds of habitat lie within it, is to get the inexpensive topographic maps from Everett-Waddy Company, Richmond.

If you are one of the hardy individuals, whose spirit is willing and the flesh not too weak, you might try one of the cold and difficult areas. The outer banks of Eastern Shore (Cobb, Wreck, and Hog Islands) would be rewarding (you should find Oyster-catcher). In fact the Eastern Shore might prove as interesting as Cape May, New Jersey if we had the same number of observers at work on it. Someone might try a count just outside Cape Henry, say as far out as the lightship. Another good area is Chesapeake Bay between Eastern Shore and the Northern Neck, worked beyond a mile from land. Likewise we need more counts along our mountains, Shenandoah National Park and Mt. Rogers being the only places where we have counts for more than one year. There are many places along the Skyline Drive that can be reached by county roads, such as Apple Orchard Mountain, that provide diversified territory and might prove interesting. We also need counts from State Parks such as Fairy Stone and Hungry Mother. Burke's Garden would be a natural for a count - and of course the whole of Southwest Virginia is inviting. Stephen Russell comes from Louisiana to make the counts at Abingdon and Mt. Rogers, some of us might get there with less effort.

II Birds That Have Been Recorded

The 184 species fall somewhat naturally into three classifications. First, the Regulars: those we find every year like the Crow, and those we find nearly every year like the Siskin. There are 139 of these.

Then come the Casuals: birds that should occur each year in our counts, but have actually been recorded less than half the time. There are 21 of these.

The Accidentals: those we perhaps should not find, but do. There are 24 of these. In the main they are birds that winter south of us, and for some reason have lagged behind. While we have not recorded a Chat, they were found in 1952 at many places north of us, and were also found in Virginia outside the count dates. Blue-gray Gnatcatchers have not been reported in the last ten years, though they were found prior to 1944. These Accidentals add a lot of spice to our counts, help to make it a game, as it were, to find a Green Heron or a Wilson's Warbler; yet they are not as useful in getting a picture of our winter bird life. It is far more important to record the counts of Red-wings, for we soon note they are much more abundant in the years when the marshes are not frozen over.

REGULARS (139): Common Loon, Red-throated Loon, Horned Grebe, Pied-billed Grebe, Gannet, Cormorant, Great Blue Heron, American Egret (only recorded in last three years, but each time in greater numbers, and in more places, so they appear now to be resident), Black-crowned Night Heron (apparently recorded when we hunt for them, though it may turn out they are absent from our area in some winters; a good project for someone to work on), Bittern, Whistling Swan, Canada Goose, Brant (as long as we work Eastern Shore these are likely to be reported), Snow Goose, Blue Goose, Mallard, Black Duck, Gadwall, Pintail, Green-winged Teal, Widgeon, Shoveler, Wood Duck (recorded eight of

ten years), Redhead, Ring-neck, Canvasback, Lesser Scaup, Greater Scaup (let's distinguish these a bit more), Golden-eye, Buffle-head, Old Squaw, White-winged Scoter, Surf Scoter, American Scoter, Ruddy, Hooded Merganser, American Merganser, Red-breasted Merganser, Turkey Vulture, Black Vulture, Sharp-shin Hawk, Cooper's Hawk, Red-tailed Hawk, Red-shouldered Hawk, Rough-legged Hawk (reported from several places last two counts and in 1948; should occur regularly if we have observers who can identify), Bald Eagle, Marsh Hawk, Falcon, Pigeon Hawk (apparently wintering with us in many places; perhaps more widespread than we now realize; worth looking for), Sparrow Hawk, Ruffed Grouse, Bob-white, King Rail (while rails have been recorded somewhat irregularly, it appears all three should be found if we hunt for them), Clapper Rail, Virginia Rail, Coot, Killdeer, Black-bellied Plover, Snipe, Red-backed Sandpiper, Sanderling, Great Black-backed Gull, Herring Gull, Ring-billed Gull, Laughing Gull (six years), Bonaparte's Gull, Forster's Tern (only in last two years, but apparently wintering regularly in Chesapeake Bay, even in cold years), Mourning Dove, Screech Owl, Horned Owl, Barred Owl, Short-eared Owl (depending on how well we work the marshes), Kingfisher, Flicker, Pileated Woodpecker, Red-bellied Woodpecker, Red-headed Woodpecker (nine years), Sapsucker, Hairy Woodpecker, Downy Woodpecker, Phoebe, Horned Lark, Jay, Raven, Crow, Fish Crow, Appalachian Chickadee (only recorded a few years, but present from the Valley west; believe it is not often recorded in the Blue Ridge), Carolina Chickadee, Titmouse, White-breasted Nuthatch, Red-breasted Nuthatch, Brown-headed Nuthatch, Creeper, House Wren (six years, both in mild and cold winters), Winter Wren, Carolina Wren, Long-billed Marsh Wren (last four years; should be found if eastern marshes are worked), Short-billed Marsh Wren, Mockingbird, Catbird, Thrasher, Robin, Hermit Thrush, Bluebird, Golden-crowned Kinglet, Ruby-crowned Kinglet, Pipit, Waxwing, Shrike Starling, Myrtle Warbler, Pine Warbler, Palm Warbler, Maryland Yellow-throat (last four years; seem to depend on how thoroughly we work the right places), House Sparrow, Meadowlark, Red-wing, Rusty Blackbird, Boat-tailed Grackle, Cowbird, Cardinal, Purple Finch, Grackle, Siskin (seven years), Goldfinch, Towhee, Ipswich Sparrow (only three of ten years, but from four places; should occur at five places, if we hunt for it), Savannah Sparrow, Sharp-tailed Sparrow, Junco, Tree Sparrow, Chipping Sparrow, Field Sparrow, White-crowned Sparrow, White-throated Sparrow, Fox Sparrow, Swamp Sparrow, Song Sparrow.

CASUALS (21): Red-necked Grebe, Goshawk, Golden Eagle, Osprey, Turkey, Woodcock, Purple Sandpiper, Razor-billed Auk, Dovekie, Long-eared Owl, Saw-whet Owl, Red-cockaded Woodpecker, Tree Swallow, Bewick's Wren, Orange-crowned Warbler, Evening Grosbeak, Red Crossbill, Seaside Sparrow, Vesper Sparrow, Lapland Longspur, Snow Bunting.

ACCIDENTALS (24): Green Heron, Richardson's Goose, Blue-winged Teal, Broad-winged Hawk, Sora, Semipalmated Plover, Piping Plover, Spotted Sandpiper, Greater Yellowlegs, Lesser Yellowlegs, Least Sandpiper, Semipalmated Sandpiper, Western Sandpiper, Common Tern, Royal Tern, Caspian Tern, Black Skimmer, Gray-checked Thrush, Nashville Warbler, Cape May Warbler, Wilson's Warbler, Baltimore Oriole, Dickcissel, Grasshopper Sparrow.

There are three residents (birds here the year round) which have not been recorded in these last ten years: Yellow-crowned Night Heron, Oyster-catcher, and Barn Owl. The Turkey and Long-eared Owl have seldom been recorded, though they are also residents.

A casual which we have missed is the Snowy Egret, which has wintered at Hampton two years, but was not found on the count day. It is surprising that so few Vesper Sparrows have been found, for they are present in some numbers at Raleigh, N.C., especially in cornfields where there is heavy grass.

Summary

There have been 263 counts in our quarter century of THE RAVEN, with a growth from six in 1929 to 24 in 1953. Many of the earlier ones are not as thorough as ones made by the same groups in the same places in the last ten years, nor are they as widely distributed.

In 1943-44 through 1953 there are 155 counts representing 40 different localities; thirteen areas have reported five or more years, and fifteen areas have only one count.

In these 155 counts there are 184 species reported - divided into 139 Regulars, 21 Casuals, and 24 Accidentals.

Three resident birds have not been reported in these ten years, and several birds that have wintered in small numbers have also not been found in the count periods.

-- Williamsburg, Virginia

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VIRGINIA CHRISTMAS BIRD COUNTS - 1953

Chincoteague National Wildlife Refuge, Va. (Assateague Island south of Maryland line, Chincoteague Causeway, woods and fields about Naval Air Station; open farmland 2%, pine and mixed woodland 8%, bayberry and scrub Loblolly Pine thickets 25%, shallow fresh-water pools 20%, salt and brackish marshes and bay shores 25%, ocean beach and mud flats 20%.) - December 27; 6:30 a.m. to 5:30 p.m. Partly cloudy; temp. 31° to 45°; wind NW, 3-10 m.p.h.; ground bare, brackish marshes partially frozen. Three observers in 2 parties. Total party-hours, 20 (17 on foot, 2 by car, 1 in motorboat); total party-miles, 74 (12 on foot, 60 by car, 2 by boat). Common Loon, 11; Red-throated Loon, 2; Horned Grebe, 98; Pied-billed Grebe, 49; Great Blue Heron, 12; American Egret, 4; Whistling Swan, 17; Canada Goose, 235; American Brant, 3800 (est.); Snow Goose, 1; Mallard, 95; Black Duck, 4396 (4300 est., 96); Gadwall, 50 (est.); American Widgeon, 850 (est.); Pintail, 1243 (1200 est., 43); Green-winged Teal, 800 (est.); Blue-winged Teal, 1 (A.S.M., F.R.S.); Shoveller, 735 (est.); Scaup (sp.), 1; American Golden-eye, 13; Bufflehead, 28; Old-squaw, 1; Surf Scoter, 48; scoter (sp.), 90; Ruddy Duck, 10; Hooded Merganser, 15; Red-breasted Merganser, 4; Turkey Vulture, 13; Sharp-shinned Hawk, 1; Cooper's Hawk, 1; Red-tailed Hawk, 1; Marsh Hawk, 6; Peregrine Falcon, 1; Sparrow Hawk, 2; Clapper Rail, 2; American Coot, 300 (est.); Killdeer, 4; Black-bellied Plover, 27; Lesser Yellow-legs, 7 (E.O.M.); Red-backed Sandpiper, 290; Sanderling, 1; Great Black-backed Gull, 11; Herring Gull, 298 (200 est., 98); Ring-billed Gull, 500 (est.); Mourning Dove, 3; Belted Kingfisher, 4; Yellow-shafted Flicker, 6; Red-bellied Woodpecker, 1; Downy Woodpecker, 2; Horned Lark, 20; Tree Swallow, 1; American Crow, 2790 (2700 est., 90);

Fish Crow, 400 (est.); Tufted Titmouse, 1; Carolina Wren, 4; Short-billed Marsh Wren, 1; Catbird, 5; Brown Thrasher, 2; Golden-crowned Kinglet, 4; Ruby-crowned Kinglet, 1; Water Pipit, 40; Common Starling, 110; Orange-crowned Warbler, 1 (A.S.M.); Myrtle Warbler, 423; Palm Warbler (Western), 1; House Sparrow, 7; Eastern Meadowlark, 46; Red-winged Blackbird, 63; Boat-tailed Grackle, 244; Brown-headed Cowbird, 9; Cardinal, 3; American Goldfinch, 1; Eastern Towhee, 2; Savannah Sparrow, 20; Sharp-tailed Sparrow, 1; Slate-colored Junco, 2; Field Sparrow, 1; White-throated Sparrow, 19; Fox Sparrow, 3; Swamp Sparrow, 11; Song Sparrow, 17. Total, 80 species; about 18,122 individuals. -- E.O. Mellinger, A.S. Messenger, F.R. Scott (compiler).

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Saxis, Va. (northwestern Accomack Co., including Saxis, Withams, Sanford, Guilford, Hopkins, Parksley, and Bloxom; open farmland 25%, pine and mixed woodland 20%, slash 5%, marshes and tidal inlets off Chesapeake Bay 50%). - December 28; 7 a.m. to 4:30 p.m. Heavily overcast, dark, with intermittent rain; temp. 37° to 49°; wind NE, 0-5 m.p.h.; ground bare, water open. One observer. Total party-hours, 9½ (8 on foot, 1½ by car); total party-miles, 69 (4 on foot, 65 by car). Common Loon, 1; Horned Grebe, 115; Great Blue Heron, 1; Canvas-back, 600 (est.); scaup (sp.), 1; American Golden-eye, 14; Buffle-head, 9; Old-squaw, 6; Surf Scoter, 90; Ruddy Duck, 700 (est.); Turkey Vulture, 7; Cooper's Hawk, 1; Red-tailed Hawk, 4; Marsh Hawk, 4; Sparrow Hawk, 1; Clapper Rail, 1; Killdeer, 6; Greater Yellow-legs, 2; Great Black-backed Gull, 2; Herring Gull, 4; Ring-billed Gull, 31; Short-eared Owl, 2; Belted Kingfisher, 2; Yellow-shafted Flicker, 6; Red-bellied Woodpecker, 2; Hairy Woodpecker, 1; Downy Woodpecker, 2; Horned Lark, 20; Blue Jay, 1; American Crow, 135; Fish Crow, 1; Carolina Chickadee, 16; Tufted Titmouse, 1; Brown-headed Nuthatch, 10; Carolina Wren, 19; Short-billed Marsh Wren, 15; Mockingbird, 4; Catbird, 2; American Robin, 7; Hermit Thrush, 2; Eastern Bluebird, 8; Golden-crowned Kinglet, 3; Ruby-crowned Kinglet, 2; Water Pipit, 30; Common Starling, 4; Myrtle Warbler, 260; House Sparrow, 35; Eastern Meadowlark, 9; Red-winged Blackbird, 119; Boat-tailed Grackle, 1; Brown-headed Cowbird, 25; Cardinal, 7; American Goldfinch, 36; Eastern Towhee, 2; Sharp-tailed Sparrow, 1; Slate-colored Junco, 32; Field Sparrow, 12; White-throated Sparrow, 28; Swamp Sparrow, 59; Song Sparrow, 21. Total, 60 species; about 2542 individuals. -- F.R. Scott.

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Chesapeake Bay, Va. (a strip census 15 miles long, taken from the Little Creek-Kiptopeke Beach Ferry just within the mouth of Chesapeake Bay; no closer than 2 miles to land; open water 100%). - December 26; 3:45 p.m. to 4:55 p.m. Clear; temp. about 50°; wind SW, 5 m.p.h.; water fairly calm. Two observers together. Total party-hours, 1.17 (by boat); total party-miles, 15 (by boat). Common Loon, 17; Red-throated Loon, 1; Horned Grebe, 212; Pied-billed Grebe, 1; White-winged Scoter, 1; Surf Scoter, 4700 (est.); American Scoter, 250 (est.); Herring Gull, 185; Ring-billed Gull, 36; Bonaparte's Gull, 42; Forster's Tern, 104. Total, 11 species; about 5549 individuals. Seen in area December 29: Gannet, 6; Old-squaw, 4. -- A.S. Messenger, F.R. Scott.

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Back Bay National Wildlife Refuge, Va. (same as in previous years, refuge area and much of mainland Princess Anne County; open farmland 20%, pine woodland 10%, deciduous woodland 20%, ocean beach 5%, marshes and inland bay 45%). - December 26, 7:00 a.m. to 4:00 p.m. Partly cloudy all day, ground bare and frozen - and fresh water partially frozen; temp. 29° to 49°; wind SW, 5 m.p.h.; 8 observers in 2 parties. Total party-hours, 18 (14 on foot, 2 by car, 2 by motorboat; total party-miles, 133 (20 on foot, 110 by car, 3 by motorboat). Common Loon, 19; Red-throated Loon, 1; Horned Grebe, 6; Pied-billed Grebe, 1; Gannet, 72; Great Blue Heron, 3; American Egret, 5; American Bittern, 4; Whistling Swan, 2000; Canada Goose, 6000; Snow Goose, 800; Blue Goose, 2; Mallard, 35; Black Duck, 350; Gadwall, 20; American Widgeon, 20,000; Pintail, 800; Green-winged Teal, 21; Redhead, 2000; Canvas-back, 6000; Scaup (sp.), 2000; American Golden-eye, 2; Buffle-head, 5; American Scoter, 8; Ruddy Duck, 5000; Hooded Merganser, 1; Red-breasted Merganser, 10; Turkey Vulture, 60; Black Vulture, 50; Sharp-shinned Hawk, 1; Cooper's Hawk, 3; Red-tailed Hawk, 2; Red-shouldered Hawk, 5; Bald Eagle, 9; Marsh Hawk, 14; Sparrow Hawk, 40; Bob-white, 15; American Coot, 10,000; Killdeer, 53; Black-bellied Plover, 4; Wilson's Snipe, 21; Sanderling, 14; Great Black-backed Gull, 7; Herring Gull, 200; Ring-billed Gull, 50; Common Tern, 8; Mourning Dove, 231; Yellow-shafted Flicker, 30; Pileated Woodpecker, 1; Red-bellied Woodpecker, 10; Downy Woodpecker, 8; Eastern Phoebe, 2; American Crow, 468; Fish Crow, 48; Carolina Chickadee, 13; Tufted Titmouse, 2; White-breasted Nuthatch, 2; Brown-headed Nuthatch, 4; Brown Creeper, 2; House Wren, 2; Winter Wren, 4; Carolina Wren, 19; Long-billed Marsh Wren, 1; Short-billed Marsh Wren, 7; Mockingbird, 36; Catbird, 10; Brown Thrasher, 6; American Robin, 53; Hermit Thrush, 5; Eastern Bluebird, 82; Golden-crowned Kinglet, 13; Ruby-crowned Kinglet, 2; Cedar Waxwing, 9; Common Starling, 80; Orange-crowned Warbler, 4; Migrant Shrike, 9; Myrtle Warbler, 730; Palm Warbler, 3; House Sparrow, 35; Eastern Meadowlark, 326; Red-winged Blackbird, 337; Purple Grackle, 15; Brown-headed Cowbird, 1050; Cardinal, 24; American Goldfinch, 11; Eastern Towhee, 22; Savannah Sparrow, 87; Vesper Sparrow, 4; Slate-colored Junco, 41; American Tree Sparrow, 6; Chipping Sparrow, 7; Field Sparrow, 37; White-crowned Sparrow, 3; White-throated Sparrow, 570; Fox Sparrow, 2; Swamp Sparrow, 195; Song Sparrow, 276; Snow Bunting, 22. Total, 99 species, about 61,170 individuals. -- Mrs. Floy Burford (compiler), Mike Griffin, Jack Perkins, Roger Ragoet, F.C. Richardson, W.F. Rountrey, Paul Sykes, John Withrow, (Cape Henry Bird Club).

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Newport News, Va. (Mariner's Museum, Warwick Park, Big Bethel Reservoir, Sawyers Swamp Road, and waterfront from Boat Harbor to Grandview: woodlands 33-1/3%, freshwater ponds and open fields 33-1/3%, waterfront 33-1/3%). December 26; 7:00 a.m. to 1:00 p.m. Clear; temp. 28° to 40°; very light wind. Six observers in three parties. Total party hours, 18 (14 on foot, 4 by car); total party-miles, 65 (15 on foot, 50 by car). Common Loon, 3; Horned Grebe, 80; Pied-billed Grebe, 4; Great Blue Heron, 12; Canada Goose, 27; Mallard, 61; Black Duck, 158; American Widgeon, 137; Green-winged Teal, 12; Wood Duck, 2; Redhead, 4; Ring-necked Duck, 38; Lesser Scaup, 36; American Golden-eye, 17; Buffle-head, 40; Old-squaw, 77; ^{Surf Scoter, 15;} American Scoter, 11; Ruddy Duck, 121; Hooded Merganser, 49; Red-breasted Merganser, 61; Turkey Vulture, 8; Sharp-shinned Hawk, 1; Red-shouldered Hawk, 1; Bald Eagle, 3; Sparrow Hawk, 3; Bob-white, 1; Clapper Rail, 1; Killdeer, 39; Black-bellied Plover, 3; Red-backed Sandpiper, 35; Semipalmated Sandpiper, 1; Sanderling, 15; Herring Gull, 220; Ring-billed Gull, 855; Bonaparte's Gull, 31; Forster's Tern, 8; Royal Tern, 1; Mourning Dove, 100; Belted Kingfisher, 4; Yellow-shafted Flicker, 6; Downy Woodpecker, 3;

Blue Jay, 1; American Crow, 32; Fish Crow, 1; Carolina Chickadee, 51; Tufted Titmouse, 37; White-breasted Nuthatch, 1; Carolina Wren, 13; Mockingbird, 22; Catbird, 1; Brown Thrasher, 2; American Robin, 6; Hermit Thrush, 5; Eastern Bluebird, 34; Golden-crowned Kinglet, 23; Common Starling, 299; Myrtle Warbler, 331; Pine Warbler, 1; House Sparrow, 64; Eastern Meadowlark, 39; Baltimore Oriole, (female at Mariner's Museum feeding station and seen regularly for past week); Purple Grackle, 1; Brown-headed Cowbird, 3; Cardinal, 23; American Goldfinch, 10; Eastern Towhee, 20; Ipswich Sparrow, 2; Savannah Sparrow, 72; Slate-colored Junco, 268; Field Sparrow, 35; White-throated Sparrow, 132; Fox Sparrow, 1; Swamp Sparrow, 1; Song Sparrow, 44; Snow Bunting, 50. Total, 76 species; 3,950 individuals. -- John Grey, Charles Hacker, Sydney Mitchell, Doris D. Smith, Godfrey L. Smith, Walter Post Smith (compiler) (Hampton Roads Bird Club).

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Yorktown, Va. (same area as in previous years; marshes and river shore 35%, deciduous woods 25%, pine woodland 25%, open farm lands 15%). - January 2; 6:45 a.m. to 5:30 p.m. Clear; temp. 27° to 60°; wind SW, 1-15 m.p.h.; ground bare water open. Eight observers in four parties. Total party hours, 35 (25 on foot, 10 by car); total party miles 179 (19 on foot, 160 by car). Common Loon, 1; Horned Grebe, 429; Pied-billed Grebe, 15; Great Blue Heron, 16; Canada Goose, 77; Mallard, 7; Black Duck, 6; Gadwall, 34; Pintail, 99; Green-winged Teal, 12; American Widgeon, 26; Ring-necked Duck, 21; Canvasback, 291; Scaup, 723; Golden-eye, 193; Buffle-head, 215; Ruddy Duck, 951; Hooded Merganser, 17; American Merganser, 64; Red-breasted Merganser, 25; Turkey Vulture, 24; Black Vulture, 16; Sharp-shinned Hawk, 1; Red-tailed Hawk, 1; Red-shouldered Hawk, 1; Rough-legged Hawk, 2 (F.R.S.); Bald Eagle, 7; Marsh Hawk, 2; Perigrine Falcon, 1 (R.J.B.); Sparrow Hawk, 1; Bob-white, 9; Killdeer, 125; Wilson's Snipe, 2; Red-backed Sandpiper, 2; Sanderling, 150; Herring Gull, 105; Ring-billed Gull, 101; Mourning Dove, 41; Belted Kingfisher, 15; Yellow-shafted Flicker, 32; Pileated Woodpecker, 3; Red-bellied Woodpecker, 18; Yellow-bellied Sapsucker, 5; Hairy Woodpecker, 1; Downy Woodpecker, 19; (107 Eastern Phoebe, 3; Blue Jay, 1; American Crow, 32; Fish Crow, 1; Carolina Chickadee, Tufted Titmouse, 26; White-breasted Nuthatch, 5; Brown Creeper, 14; Winter Wren, 6; Carolina Wren, 117; Mockingbird, 62; Catbird, 2; Brown Thrasher, 5; Eastern Robin, 78; Hermit Thrush, 15; Eastern Bluebird, 102; Golden-crowned Kinglet, 122; Ruby-crowned Kinglet, 8; American Pipit, 10; Loggerhead Shrike, 1; Common Starling, 213; Myrtle Warbler, 657; Pine Warbler, 11; House Sparrow, 43; Eastern Meadowlark, 136; Red-winged Blackbird, 1214; Brown-headed Cowbird, 99; Cardinal, 104; Purple Finch, 9; American Goldfinch, 92; Eastern Towhee, 36; Savannah Sparrow, 25; Seaside Sparrow, 3 (R.J.B.); Slate-colored Junco, 351; Field Sparrow, 31; White-throated Sparrow, 519; Fox Sparrow, 20; Swamp Sparrow, 31; Song Sparrow, 105. Total species 83; total individuals about 8309.-- R.J. Beasley, John Grey (compiler), Melvin Hathaway, Duke Howard, Norman Pope, Fred R. Scott, Walter P. Smith, Charles E. Stevens.

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Toano, Va. (James City County between Rt. 168 and York River, bounded on north by Ware Creek, and on south by Schiminee Creek; river front 50%, marshes and swamps 15%, fresh-water ponds, 5%, woodlands 20%, open farmlands 10%). January 1, 7:30 a.m. to 4:30 p.m. Clear; temp. 30° to 54°, wind SW light; ground bare, water open. One observer on foot, 9 hours, 15 miles. Horned Grebe, 2; Pied-billed Grebe, 3; Great Blue Heron, 2; Mallard, 50; Black Duck, 506; Ring-necked Duck, 13; Canvas-back, 41; Lesser Scaup, 31; Golden-eye, 32; Buffle-head, 20; Ruddy Duck, 21; Hooded Merganser, 1; Red-breasted Merganser, 1; Turkey Vulture, 10; Black Vulture, 1; Red-tailed Hawk, 1; Bald Eagle, 1; Marsh Hawk, 1; Sparrow Hawk, 3; Virginia Rail, 3; Sora, 10; Wilson's Snipe, 1; Herring Gull, 10; Ring-billed Gull, 2; Screech Owl, 1; Saw-whet Owl, 1; Belted Kingfisher, 1; Yellow-shafted Flicker, 13; Pileated Woodpecker, 1; Red-bellied Woodpecker, 1; Yellow-bellied Sapsucker, 1; Phoebe, 2; Horned Lark, 45; American Crow, 30; Carolina Chickadee, 15; Tufted Titmouse, 3; Winter Wren, 2; Carolina Wren, 26; Mockingbird, 5; Catbird, 1; Brown Thrasher, 1; Eastern Robin, 37; Bluebird, 10; Golden-crowned Kinglet, 10; Ruby-crowned Kinglet, 4; American Pipit, 5; Cedar Waxwing, 6; Loggerhead Shrike, 2; Common Starling, 10; Myrtle Warbler, 12; House Sparrow, 9; Meadowlark, 130; Red-winged Blackbird, 34; Cardinal, 10; Dickcissel, 1 (female at feeding tray with sparrows - identity checked by John Grey); American Goldfinch, 5; Savannah Sparrow, 5; Slate-colored Junco, 120; Field Sparrow, 38; White-breasted Sparrow, 40; Fox Sparrow, 1; Swamp Sparrow, 23; Song Sparrow, 8. Total species, 63; total individuals, 1415. During the dates of the Christmas Count, and in the 15 mile circle, a female Baltimore Oriole was seen at the feeding tray of Geraldine Claiborne in Williamsburg; observed on December 23-25 at the same time a similar bird was seen at Newport News 25 miles away (J.H. Grey). -- R. Bruce McCartney.

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Surry, Va. (south side of James River from Scotland to Rushmere, including Hog Island State Wildlife Refuge, Surry, and Bacons Castle; open farmland 15%, woodland 50%, hedgerows and brushy fields 5%, marshes and river shore 30%). - January 1; 6:45 a.m. to 5:15 p.m. Fair; temp. 30° to 54°; wind SW, 10-30 m.p.h.; ground bare, some marshes partially frozen. Three observers in 1 and 2 parties. Total party-hours, 13½ (12 on foot, 1½ by car), total party-miles, 71 (6 on foot, 65 by car). Horned Grebe, 2; Great Blue Heron, 11; Canada Goose, 500 (est.); Snow Goose, 3; Blue Goose, 1; Mallard, 283 (250 est., 33); Black Duck, 205; Gadwall, 3; Green-winged Teal, 99; Blue-winged Teal, 2 (F.R.S.); Redhead, 300 (est.); Canvas-back, 400 (est.); scaup (sp.), 17; Buffle-head, 1; Ruddy Duck, 1079 (900 est., 179); American Merganser, 30; Red-breasted Merganser, 14; Turkey Vulture, 28; Black Vulture, 4; Sharp-shinned Hawk, 1; Red-tailed Hawk, 2; Bald Eagle, 1; Marsh Hawk, 3; Sparrow Hawk, 5; Bob-white, 7; American Coot, 1; Killdeer, 51; Wilson's Snipe, 1; Herring Gull, 2; Ring-billed Gull, 78; Mourning Dove, 15; Barred Owl, 1; Belted Kingfisher, 4; Yellow-shafted Flicker, 4; Pileated Woodpecker, 1; Red-bellied Woodpecker, 1; Yellow-bellied Sapsucker, 1; Downy Woodpecker, 3; Blue Jay, 1; American Crow, 48; Carolina Chickadee, 17; White-breasted Nuthatch, 2; Brown-headed Nuthatch, 9; Winter Wren, 1; Carolina Wren, 2; Mockingbird, 12; Catbird, 1; American Robin, 3; Hermit Thrush, 1; Eastern Bluebird, 18; Golden-crowned Kinglet, 36; Ruby-crowned Kinglet, 3; Loggerhead Shrike, 7; Common Starling, 342 (250 est., 92); Myrtle Warbler, 135; Eastern Meadowlark, 2; Red-winged Blackbird, 1250 (est.); Rusty Blackbird, 21; Purple Grackle, 20; Brown-headed Cowbird, 30; Cardinal, 21; American Goldfinch, 1; Slate-colored Junco, 56; Field Sparrow, 1; White-throated Sparrow, 64; Fox Sparrow, 5; Swamp Sparrow, 5; Song Sparrow, 30. Total, 68 species; about 5314 individuals. -- R.J. Beasley, F.R. Scott, G.C. Steirly.

Waverly, Va. (same area as last year, viz. an area adjacent to Spring Branch between Road 635 and Bryant's Pond. 13.3% along creek through hardwood bottomland, fields 8.4%, field edges and thickets 16.1%, pine forest 20%, hardwood forest 51%, pond edges (swamp) 4.5%). - December 27, 1953, 7:30 a.m. to 2:30 p.m. (lunch in woods). Total hours afield, 7. Mileage 4.4, all on foot. Temperature 25° to 48° (ice on most of pond). Weather clear. Mallard, 1; Turkey Vulture, 4; Red-tailed Hawk, 1; Red-shouldered Hawk, 2; Mourning Dove, 1; Flicker, 4; Pileated Woodpecker, 3; Red-bellied Woodpecker, 8; Red-headed Woodpecker, 1; Yellow-bellied Sapsucker, 4; Hairy Woodpecker, 9; Phoebe, 2; Blue Jay, 3; Crow, 66, Carolina Chickadee, 27; ~~er, 2;~~
Downy Woodpecker, 2; Tufted Titmouse, 10; White-breasted Nuthatch, 4; Brown-headed Nuthatch, 4; Winter Wren, 7; Carolina Wren, 7; Mockingbird, 2; Brown Thrasher, 2; Bluebird, 12; Golden-crowned Kinglet, 8; Ruby-crowned Kinglet, 6; Loggerhead Shrike, 1; Starling, 6; Myrtle Warbler, 10; Pine Warbler, 1; English Sparrow, 2; Redwing, 39; Rusty Blackbird, 4; Cardinal, 8; Goldfinch, 47; Towhee, 11; Slate-colored Junco, 17; White-throated Sparrow, 71; Swamp Sparrow, 16; Song Sparrow, 6. Total, 40 species and 439 individuals. Observed in area on day prior to census 1 Barred Owl and 1 Brown Creeper. The purpose of this census was to examine a logical unit of area, the drainage area of Spring Branch, rather than to visit widely scattered habitats for the sake of a big hit. -- C.C. Steirly.

January 5, 1954 - A Whistling Swan has been observed on Sunken Marsh Pond (Surry County) on December 3 and 29 in the same place where one was seen last year. J.E. Bryant reports two at the Hog Island Refuge in Surry County on December 8.

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Hopewell, Va. (Presquile National Wildlife Refuge, Curles Neck, Richmond Battlefield Park, Shirley, Meadowville, and Hopewell; this area replaces the Richmond, Va., count begun in 1944; open farmland 30%, brushy fields 10%, marshes and river shore 10%, deciduous wooded swamp 10%, pine or mixed woodland 40%). - January 3; 5 a.m. to 4:45 p.m. Overcast with rain in early morning, partly cloudy rest of day; temp. 43° to 50°; wind SW, 7-25 m.p.h.; ground bare, water open. Four observers in 3 parties. Total party-hours, 28 (20 on foot, 3½ by car, 4½ by boat); total party-miles, 130 (12 on foot, 112 by car, 6 by boat). Pied-billed Grebe, 5; Great Blue Heron, 77; American Egret, 2 (C.E.S.); Canada Goose, 4600 (est.); Snow Goose, 1; Blue Goose, 1; Mallard, 675 (est.); Black Duck, 336 (300 est., 36); Gadwall, 2; American Widgeon, 122; Pintail, 49; Green-winged Teal, 4; Shoveller, 1; Wood Duck, 75 (est. by Mr. & Mrs. J.D.); scaup (sp.), 11; Ruddy Duck, 112; American Merganser, 13; Turkey Vulture, 46; Black Vulture, 14; Red-tailed Hawk, 1; Red-shouldered Hawk, 8; Bald Eagle, 6; Marsh Hawk, 5; Sparrow Hawk, 10; Bob-white, 18; Killdeer, 4; Wilson's Snipe, 1; Herring Gull, 6; Ring-billed Gull, 494; Mourning Dove, 36; Horned Owl, 1; Barred Owl, 2; Short-eared Owl, 1 (JD); Belted Kingfisher, 1; Yellow-shafted Flicker, 29; Pileated Woodpecker, 8; Red-bellied Woodpecker, 12; Yellow-bellied Sapsucker, 3; Hairy Woodpecker, 4; Downy Woodpecker, 14; Eastern Phoebe, 6; Horned Lark, 3; Blue Jay, 12; American Crow, 88; Carolina Chickadee, 52; Tufted Titmouse, 28; White-breasted Nuthatch, 6; Brown Creeper, 3; Winter Wren, 8; Carolina Wren, 42; Mockingbird, 37; Brown Thrasher, 4; American Robin, 314; Hermit Thrush, 4; Eastern Bluebird, 69; Golden-crowned Kinglet, 64; Ruby-crowned Kinglet, 8; Water Pipit, 2; Cedar Waxwing, 244; Loggerhead Shrike, 15; Common Starling, 169; Myrtle Warbler, 69; Pine Warbler, 3; House Sparrow, 50; Eastern Meadowlark, 239; Red-winged Blackbird, 52; Cardinal, 144; Purple Finch, 7; American Goldfinch, 41; Eastern Towhee, 20; Savannah Sparrow, 2; Slate-colored Junco, 425; American Tree Sparrow, 8 (C.E.S.); Field Sparrow, 62; White-throated Sparrow; 281; Fox Sparrow, 2; Swamp Sparrow, 23; Song Sparrow, 71.

Total, 78 species; about 9487 individuals. -- Mr. and Mrs. John DeLime, F.A. Scott, C.E. Stevens, Jr.

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Ft. Belvoir, Va. (that area of Fairfax County along the Potomac River bounded by Little Hunting Creek at Mt. Vernon on the north, Powell's Creek below Woodbridge on the south, and that area within a $7\frac{1}{2}$ mile radius of Mason's Neck). -- January 3; 6:15 a.m. to 4:30 p.m. Overcast, intermittent rain sprinkles in a.m., clearing at 11 a.m. with brisk NW winds; temp. 35° to 55°; wind WNW to NW, 5 to 30 m.p.h. Ground bare, marshes partly frozen but all fresh water open. Twenty-one observers in 6 parties; total party-hours, 118.5 (107 on foot, 11.5 by car), total party-miles 244.5 (94.5 on foot, 150 by car). Common Loon, 1; Horned Grebe, 1; Pied-billed Grebe, 1; Great Blue Heron, 10; Canada Goose, 30; Mallard, 26; Black Duck, 469; Pintail, 10; Redhead, 1; Scaup, 72 (Greater); American Golden-eye, 2; Bufflehead, 200; Ruddy Duck, 186; American Merganser, 130; Red-breasted Merganser, 1; Turkey Vulture, 52; Sharp-shinned Hawk, 1; Cooper's Hawk, 2; Red-tailed Hawk, 10; Red-shouldered Hawk, 11; Rough-legged Hawk, 1; Bald Eagle, 18; Marsh Hawk, 5; Osprey, 1 (P.A.D. et al); Sparrow Hawk, 5; Bob-white, 84 (6 coveys); Virginia Rail, 4; Killdeer, 108; Wilson's Snipe, 2; Herring Gull, 44; Ring-billed Gull, 507; Bonaparte's Gull, 1; Mourning Dove, 290; Great Horned Owl, 4; Barred Owl, 4; Belted Kingfisher, 8; Flicker, 64; Pileated Woodpecker, 5; Red-bellied Woodpecker, 26; Yellow-bellied Sapsucker, 4; Hairy Woodpecker, 21; Downy Woodpecker, 74; Phoebe, 1; Blue Jay, 264; Crow, 282; Fish Crow, 11; Carolina Chickadee, 251; Tufted Titmouse, 152; White-breasted Nuthatch, 60; Red-breasted Nuthatch, 1; Brown Creeper, 38; Winter Wren, 39; Carolina Wren, 200; Long-billed Marsh Wren, 4; Mockingbird, 74; Catbird, 1; Robin, 384; Hermit Thrush, 11; Bluebird, 91; Golden-crowned Kinglet, 179; Ruby-crowned Kinglet, 2; Cedar Waxwing, 110; Starling, 2,963; Myrtle Warbler, 111; Palm Warbler, 2 (Western); Yellow-throat, 1; English Sparrow, 144; Meadowlark, 107; Red-wing, 713; Rusty Blackbird, 260; Purple Grackle, 22; Cowbird, 11; Cardinal, 199; Purple Finch, 33; Pine Siskin, 1; Goldfinch, 330; Towhee, 16; Vesper Sparrow, 5; Slate-colored Junco, 1,195; Tree Sparrow, 188; Field Sparrow, 300; White-crowned Sparrow, 14; White-throated Sparrow, 416; Fox Sparrow, 2; Swamp Sparrow, 108; Song Sparrow, 179. Total, 85 species; 11,982 individuals. (Seen in area January 4, Black Vulture, 2.) -- J.M. Abbott (compiler), I.R. Barnes, S. Briggs, R. Caswell, P.A. DuMont, P.G. DuMont, J. Fisher, H. Gilbert, G. Golding, C. Gregg, J. Hailman, E. Hall, E. Hayward, D. Kunkle, Wm. Mull, L. Oring, C. Sigel, H. Sutton, M. Thomas, J. Watson, J.K. Wright.

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Brooke, Va. (triangular area with Brooke, Widewater and mouth of Potomac Creek at the 3 apices; waterfront 28%, marsh 5%, fields 7%, hedge-rows 16%, mixed forest edge 33%, slash 4%, deciduous woods 3%, pine woods 4%). -- December 27; 7:30 a.m. to 5 p.m. Fair except for wispy clouds in a.m.; temp. 22° to 38°; slight northeast breeze in late p.m.; ground bare; water open, except that tidal creeks had thin coating of ice in more sheltered bays. Nine observers in 5 parties. Total party hours, 38 (36 on foot, 2 by car); total party miles, 29 (24 on foot, 5 by car). Common Loon, 3; Horned Grebe, 5; Pied-billed Grebe, 5; Great Blue Heron, 9; Whistling Swan, 290; Canada Goose, 250; Mallard, 60; Black Duck, 900; Gadwall, 2; American Widgeon, 14; Pintail, 4;

Green-winged Teal, 1; Canvasback, 50; Lesser (?) Scaup, 220; American Golden-eye, 7; Bufflehead, 13; Old Squaw, 2; Ruddy Duck, 10,000; Hooded Merganser, 1; American Merganser, 115; Red-breasted Merganser, 150; Turkey Vulture, 6; Black Vulture, 2; Sharp-shinned Hawk, 2; Red-tailed Hawk, 1; Red-shouldered Hawk, 1; Bald Eagle, 8; Marsh Hawk, 1; Sparrow Hawk, 3; Bob-white, 16; Virginia Rail, 1; Killdeer, 19; Wilson's Snipe, 16; Herring Gull, 200; Ring-billed Gull, 125; Mourning Dove, 75; Barred Owl, 1; Belted Kingfisher, 7; Yellow-shafted Flicker, 21; Pileated Woodpecker, 5; Red-bellied Woodpecker, 14; Red-headed Woodpecker, 8; Yellow-bellied Sapsucker, 2; Hairy Woodpecker, 4; Downy Woodpecker, 25; Phoebe, 5; Blue Jay, 60; American Crow, 85; Fish Crow, 1; Carolina Chickadee, 35; Tufted Titmouse, 20; White-breasted Nuthatch, 11; Red-breasted Nuthatch, 6; Brown Creeper, 2; Winter Wren, 6; Berick's Wren, 1 (R.S.C.; previously seen and identified on November 11 and 29 by E.T.M., T.B.N. and W.W.R.); Carolina Wren, 42; Mockingbird, 45; Brown Thrasher, 1; Robin, 25; Hermit Thrush, 8; Bluebird, 50; Golden-crowned Kinglet, 26; Ruby-crowned Kinglet, 1; Cedar Waxwing, 30; Loggerhead Shrike, 1; Starling, 200; Myrtle Warbler, 50; House Sparrow, 20; Meadowlark, 50; Red-wing, 250; Purple Grackle, 4; Cardinal, 95; Purple Finch, 10; Pine Siskin, 15; American Goldfinch, 90; Towhee, 8; Savannah Sparrow, 8; Slate-colored Junco, 320; Tree Sparrow, 100; Field Sparrow, 90; White-throated Sparrow, 270; Swamp Sparrow, 18; Song Sparrow, 200. Total, 84 species, about 14,923 individuals. -- C.A. Anderson, A.A. Baker, R.S. Cannon, Jr. Allan B. Griggs, Edwin T. McKnight (compiler), Thomas B. Molan, W.W. Rubey, Robert L. Smith, Robert E. Wallace.

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Charlottesville, Va. (same area as in previous years including reservoir and Red Hill pond; farmland 25%, river-bottom 25%, lakes and ponds 25%, deciduous woods 20%, pine woods 5%). - December 26; 6:15 a.m. to 5 p.m. Fair; temp. 25° to 56°; wind W, 0-25 m.p.h. Some ice on river and ponds. Seven observers in 4 parties in a.m., 3 observers in 3 parties in p.m. Total party-hours, 34½ (30½ by foot, 4 by car); total party-miles, 121 (31 on foot, 90 by car). Mallard, 31; Black Duck, 100; Canvas-back, 11; Ruddy Duck, 2; American Merganser, 5; Turkey Vulture, 170; Black Vulture, 106; Sharp-shinned Hawk, 1; Cooper's Hawk, 2; Red-tailed Hawk, 3; Sparrow Hawk, 3; Bob-white, 16 (2 coveys); Killdeer, 6; Mourning Dove, 49; Belted Kingfisher, 4; Yellow-shafted Flicker, 4; Pileated Woodpecker, 2; Red-bellied Woodpecker, 12; Yellow-bellied Sapsucker, 1; Downy Woodpecker, 22; Eastern Phoebe, 4; Horned Lark, 75; Blue Jay, 85; American Crow, 591; Fish Crow, 7; Carolina Chickadee, 85; Tufted Titmouse, 41; White-breasted Nuthatch, 19; Red-breasted Nuthatch, 2; Brown Creeper, 4; Winter Wren, 4; Carolina Wren, 32; Mockingbird, 48; American Robin, 1; Hermit Thrush, 3; Eastern Bluebird, 92; Golden-crowned Kinglet, 62; Cedar Waxwing, 14; Loggerhead Shrike, 7; Common Starling, 979; Myrtle Warbler, 31; House Sparrow, 11; Eastern Meadowlark, 96; Red-winged Blackbird, 1; Cardinal, 166; Purple Finch, 6; American Goldfinch, 91; Slate-colored Junco, 326; American Tree Sparrow, 85; Field Sparrow, 48; White-crowned Sparrow, 6; White-throated Sparrow, 71; Fox Sparrow, 1; Song Sparrow 68. Total, 54 species; 3902 individuals. - Mrs. Colgate Darden, Mrs. Charles O. Gregory, David P. Gregory, Judith Gregory, Kenneth Lawless, William F. Minor, Charles E. Stevens, Jr.

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Warren (Albemarle Co.), Va. (same area as in previous years plus Hardware River from Jefferson's Mill to Carter's Bridge and minus Red Hill; open farmland 45%, river-bottom 35%, deciduous woods 15%, pine woods 5%). - December 27; 7 a.m. to 5 p.m. Partly cloudy; temp. 26° to 47°; wind negligible. Four observers in 3 parties in a.m., 4 parties in p.m. Total party-hours, 33½ (28½ afoot, 5 by car); total party-miles 144 (34 afoot, 110 by car); Mallard, 10; Black Duck, 1; Lesser Scaup, 1; Ruddy Duck, 1; Turkey Vulture, 29; Black Vulture, 50; Sharp-shinned Hawk, 1; Cooper's Hawk, 1; Red-tailed Hawk, 11; Red-shouldered Hawk, 1; Rough-legged Hawk, 1 (dark phase - K.L.); Sparrow Hawk, 2; Bob-white, 17 (2 coveys and a single); Killdeer, 13; Mourning Dove, 284; Belted Kingfisher, 2; Yellow-shafted Flicker, 15; Pileated Woodpecker, 3; Red-bellied Woodpecker, 22; Yellow-bellied Sapsucker, 2; Hairy Woodpecker, 13; Downy Woodpecker, 34; Eastern Phoebe, 10; Horned Lark, 7; Blue Jay, 44; American Crow, 538; Carolina Chickadee, 98; Tufted Titmouse, 34; White-breasted Nuthatch, 22; Red-breasted Nuthatch, 1; Brown Creeper, 1; Winter Wren, 9; Carolina Wren, 45; Mockingbird, 51; American Robin, 8; Hermit Thrush, 5; Eastern Bluebird, 100; Golden-crowned Kinglet, 38; Cedar Waxwing, 54; Loggerhead Shrike, 13; Common Starling, 390; Myrtle Warbler, 62; House Sparrow, 25; Eastern Meadowlark, 42; Red-winged Blackbird, 1; Cardinal, 216; Purple Finch, 29; American Goldfinch, 44; Slate-colored Junco, 507; American Tree Sparrow, 38; Field Sparrow, 34; White-crowned Sparrow, 12; White-throated Sparrow, 124; Swamp Sparrow, 4; Song Sparrow, 67. Total, 55 species; 3187 individuals. -- Kenneth Lawless, William F. Minor, Charles E. Stevens, Jr., Robert J. Watson.

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Sweet Briar, Va. (Sweet Briar property and adjacent area, radius of 1½ miles; open fields 30%, scrub 30%, brushy creek bottoms 25%, mixed woodland 10%, lake edge 5%). - January 3; 8:30 a.m. to 12:30 p.m. and 1:30 p.m. to 4:30 p.m. Partly cloudy all day with 2 showers in the morning; temp. 35° to 40°; NW wind at 15 m.p.h. Ground bare; ponds unfrozen. Six observers in 1 party in a.m., five observers in 1 party in p.m. Total party-hours, 7 (6½ by foot, ½ by car); total party-miles, 16 (6 by foot, 10 by car). Turkey Vulture, 13; Black Vulture, 8; Red-tailed Hawk, 1; Sparrow Hawk, 1; Mourning Dove, 2; Flicker, 29; Pileated Woodpecker, 3; Red-bellied Woodpecker, 5; Yellow-bellied Sapsucker, 4; Downy Woodpecker, 6; Phoebe, 2; Blue Jay, 6; Crow, 73; Carolina Chickadee, 21; Tufted Titmouse, 11; White-breasted Nuthatch, 16; Winter Wren, 1; Carolina Wren, 4; Mockingbird, 22; Robin, 81; Bluebird, 17; Golden-crowned Kinglet, 3; Ruby-crowned Kinglet, 3; Migrant Loggerhead Shrike, 1; Starling 48; Myrtle Warbler, 9; English Sparrow, 19; Meadowlark, 2; Purple Grackle, 5; Cowbird, 2; Cardinal, 36; Goldfinch, 3; Towhee, 1; Slate-colored Junco, 38; Field Sparrow, 7; White-crowned Sparrow, 39; White-throated Sparrow, 16; Swamp Sparrow, 2; Song Sparrow, 17. Total, 39 species; about 578 individuals. The wind kept most of the small birds under cover. -- Samuel B. Guss, David Guss, George Hettrick, Gertrude Prior, Miss Florence Hague, Miss Edith Hague, John Withrow (compiler).

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Lynchburg, Va. (College Lake, up Blackwater and Tomahawk Creeks to Graves' Mill, Riverside Park, James River at Six Mile Bridge, Airport). - December 26; 7:30 a.m. to 5 p.m. Clear; temp. 34° to 53°; wind W to WSW, 6-24 m.p.h.; ground bare; lakes mostly frozen over, streams open. Six observers in one party. Seven miles on foot, 48 by car. Pied-billed Grebe, 2; Great Blue Heron, 2; Lesser Scaup, 1; Turkey Vulture, 11; Black Vulture, 15; Cooper's Hawk, 1; Red-shouldered Hawk, 1; Bob-white, 18; Killdeer, 1; Belted Kingfisher, 2; Yellow-shafted Flicker, 8; Pileated Woodpecker, 3; Red-bellied Woodpecker, 4; Yellow-bellied Sapsucker, 2; Hairy Woodpecker, 1; Downy Woodpecker, 7; Eastern Phoebe, 4; Horned Lark, 4; Blue Jay, 5; American Crow, 110 (95 est.); Carolina Chickadee, 18; Tufted Titmouse, 12; White-breasted Nuthatch, 6; Winter Wren, 4; Carolina Wren, 8; Mockingbird, 4; Hermit Thrush, 3; Eastern Bluebird, 21; Golden-crowned Kinglet, 5; Ruby-crowned Kinglet, 3; Common Starling, 122 (100 est.); Myrtle Warbler, 5; Palm Warbler, 1; House Sparrow, 2; Cardinal, 26; Purple Finch, 8; Pine Siskin, 2; American Goldfinch, 42; Eastern Towhee, 2; Savannah Sparrow, 3; Slate-colored Junco, 71; Field Sparrow, 19; White-throated Sparrow, 36; Swamp Sparrow, 9; Song Sparrow, 26. Total, 45 species, 660 individuals. (Snowy Owl captured barehanded by man in Bedford County, Dec. 20.) -- Larry L. Farmer, Ruskin S. Freer, compiler, Robert H. Giles, Jr., Melvin Mitchell, Jr., M.B. Tillotson, Mr. and Mrs. J.W. Wiltshire, Jr.

(Not submitted for publication in Audubon Field Notes, but sent to Raven and to NAS for filing.)

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Peaks of Otter, Va. December 27; lowlands between the twin peaks along Little Stony Creek. The site, astride the Botetourt-Bedford county line, is primarily open grasslands bordered by forested slopes. Species: Chickadee, 18; Crow, 7; Goldfinch, 7; Cardinal, 3; Red-tailed Hawk, 2; Song Sparrow, 2; Downy Woodpecker, 2; Brown Creeper, 2; Golden-crowned Kinglet, 1; Slate-colored Junco, 1. -- William G. Lord.

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Shenandoah National Park, Va. (Same area as in last 3 years; $7\frac{1}{2}$ mile radius centering on Skyland, altitudes 1000-3680 feet). - December 30; 8:45 a.m. to 5 p.m. Partly cloudy and cloudy; temp. 37° to 53°; little or no wind; ground bare. One observer. Total hours, 7 (4 on foot, 3 by car); total miles, 72 (2 on foot, 70 by car). Turkey Vulture, 55; Black Vulture, 20; Red-tailed Hawk, 2; Ruffed Grouse, 1; Pileated Woodpecker, 1; Downy Woodpecker, 3; Common Raven, 9; American Crow, 18; Carolina Chickadee, 13; Tufted Titmouse, 5; Carolina Wren, 6; American Robin, 1; Cardinal, 13; American Goldfinch, 18; Slate-colored Junco, 27; American Tree Sparrow, 4; White-throated Sparrow, 7; Fox Sparrow, 2; Song Sparrow, 1. Total, 19 species; 206 individuals. (Heard in area Dec. 29: Horned Owl, 1.) -- Paul G. Favour, Jr. (Park Naturalist)

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Harrisonburg, Va. (Waterman Wood to Tide Spring, a total distance of 12 miles including oak-hickory-juniper-pine woodlot 60%, oak-hickory woodlot 10%, a small village bordering college campus 10%, juniper-pine wasteland 5%, pasture field and fence rows 15%). Small pond in oak-hickory woodlot. Clear, light frost, ice on pools. December 26; 8:10 a.m. to 3:30 p.m. Temp. at start, 25°; at noon 45°; at close, 43°. Wind from south 5-10 m.p.h., increasing throughout the day. Two observers working within calling distance.

Total party hours, 11. Turkey Vulture, 112; Black Vulture, 2; Red-tailed Hawk, 5; Sparrow Hawk, 2; Bob-white, 20; Mourning Dove, 11; Flicker, 6; Pileated Woodpecker, 1; Hairy Woodpecker, 3; Downy Woodpecker, 5; Blue Jay, 5; Crow, 60; Carolina Chickadee, 38; Tufted Titmouse, 21; White-breasted Nuthatch, 13; Mockingbird, 24; Bluebird, 5; Golden-crowned Kinglet, 2; Cedar Waxwing, 23; Starling, 288; Myrtle Warbler, 12; English Sparrow, 105; Meadowlark, 15; Cardinal, 31; Purple Finch, 4; Goldfinch, 34; Slate-colored Junco, 90; Tree Sparrow, 6; Field Sparrow, 4; White-throated Sparrow, 11. Total, 30 species; 958 individuals. -- Daniel B. Suter, Fred Brunk.

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Lexington, Va. (Same territory as last year). - December 28; 7 a.m. to 5 p.m. Overcast; temp. 34° to 45°; no wind; ground frozen, thawing in afternoon; ponds frozen, streams mostly open. Total party-hours, 29 (26 on foot, 3 by car); total party-miles, 103 (31 on foot, 72 by car). Great Blue Heron, 1; Mallard, 17; Black Duck, 1; American Widgeon, 2; Turkey Vulture, 66; Black Vulture, 8; Sharp-shinned Hawk, 1; Cooper's Hawk, 1; Red-tailed Hawk, 1; Sparrow Hawk, 6; Bob-white, 25; Killdeer, 6; Wilson's Snipe, 4; Mourning Dove, 50; Screech Owl, 1; Great Horned Owl, 2; Kingfisher, 3; Yellow-shafted Flicker, 11; Pileated Woodpecker, 9; Red-headed Woodpecker, 10; Red-bellied Woodpecker, 13; Yellow-bellied Sapsucker, 1; Downy Woodpecker, 15; Hairy Woodpecker, 1; Phoebe, 4; Horned Lark, 34; Blue Jay, 131; Raven, 1; Crow, 558; Appalachian Chickadee, 2; Carolina Chickadee, 87; Tufted Titmouse, 49; White-breasted Nuthatch, 13; Carolina Wren, 38; Mockingbird, 54; Hermit Thrush, 1; Bluebird, 41; Golden-crowned Kinglet, 20; Ruby-crowned Kinglet, 2; Cedar Waxwing, 16; Migrant Shrike, 6; Starling, 523; Myrtle Warbler, 16; House Sparrow, 233; Meadowlark, 79; Rusty Blackbird, 11; Cardinal, 221; Purple Finch, 19; Goldfinch, 54; Towhee, 3; Junco, 120; Tree Sparrow, 4; Field Sparrow, 1; White-crowned Sparrow, 67; White-throated Sparrow, 92; Song Sparrow, 19. Total, 56 species; 2775 individuals. -- Houston Barclay, R.P. Carroll, Robert Carroll, Jr., Anne Carroll, David Foster, John Letcher, J.J. Murray (compiler), Dickson Vardell Murray, A.B. Niemeyer, Robert O. Paxton, Charles Ritchey, Joshua Womeldorf.

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Roanoke, Va. December 26. Territory same as last year. Temp. 32° to 50°; wind calm up to 25 m.p.h. In the field from 8:00 a.m. to 5:00 p.m. Great Blue Heron, 1; Black Duck, 10; Turkey Vulture, 5; Kingfisher, 1; Flicker, 1; Downy Woodpecker, 1; Phoebe, 1; Prairie Horned Lark, 5; Blue Jay, 2; Crow, 8; Carolina Chickadee, 16; White-breasted Nuthatch, 2; Carolina Wren, 3; Mockingbird, 5; Loggerhead Shrike, 1; Starling, 110; English Sparrow, 56; Meadowlark, 8; Cardinal, 20; Goldfinch, 12; Tufted Titmouse, 2; Field Sparrow, 12; Junco, 40; White-crowned Sparrow, 7; White-throated Sparrow, 10; Song Sparrow, 9. Total species, 26; total number, 348. -- A.O. English, Dr. Perry F. Kendig.

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Blacksburg (Montgomery County), Va. (V.P.I. Campus and farm, wooded residential areas on east and north edge of town, Brush Mountain and Toms Creek to Whitethorne Station, Strubles Creek to New River, New River from mouth of Strubles Creek to Giles County line; pasture and plowed land 20%, town and suburbs 10%, virgin white oak woodlots 20%, mixed pine and oak wood? 20%, river and creek bottom 30%. - December 29; 8:30 a.m. to 5:30 p.m.

Overcast; temp. 40° to 47°; wind, none; ground bare; ponds mostly covered with ice. Thirteen observers in 6 parties. Total party-hours, 43 (40½ on foot, 2½ by car); total party-miles, 105 (45 on foot, 60 by car).
 Mallard, 62; Black Duck, 56; Gadwall, 3; American Widgeon, 66 (60½, 6); Pintail, 8; Ring-necked Duck, 2; scaup (sp.), 9; Buffle-head, 21; Hooded Merganser, 16; Cooper's Hawk, 3; Red-shouldered Hawk, 1; Pigeon Hawk, 2 (A.L.D.); Sparrow Hawk, 5; Bob-white, 11 (1 covey); Killdeer, 6; Wilson's Snipe, 2; Mourning Dove, 13; Screech Owl, 2; Barred Owl, 1; Belted Kingfisher, 7; Yellow-shafted Flicker, 21; Pileated Woodpecker, 10; Red-bellied Woodpecker, 13; Red-headed Woodpecker, 6; Yellow-bellied Sapsucker, 4; Hairy Woodpecker, 3; Downy Woodpecker, 47; Eastern Phoebe, 3; Horned Lark, 96; Blue Jay, 142; American Crow, 185; Carolina Chickadee, 96; Tufted Titmouse, 102; White-breasted Nuthatch, 12; Red-breasted Nuthatch, 13; Brown Creeper, 1; Winter Wren, 8; Carolina Wren, 37; Mockingbird, 22; American Robin, 4; Hermit Thrush, 1; Eastern Bluebird, 8; Golden-crowned Kinglet, 123; Ruby-crowned Kinglet, 4; Water Pipit, 25 (M.G.H., G.M.S.); Loggerhead Shrike, 5; Common Starling 665 (410½, 255); Myrtle Warbler, 20; House Sparrow, 136; Eastern Meadowlark, 43; Cardinal, 155; Purple Finch, 3; American Goldfinch, 198; Eastern Towhee, 5; Slate-colored Junco, 184; American Tree Sparrow, 3; Field Sparrow, 62; White-crowned Sparrow, 79; White-throated Sparrow, 31; Fox Sparrow, 1 (A.L.D.); Song Sparrow, 73. Total, 61 species; about 2,945 individuals. -- John Cooper, A.L. Dean, M.G. Hale, W.C. Kellner, R.D. McDowell, H.S. Mosby, J.W. Murray, C.W. Roane, G.M. Shear, Mr. and Mrs. E.A. Smyth, Jr., Allan Smyth, Robert J. Watson (compiler). (Note: A correction should be made in the 1952 Blacksburg census. The Western Palm Warbler listed on this census should have been recorded as a Nashville Warbler. Dr. G.M. Shear, who saw the bird, advises that he saw it several times thereafter and identified it as a Nashville Warbler. This is the same record which has been referred to in the Raven, 24:42, May-June, 1953.)

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Abingdon, Va. (same area as in previous years; farm land and pastures 30%, deciduous woodland 20%, mixed pine and deciduous woodland 20%, marsh and creek bottoms 20%, lake 5%). - December 26; 6:45 a.m. to 5:00 p.m. Partly cloudy; temp. 11° to 34°; wind NW, 5-25 m.p.h., ponds, lakes, and streams frozen after extended cold weather; no snow. Two observers in 1 & 2 parties. Total party hours, 15 (12 on foot, 3 by car); total party miles, 55 (15 on foot, 40 by car). Mallard, 47; Black Duck, 3; Ring-necked Duck, 37; Turkey Vulture, 8; Black Vulture, 24; Cooper's Hawk, 1; Sparrow Hawk, 15; Mourning Dove, 21; Screech Owl, 1; Belted Kingfisher, 1; Red-bellied Woodpecker, 1; Yellow-bellied Sapsucker, 2; Downy Woodpecker, 21; Blue Jay, 25; American Crow, 450; Carolina Chickadee, 76; Tufted Titmouse, 21; Winter Wren, 2; Carolina Wren, 21; Mockingbird, 14; Eastern Bluebird, 12; Golden-crowned Kinglet, 23; Loggerhead Shrike, 6; Common Starling, 700; House Sparrow, 80; Eastern Meadowlark, 105; Red-winged Blackbird, 13; Cardinal, 56; American Goldfinch, 110; Eastern Towhee, 1; Slate-colored Junco, 96; Field Sparrow, 46; White-crowned Sparrow, 4; White-throated Sparrow, 60; Swamp Sparrow, 4; Song Sparrow, 29. Total, 36 species; 2190 individuals. -- Carl F. Fleenor, Stephen M. Russell.

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Mt. Rogers, Va. (same area as in previous years; elevation range 4400 to 5719 feet; deciduous forest 40%, grassy fields 30%, spruce-fir forest 30%). - December 27; 6:45 a.m. to 5:15 p.m. Clear; temp. 18° to 28°; wind NE, 0-6 m.p.h.; little snow except in sheltered spots; streams partially frozen over.

Four observers in two parties. Total party hours, 19.5; total party miles, 24 (all on foot). Turkey Vulture, 2; Cooper's Hawk, 1; Red-tailed Hawk, 1; Golden Eagle, 1 (F.W.B.); Ruffed Grouse, 9; Hairy Woodpecker, 2; Downy Woodpecker, 11; Blue Jay, 18; Common Raven, 5; American Crow, 87; chickadee (sp.), 8; Tufted Titmouse, 54; White-breasted Nuthatch, 18; Red-breasted Nuthatch, 91; Brown Creeper, 4; Golden-crowned Kinglet, 5; Cardinal, 10; Pine Siskin, 200; American Goldfinch, 67; Red Crossbill, 2; Eastern Towhee, 1; Slate-colored Junco, 117. Total, 22 species; 714 individuals. -- Fred W. Behrend, Douglas A. Patterson, Stephen M. Russell (compiler), A. Randolph Shields.

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SUMMARY OF 1953 CHRISTMAS BIRD COUNT IN VIRGINIA

by John H. Grey

In many ways this is our best count. There were 24 counts, recording 154 species, made by 127 observers, in 59 parties, working 658 hours, traveling 1,534 miles, with a total of 153,344 individual birds seen.

Ft. Belvoir had the most observers: 21 in six parties; Blacksburg had 13 in six parties, and Lexington had 12 observers. There were four individual counts: Bill Lord at Peaks of Otter got 10 species; Charles Steirly had 40 at Waverly; Fred Scott found 60 at Saxis on Eastern Shore; and Bruce McCartney got 63 at Toano for high count of the four.

HABITAT: Fresh marshes and river front led with 20%; followed closely by open farm lands 20%; mixed woods 20%. Then came deciduous woods 10%; Brushy fields and thickets 10%; pine woods 5%; fresh-water ponds 5%; open salt bay 5%. The final 5% grouped in order of importance included swamps, salt marshes and shore, ocean beach and mud flats, and residential district.

WEATHER: Colder than the 1952 count period, although it blew both hot and cold, ranging from 11 to 70 degrees. There were 13 counts that found ice, and some found ponds and streams frozen enough to make a difference. Only a few had rain; some had winds ranging from 25 to 35 miles per hour. For most of us the wind seemed to make little difference. Some felt the mild weather kept birds quiet, especially after 10:00 a.m. Yorktown and Newport News illustrate what I mean: both began with ice, and Newport News had some wind with the day remaining cold till mid-day with the result that birds in Chesapeake Bay were near shore; whereas Yorktown had warm weather after the early hours, and no wind, and the birds must have been out in the Bay for they were not to be seen from shore. Mt. Rogers had a little snow in sheltered places, but others had open ground. There had been a cold spell before the count period, which froze the marshes, and probably made a difference between this year and last in the marsh groups; as to Redwings, for instance. Many areas seem to have had a rather poor count compared to other years, but Mt. Rogers had its best count in some ten winter trips.

BIRDS RECORDED: The 154 birds were divided: 135 Regulars; 10 Casuals; and 9 Accidentals. Compared to 1952: 138 Regulars (missing only Falcon); 7 Casuals; and 7 Accidentals: total, 152.

Regulars we missed this year: Cormorant, Black-crowned Night Heron, King Rail, and Laughing Gull. Casuals we recorded: Golden Eagle - first time

on a count, an immature at Mt. Rogers with good identification; Osprey; Saw-whet Owl; (Just missed Snowy Owl which Lynchburg reports as captured in Bedford County before the count began. Since this was supposed to be a flight year, we wonder if there are other records.) Tree Swallow at Chincoteague; Bewick's Wren at Brooke (two other counts in the past ten years); Orange-crowned Warbler at Chincoteague and Back Bay; Red Crossbill at Mt. Rogers; Seaside Sparrow at Yorktown; Vesper Sparrow at Back Bay and Ft. Belvoir; and Snow Buntings at Back Bay and Newport News.

ACCIDENTALS: Blue-winged Teal, Chincoteague and Surry; Sora, Toano (only other winter record was last year on the Abingdon count); Greater Yellow-legs at Saxis; Lesser Yellow-legs at Chincoteague; Semipalmated Sandpiper at Newport News; Common Tern (a fine record at Back Bay of which Floy Barefield Burford writes they had excellent views many times, and Jack Perkins had seen them earlier many times; Cruickshank reports 1 New York record of December 4, and Stone had a November 11 record at Cape May in their respective books on these areas); Royal Tern at Newport News; Baltimore Oriole at Newport News and Toano (also recorded last year in Newport News at about the same time, but not included in the count 1952); Dickcissel at Toano, our first winter record, though reported north of us last year.

By way of comparison; in 1952 we got these Casuals: Red-necked Grebe, Woodcock, Purple Sandpiper, Royal Tern, Red Crossbill, Vesper Sparrow, and Snow Bunting. Accidentals: Sora, Ringed Plover, Spotted Sandpiper, Greater Yellow-legs, Western Sandpiper, Gray-cheeked Thrush, and Wilson's Warbler (recorded at Brooke and reported in Audubon Magazine).

INDIVIDUAL TRENDS: Common Loons were more common than last year but Red-throated were scarce. Horned Grebe abundant in tidewater areas as usual but inland there were few records. American Egret at Chincoteague, Back Bay, and Hopewell (and on February 7 on Jamestown Island) so that they winter with us in fair numbers even in cold weather. Rountrey first reported these at Norfolk in 1951. Snow Geese were at four places and Blue Geese in three. Does this indicate an increase in numbers, or the discovery of more feeding areas?

Mallard were more abundant in the east than 1952, and that was an excellent year; in the central and west they were about the same. Gadwall were more common, being in six places; but Shoveller only in two; and Ring-necks only in tidewater, Blacksburg, and Abingdon. Charlottesville had a good count of Canvas-backs. Golden-eyes were only in the east. Scoters this year were curious: a single White-winged in Chesapeake Bay is our only record of this species on the count; whereas Surf were abundant and American rather scarce. Brooke had 10,000 Ruddy, twice as many as at Back Bay; several other places got good counts. Mergansers appear to have been scarce: Hooded on seven counts; American on seven; and Red-breasted only on eight counts.

Birds of Prey: a good year, recording all we would expect, except Goshawk. Bald Eagles only in the east. The Golden Eagle is a welcome addition. Marsh Hawks in the east only; Rough-legged in several places, which may indicate a good number, or else many good observers; Falcons on two counts; Pigeon Hawk only at Blacksburg.

Rails: Apparently not as much work done in marshes, as throughout the reports marsh habitats seem low in counts; unless there is actually a shift in population due to ice and cold weather as compared to 1952 when marshes were open. Toano's ten Sora are remarkable as they are supposed to leave with frost, and marsh trappers have not found them, though often catching Virginia Rails.

Ruffed Grouse at Mt. Rogers only. Is it a year of small populations?

Shorebirds: Black-bellied Plover, 34 birds, almost double last year; each time reported in three places; Snipe in seven places with 32 birds in spite of ice, compared to ten birds 1952; Red-backed Sandpiper, a high count of 327 birds; Sanderling, 180 compared to 105 in 1952.

Gulls and Terns: Great Black-backed, only on the coast though usually also at Newport News and Yorktown. Bonapartes were more common this year, though with only three places and 74 birds (I saw 200 in a flock in Hampton Roads before the count period - largest number recorded). Forster's Terns, 112 which is our best count. Chesapeake Bay must have been full of them: last year only a single bird counted. Both Yellow-legs turned up. Semipalmated Sandpiper seems to be an addition to the count list.

Owls: Five Screech; five Barred; Great Horned from more places than usual; Short-eared and Saw-whet. Much better than usual.

Woodpeckers: the 53 Pileated is encouraging compared to 35 in 1952; also 25 Red-headed in four places (Lexington having nearly half of these), compared to 26 birds in eight places last year. No Sapsuckers on the coast this year; lots of Hairy Woodpeckers, and, of course Downy Woodpeckers.

Phoebe's were all the way from the coast to Blacksburg; Raven only in two places. Fish Crow at Ft. Belvoir, Brooke and Charlottesville were the only ones west of Newport News. Appalachian Chickadee at Lexington only, though have been found at many other places. We need more identification of these. Red-breasted Nuthatch decidedly scarce: Ft. Belvoir, Brooke, Charlottesville, Warren, then to Blacksburg, and topped off by 91 at Mt. Rogers; in 1952 we had five birds in three places. Brown Creeper seems scarce, total of 60, and half of these at Ft. Belvoir; in 1952 there were 51 birds. House Wren only at Back Bay, while in 1952 in five places. Long-billed Marsh Wren only at Back Bay and Ft. Belvoir; a short count. Catbird from Surry east; in 1952 as far west as Warren. Thrasher only from Waverly east, though in past years to Lynchburg. Pipits at Blacksburg and Hopewell east. Waxwings were scarce; Myrtles were abundant along the salt waters; Pine Warbler sixteen birds in four places compared to thirteen in 1952, not affected by the cold weather evidently; Palm Warbler, seven birds against only three in 1952. Watson's note on the Blacksburg count that a bird reported in 1952 as a Palm Warbler was actually a Nashville Warbler is most interesting. Maryland Yellowthroat at Ft. Belvoir only, and a single bird, our lowest in several years. Meadowlarks were common everywhere. I remember a recent year at Charlottesville when we hunted hard to find eight as compared to 96 this year. Is this an increase in population? Red-wings were scarce in the east compared to last year; two counts of over a thousand: Mike Mitchell near Newport News reported a flock on January 2, a week after the count, that was 50 yards wide and lasted for some ten minutes. Rusty Blackbirds, 260 at Ft. Belvoir, and three other places report 36 more. Boat-tails, 244 at Chincoteague, and one at Saxis.

Cowbirds from Sweet Briar east. Purple Finch reported in eight places compared to eleven in 1952.

Ipswich Sparrow, only two birds at Newport News; probably more common along the coast and both shores of Chesapeake than we realize. Sharp-tail Sparrows, only two birds: Chincoteague and Saxis, a low count. Tree Sparrow seems to be more widely distributed than we may have thought; not only at Back Bay as formerly, but also at Hopewell; a few years back in Dinwiddie County also. Chipping Sparrow only at Back Bay. ~~White-crowned~~ must be extending their range as they turn up at Back Bay and Warren, whereas Ft. Belvoir and Charlottesville were our former easternmost places, and Charlottesville only recently. White-throated Sparrows are abundant in the east. A good count of Snow Buntings this year.

-- Williamsburg, Virginia



The Raven

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LEXINGTON, VA.

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THE 1953 SPRING MIGRATION IN VIRGINIA

By F. R. Scott

The weather was, in general, warm and wet, though precipitation was highly variable from place to place. The only real cold spell of the spring occurred during a snowstorm on March 1-2 that dumped 2 to 6 inches over most of the state. Temperatures were consistently above normal, averaging 5°-6° above during May. A number of early arrivals were reported, but more were probably stopped by the cold April in the southeastern and southcentral states. Wintering waterfowl left extremely early, resulting in a poor duck migration in eastern Virginia.

Grebes, Herons, Ibises. A late Horned Grebe was reported from the Chincoteague Marshes on May 23 (R; J. Beasley, F.C. Richardson, C.C. Steirly). John H. Grey found 35 nests of Great Blue Herons in three trees near Williamsburg on April 14, but at the small heronry near Hanover the Great Blues were just getting their nests in order on April 12 (F.R. Scott). J.J. Murray speaks of American Egrets becoming more regular in spring in the Valley and reports that one landed in a private yard in Lexington on May 6. In Surry County this bird was seen as early as March 21 (CCS). The Snowy Egret that appeared at Hampton on February 6 remained there till March 13 (Mrs. L.W. Machen). In a large mixed heronry near Robbins Corner, Princess Anne County, W.F. Rountrey found Snowy Egret eggs hatching on May 15. Residents of the area say that this heronry has been in existence for over 35 years, but there is no way of knowing what species have occupied it during that period. The Cattle Egret has finally been found in Virginia with the discovery of 2 at Chincoteague Refuge on May 13 by former refuge manager John H. Buckalew. An immature Yellow-crowned Night Heron was seen at Lexington on May 3 and 5, the second record for Rockbridge County (Royster Lyle, JJM, Robert Paxton). Bruce McCartney found 20 Green Heron nests on May 20 on a small island in the York River just west of Gloucester Point. A Glossy Ibis, a second record for the state, was reported at Chincoteague Refuge on May 8 (E.O. Mellinger).

Waterfowl. The immature Blue Goose that wintered near Dayton, Rockingham County, remained there at least until March 14 (D. Ralph Hostetter and others). Note that this is west of the Blue Ridge. John DeLime found a brood of Black Ducks at Presquile Refuge, Chesterfield County near Hopewell, in May. At Chincoteague Refuge there were still 100 Gadwalls on April 29 and 3 on May 27 (EOM). A Baldpate remained at Lexington until May 26, a very late date (JJM). At the other extreme a pair of Wood Ducks had young near Waverly, Sussex County, on March 28 (CCS). Five Blue-winged Teal at Seaford on May 9 were considered late (RJB), although there were still 35 at Alexandria as late as May 5. Murray reported a pair at Lexington until May 29 and a female on June 1. Although no breeding evidence was found, on the Eastern Shore one would normally expect young birds at this date. "At least 1000" Oldsquaws were found in Chincoteague Bay on March 18 (EOM); inland, the only report was one at Dayton on March 15 (fide DRH). Steirly reported a female Hooded Merganser on May 2 near Waverly, where a pair were found breeding in 1952. The most spectacular record of the season was the discovery of a female American Merganser with 6 young at Dayton on May 26 (Dr. Harry Jopson and Max Carpenter). Both parents and young were seen again on May 27 and 29.

Hawks and Marsh Birds. An adult Broad-winged Hawk and 2 young learning to fly near Stumpy Lake, Norfolk, on May 28 constitute the first breeding record for Tidewater Virginia (WFR). An immature Golden Eagle was found on the Blue Ridge Parkway near Afton on March 9 (Jan Owen) and a similar bird near there on May 18 (JJM). R.R. Kerr and R.H. Peake reported single Pigeon Hawks at Charlottesville on April 11 and May 4. At Lexington a Sora and a Coot on June 1 were the latest spring records for the Valley of Virginia (JJM), although the Coot has summered in the West Virginia part of the Valley. A Purple Gallinule was found climbing in bushes at the edge of a pond near Norge, James City County, on April 29 and was seen there until May 10 (EM). Mr. and Mrs. W.O. Lewis and R.J. Watson discovered an injured Florida Gallinule on the Blue Ridge Parkway near U.S. Route 250 on May 17.

Shore Birds, Gulls, Terns. An Oyster-catcher at Chincoteague on April 6 was early (J.K. Wright). L. Oring found an Upland Sandpiper in Shenandoah National Park on April 4. Good maximum counts of shore birds were 50 Spotted Sandpipers at Dyke on April 25 (A.W. Viner) and 60 Solitary Sandpipers at Alexandria the same day. Two Purple Sandpipers on the Little Creek breakwater on March 27 were the second record for the Cape Henry area (Locke Mackenzie, Clement Cobb, Richard Harrison). Four Marbled Godwits were reported from Chincoteague on May 23 (J. Terborgh). Two Glaucous Gulls were found at Lynnhaven Inlet on March 27 (LM, CC, RH) and a Herring Gull on Mt. Marshall on the Skyline Drive on March 8 at an altitude of 2810 feet (fide P.G. Favour). An interesting record was a Gull-billed Tern seen from the Cape Charles ferry on May 23 (RJB, FCR, CCS). This is well within the mouth of Chesapeake Bay. There were 10 Black Terns at Chincoteague Refuge as late as May 30 (EOM).

Owls to Thrushes. Young Barred Owls were just leaving the nest at Richmond on April 29 (FRS). Early records for the Ruby-throated Hummingbird were April 11 at Falls Church (L. Griffin), April 13 near Williamsburg (JHG), and April 25 at Lexington (Mrs. J.J. Murray). A Red-cockaded Woodpecker, rare in the Cape Henry region, was discovered at Stumpy Lake on May 30 (WFR, Paul Sykes). Three Crested Flycatchers at New Alexandria on April 19 (J.M. Abbott) and an Acadian Flycatcher at Charlottesville on April 26 (RRK, RHP) were early. John Westbrook found 3 Horned Lark nests near Danville in late March. C.M. and I.C. Hoover, participating in the spring census of the Audubon Society of the District of Columbia, found 25 Ravens and 2 Black-capped Chickadees in Shenandoah National Park on May 9. Adult White-breasted Nuthatches were found near Norfolk feeding young both at Stumpy Lake on May 10 and at North Landing Swamp on May 11 (WFR). Veeries were reported more commonly than in many years. In southeastern Virginia a singing bird was seen at Hampton on May 17 (Mrs. Machen) and several in Princess Anne County in April and May (WFR). A new record for the state was a Willow Veery (*Hylocichla f. fuscescens* Ridgway), secured by Mrs. M.B. Peacock at Pine Ridge, Fairfax County, on May 9. A late record was a Gray-checked Thrush at Norge, May 24 (BM).

Vireos to Tanagers. A Philadelphia Vireo was seen at Charlottesville on May 10 (RRK, RHP) and a Solitary Vireo in Norfolk County, April 11 (WFR, FCR, Dr. Gerald Akers). A Prothonotary Warbler at Honover Court House on April 12 was early (FRS). The same observer reported a good-sized colony of these in western Henrico and eastern Goochland Counties on the Piedmont just west of Richmond, and a single singing male at Farmville, Prince Edward County, May 30. Three males, singing as if on territory, and a female were

reported from Danville (*fide* R. Eggleston). Murray found a singing Tennessee Warbler at Lexington on May 13, a rare bird in spring. Blue-winged Warblers were reported April 25, April 29, and May 4 near Richmond (FRS), May 1 at Charlottesville (RRK, RHP), and April 20 along Blackwater River, Surry-Sussex Counties (CCS). A Cerulean Warbler at Robbins Corner on May 12 seems to be the first record for the Cape Henry region (Mrs. Floy Burford, WFR). Others were found at rather unusual altitudes: one on the Skyline Drive at the 46-mile post on May 17 (Mr. and Mrs. WOL, RJW) and another 12 miles south of Rockfish Gap on the Blue Ridge Parkway at 3000 feet on May 25 (JJM). Rountrey found Black-throated Green (Wayne's) Warblers in several areas in Norfolk and Princess Anne Counties during the breeding season, and he reported nests on April 4 and 11. The former date is one of the earliest, if not the earliest, nesting record in existence for this race. A singing Mourning Warbler at Norge on May 24 seems a unique record for Tidewater (BM). W. Sisek had a very high count of 35 Yellow Palm Warblers at Arlington on April 25, and the same observer reported an early Yellow-breasted Chat there on April 12. Several Scarlet Tanagers were found in Tidewater: Norge, May 15 and 24 (BM); a pair near Williamsburg, May 15 (JHG); Robbins Corner near Norfolk, May 4 (WFR); Hampton, May 23 (FRS).

Finches. Rountrey found a Rose-breasted Grosbeak near Norfolk on May 4, an unusual record for the coast. A singing male Dickcissel was found on May 10 at Curles Neck, near Richmond, where the species has been suspected of breeding in recent years. There were only two reports of Evening Grosbeaks, both of single ^{birds:} Petersburg, last half of March (W.B. McIlwaine); Winchester, March 8-11 (Mrs. Robert S. Underwood). Pine Siskins remained rather common, in general, throughout April, and some late dates were Waverly, May 11 (CCS); Diamal Swamp, May 16 (BM, WFR); Charlottesville, May 16 (RRK, RHP); Arlington, May 19. Two stragglers were reported, one at Norfolk on May 24 (WFR) and another at Charlottesville on June 3 (RRK). Goldfinches were abundant in eastern Virginia, and John DeLime estimated 5000 at Presquile on April 17. A flock of Red Crossbills was seen at Danville on May 19 (RE) and 11 at Arlington, April 24-May 4 (J. Nichols and others). A Green-tailed Towhee was seen almost daily at the home of Mr. and Mrs. R.C. Cutler in Warwick from February 26 to April 24 and was seen by many other observers. Another Green-tailed Towhee was found at Amelia by Mr. and Mrs. John R. Gatewood, who watched it closely on April 7, 9, 10, and 11. Mrs. Burford saw a group of 35 Lapland Longspurs at Pungo, near Back Bay, on March 8, the largest single flock ever reported in Virginia.

-- Richmond, Virginia

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BIRDS OF STUMPY LAKE

By W. F. Rountrey

Ten miles southeast of Norfolk, Virginia, lies Stumpy Lake, one of the best known areas of the State for the study and observation of birds. County Route 603, an extension of Indian River Road, runs along the Northeast edge of the lake for its entire length of 1.7 miles, making the area easily accessible to the visitor.

The lake is completely fringed by woodland and swamp, made up largely of Water Tupelo, Cypress, Black Willow, Pine and Oak trees. Behind the northeast fringe of trees lie many acres of farmland and pasture. The combination of water, field, woods and swamp attract hundreds of birds annually. One of the most unusual features of the lake is found in the many stumps that protrude from its surface when the water is low. It is from these stumps that the lake has gotten its name.

The shape of Stumpy Lake is like a large mitten, the thumb of which points to the west and is the most difficult part to reach. It is here that one comes upon an entirely different world of beautiful swamp growth. In the area of Stumpy Lake there have been recorded in the past three years 216 species of birds (excluding sub-species), with 81 observed nesting.

The City of Norfolk has started the construction of a golf course along the south side of the lake. Since this work has started the Pied-billed Grebe has seen fit to stop nesting there, but still spends Spring, Fall and Winter on the lake. While the construction work is underway many other birds will be disturbed as the Grebe has been. It is felt, however, that in the future, the bird life on the lake will be greatly benefited by the protection it will receive from the golf course.

The hundreds of Great Blue Herons, American Egrets and Little Blue Herons, which raise their young in the lake section, have been the cause of many visitors seeking out the area during July and August. Many people have caught a glimpse of the Wood Duck with her young at this time of the year, but only a few have braved the deeper swamps on the lake's edge to see the Wood Duck fly in to a nest high in the hollow of some Tupelo Gum tree.

It is in the thumb of the lake that the American Merganser spends the winter. While hundreds of ducks come and go during the cold months, this Merganser seems to be content to make this his winter home.

Certainly no other birds attract the attention of the casual observer more than the Red-shouldered Hawk and Bald Eagle, who see fit to make Stumpy Lake their year-round home. It is the more than casual observer, however, that visits the north shores of the lake each fall to watch the feeding of the Florida Gallinules and hear the squeaks of the Sora.

Some of the most common visitors during late July, August and September are the Spotted, Solitary and Pectoral Sandpipers. The Spotted can also be found in small numbers from early spring until migration in July.

The Black Willow Trees of the lake shores attract the Yellow-billed Cuckoo in good numbers from spring to late October, while Pileated and Red-bellied Woodpeckers are year-round neighbors of the Caroline Chickadees and Tufted Titmouse in the large trees of the bordering woodland. In the swamp section the Barred Owl can often be heard during the daylight hours as he hoots his response to the barkings of a near-by dog. Crested and Acadian Flycatchers keep company with this old barred bird each summer, as they build their nests in swamp trees. It is also in this same swampland that the White-breasted Nuthatch has seen fit to build his nest in the summer and find shelter in winter.

Of the 15 warblers and 3 vireos observed nesting at Stumpy Lake, the Yellow-throated Vireo, Parula, Prothonotary, Black-throated Green, Yellow-throated, Louisiana Water Thrush and Hooded Warblers are the most symbolic of the area. It is, however, the Prothonotary which nests in the greatest numbers, and the one that brings visitors from far and near, some coming as far away as the New England States in early spring, just to catch a glimpse of this most beautiful of birds. Many of the Prothonotary nests are built on the old stumps along the shores of the lake, and often within ten feet of passing autos.

In spring few birds, if any, can surpass the beauty of the Summer Tanagers and Indigo Buntings, which move into the area each year to raise their young. Nor can any bird arouse more interest in the observer's ear than the two note song of the Henslow Sparrow, perching in the weeds of the old bombing field on the west edge of the lake. It is also in this western area of Stumpy that the beautiful Fox Sparrow flocks during the winter.

Stumpy Lake is recommended to all people interested in birds. Few places will be found so accessible to the visitor and still have so many birds.

-- Norfolk, Virginia

(A feature of the Anniversary volume of THE RAVEN will be a series of bird articles dealing with good birding places in Virginia. This first article describes a spot which has yielded many noteworthy bird records. - The Editor)

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YELLOW-CROWNED NIGHT HERON'S NEST REPORTED

BY AN INTERESTED CITIZEN

By Mrs. Luther W. Machen

Some months ago I wrote of the wonderful observations interested citizens here have made.

In June another fine observation was made by Mr. Elton Miller at his home in Hampton. He said he had a heron nest in his woods and asked me if I would like to see it. When I arrived at his house we walked towards the back of his lot which goes into a stand of pine. In a good sized pine well up in the tree I saw three gawky youngsters teetering on the edge of the crudely made nest. I thought they were Yellow-crowns, but I waited for the parent birds in order to clinch the identification. In a little while one parent and then the other came in for a look at the young. The old birds walked carefully up the branch of the tree to the nest and resumed their "baby sitting". Yes, they were Yellow-crowns! Before we left four more mature birds settled into the neighboring pines.

Mr. Miller's observations on the birds went like this: May 10, nest first noticed; June 15, birds good sized; June 29, restless and about ready to leave the nest; July 4, left nest but slept in it for about two weeks.

The birds remained under Mr. Miller's observation all summer. On October 26th they were still around. On that day we had an unusually high tide. Mr. Miller saw nine adult Yellow-crowns over his marsh as though they were reconnoitering.

-- Hampton, Virginia

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BLACK DUCK NESTING IN ROANOKE COUNTY

By A. O. English

On June 28, 1953, a Black Duck (Anas rubripes) and brood of six were found at Murray's Pond. Lee Hawkins and I had just alighted from the car when we observed the parent duck leading her brood in open water. The young were only a few days old and when they saw us quickly hid under water-lily pads. The parent duck rose quickly and flew out of sight. I found them again on July 11th and 18th.

The Black Duck can usually be found in small numbers on Murray's Pond and Carvin's Cove Lake during the spring and fall migration, and often during winter months when the ponds are free of ice. A large number were observed on Carvin's Cove Lake during December 1952 and January 1953, which would indicate they wintered. This is the first nesting record of the Black Duck for Roanoke County.

-- Roanoke, Virginia

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SHORT-EARED OWL ATTACKS MARSH HAWK

By F.R. Scott

In the late morning of December 28, 1953, a dark day with a heavy low overcast, the writer was observing with considerable interest a pair of Short-eared Owls (Asio flammeus) coursing low over a salt marsh near Saxis, Accomack County, Virginia. Occasionally, one of the birds would drop suddenly to the ground, only to rise again immediately as if thwarted in an attempt to secure prey.

The course of one of the owls made it intercept a Marsh Hawk (Circus cyaneus) which was also searching the marsh for food. The owl, which passed about seven feet above the hawk, suddenly darted down towards the lower bird. The hawk immediately flipped over on its back to protect itself, and one of the birds uttered a harsh cry. The owl veered off, apparently without actually making contact with the hawk, and the birds separated without renewing the encounter.

A cursory look through some of the recent literature reveals that conflict between these two species has been observed before. E.P. Bicknell reports that a pair of Short-eared Owls attacked a Marsh Hawk at Long Beach, New York, on February 22, 1918, but no details are given (Auk 36: 284-285, 1919). C.S. Jung saw a Short-eared Owl repeatedly attack a Marsh Hawk in June, 1928, in northeast Alberta, Canada (Auk 47: 537, 1930). The owl repeatedly swooped down upon the retreating hawk from above, only to be struck by the hawk's talons each time as the hawk half turned over to meet the attack.

-- Richmond, Virginia

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BACK BAY FIELD TRIP
(December 5, 1953)

By John F. Kundt

The field trip started at Sandbridge at 7:00 a.m. We were all surprised to see such a spring-like day, after all the rain we had had the previous day and night. We had a small group this time, only thirteen members being present.

A total of 54 species were observed from the power boat, on oat fields, in the marshes and mud flats, in tree tops, and along the sea shore. The writer saw two more species to add to his life list. First, were 24 Snow Buntings, feeding by the sea shore on the sand. Second, twelve Blue Geese which assembled on a mud flat with some Snow Geese.

Following is the list of the 54 species observed on December 5, 1953, on the Back Bay Waterfowl Refuge: Common Loon, Horned Grebe, Pied-billed Grebe, Gannet, Great Blue Heron, American Egret, Whistling Swan, Canada Goose, Snow Goose, Blue Goose, Mallard, Common Black Duck, Baldpate, Pintail, Green-winged Teal, Redhead, Ring-necked Duck, Canvas-back, Lesser Scaup, Bufflehead, Ruddy Duck, American Merganser, Red-shouldered Hawk, Bald Eagle, Marsh Hawk, Sparrow Hawk, Bob-white, Coot, Killdeer, Wilson's Snipe, Sanderling, Great Black-backed Gull, Herring Gull, Ring-billed Gull, Mourning Dove, Flicker, Common Crow, Fish Crow, Carolina Wren, Mockingbird, Catbird, Robin, Golden-crowned Kinglet, Ruby-crowned Kinglet, American Pipit, Starling, Myrtle Warbler, Eastern Meadowlark, Red-wing, Savannah Sparrow, White-throated Sparrow, Swamp Sparrow, Song Sparrow, and Snow Bunting.

Lunch was served by members of the Sunday School Class of Sigma Tabernacle Church, which included sliced turkey and dressing, sweet potatoes, spinach, hot biscuits, and home-made apple pie.

We all thank Jack Perkins very much for his time and effort in planning and showing us the thousands of wild ducks and geese.

-- P.O. Box 642
Lawrenceville, Virginia

VISIT TO BACK BAY WILDLIFE REFUGE

By Mrs. Floy Burford

The second section of the V.S.O. (the Cape Henry and Hampton Bird Clubs) had our trip to Back Bay on December 12, 1953. The trip was arranged by Mr. Jack Perkins, Manager of the Back Bay Refuge. He met the group, 49 of us, at Sandbridge about 7 o'clock with two Jeeps and two trucks to take us to the Refuge. The weather was a bit hazy but not uncomfortable. Along the beach to the Refuge, the first truck load got to see a flock of about 15 Snow Buntings; the others missed this treat. The Gannets put on a real show for us, which is always a thrill to watch. Both the Common and Red-throated Loons were observed; and about 18 Great Black-backed Gulls were in the company of hundreds of Herring and Ring-billed Gulls. Horned Grebes were seen very close in shore.

On the Refuge the Snow geese, feeding on the flats, thousands of them, is a sight never-to-be-forfotten. Among the Snow Geese were 12 Blue Geese. We walked close upon them and observed them leisurely while they reciprocated the observation. It was interesting to see both adults and immature for comparison. This was a life-lister for some of the group. In the myrtle bushes along the flats were Vesper Sparrows, which are not common in this area. The Canada Geese always bring a thrill as they rise up from the flats, honking that wild clear call.

Then the Jeeps proceeded toward Headquarters, negotiating mud-holes and bogs. To me it is a miracle how they ever get through, but they do. We then went out in boats to see the waterfowl on the water. The ducks would darken the sky as they would take off from the water as the boat got near them - such a sight. The big Whistling Swans, padding the water with their black feet, sounded like horses stampeding. Mr. Perkins said that all the ducks and geese had not arrived as it had been so warm, but there were certainly a lot seen that day. A few brave souls walked Long Island and were fortunate to flush a Barn Owl, which was worth the long hard hike down the Island.

Rain set in about one o'clock, and the Jeeps and trucks brought the group back to Tabernacle Church, where the Women's Home Demonstration Club served us a delicious turkey dinner with all the trimmings.

Our list totaled 62 species. It was a most enjoyable day. Seeing the waterfowl and enjoying the fellowship was a real treat to us all. Thanks to Mr. Perkins who made the trip possible for us.

-- 108 Lake Terrace Circle
Norfolk 2, Virginia

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FERRY TALE

By John F. Kundt

On December 13, 1953, the writer crossed the Little Creek-Kiptopeke ferry from 12 noon to 1:30 p.m. It was windy and cool with an eight-tenths overcast. The first surprise was a Gannet with its large, white, cigar-shaped body and black-tipped wings. A total of eighteen (18) Gannets were observed, diving into the water, approximately 300 yards from the ferry.

After conversing with a couple of duck hunters who just came back from Knotts Island, North Carolina, I learned that heavy squalls were over the ocean the day before and possibly this day. The conclusion is that the storms had driven the ocean birds inland.

My second surprise was seeing a very large raft of Scoters. I used a conservative estimate while counting the three species: 150 plus, White-winged Scoters; 100 plus, Surf Scoters; 250 plus, American Scoters.

Other birds observed on the ferry trip included: American Merganser, Black-backed Gull, Herring Gull, Ring-billed Gull, and Laughing Gull.

-- P.O. Box 642
Lawrenceville, Virginia

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AUDUBON CAMP OF MAINE

By Mrs. Margaret H. Coleman

Quoting from Dr. Paul B. Sears of the Department of Conservation, Yale University, who, at the National Audubon Convention in New York, in November 1953 said - in part, about the Audubon Camp of Maine, "I have had the dream of a nature camp. - There must be rich and beautiful natural surroundings, first-rate management, such a camp must be inexpensive and open to those who seem most likely to get something out of it, and carry inspiration back to others, - staff must be superbly good, a group whose concern is with the whole living landscape - rocks, soil, water, wind and sun, plants of land and sea, animals". Such a spot is the Audubon Camp of Maine - which is planned for such persons as you and me.

If we are content to watch robins, cardinals, wrens, going about their summer housekeeping we can happily remain at home and watch, but if we keenly wonder what is going on in the rest of the world among birds, animals and all living organisms, a whole new world may open up for us in any two weeks' session at the Audubon Camp of Maine - what we see and feel and learn, not just on the surface of the island but in the lives both above us in the trees and in the sky, and below us in the sea, and under the ground, not to mention the new alertness we gain from forms of life around us, on the surface and near at hand.

The instructors at the Audubon Camp in bird life can't always promise to produce a battle royal between a crow and a raven, giving us a perfect opportunity to compare their differences in appearance, and in habits and in voices. Nor can one always find a harbour seal on the rocks at the far end of Hog Island, so close, but you can almost always see them and hear them on the distant rocks on every boat trip out in Muscongus Bay. Double Crested and some larger European Cormorants standing with wings wide spread seem to us as much a part of the silhouette of the various neighboring islands as the familiar shapes of the rocky islands themselves soon become. May these several memories either remind or tempt you to want to see them too. Trying hard not to step in Herring or Black-backed Gulls' nests; Laughing Gulls flying close to camp, calling (laughing), and terns flying about us as if to "review" us, helping us to identify them! Black guillemots flying low over the water with bumblebee flight; seeing the Common Eider; and a loon, far out in the pond (lake) and really "yelling like a loon"; many others - and always last and most memorable, Maine Lobsters steaming in the pot, on the beach, all you can eat for our dutch treat supper!

You may not have to make a detour along the usual path to avoid disturbing or stepping on a nest of young Yellow-throats, but being silent and still one can peacefully observe them at any hour of the day. One or more nests of the Parula Warblers is certain to be found keenly disguised and hidden among the usnea lichen hanging thickly on the spruce trees.

Each session, even each day, has its especially exciting and outstanding moment - it may be a very different feature for each person. One very special moment is bound to be, while out on an island for the first time, and hearing its thrillingly unusual life cycle unfold - the little ball of dark gray fluff, the baby Leach's Petrel! (Mr. Allan Cruickshank knows how and where to find them hidden far under a rock on the same islands where their enemies, the gulls and cormorants, also make their nests).

The absence of some "wildlife" makes Hog Island the more attractive - there is no poison ivy, or poison oak, no chiggers, no harmful snakes, no mosquitoes, no sounds at night, no noisy insects, no frogs croaking - and at night only the sound of the busy red squirrel.

In the October-November issue of THE RAVEN a full description of the camp itself, its location, its purpose, its training program are given. This chapter is to give you a glimpse of what wildlife may be seen and studied there and a listing of the camp sessions for the summer of 1954, with particular emphasis and hope that a group of V.S.O. members may attend one, maybe the same session together in the summer of '54. The terms are: June 18 - July 1; July 2 - July 15; July 16 - July 29; August 6 - August 19; August 20 - September 2.

Since the camp has become more well-known and popular, reservations need to be made well in advance that you may be sure of a place in the session of your choice, for the camp accommodates at the most, fifty campers at any one session. Each two week period is different in what one may see and learn, and each has its own reasons for being a good one. I would suggest that as many members as can, plan to attend the middle, or third term, from July 16-29. It might be possible for a number of members or other friends who are interested to go together in a car or cars, which would considerably cut the overall transportation costs. Although very simple

arrangements and good connections can be made by train or by plane. The usual way is to be in New York in time to take the sleeper, 9:30 p.m. and arrive at Newcastle, Maine, at breakfast time, where we may be met by some of the staff, and taken to camp by car or station wagon and boat. Besides "taking" birds and nature activities which everyone does, you choose which would interest you most, to learn intensively more about Plant Life under Miss Farida Wiley, or Insect Life under Dr. Donald Borrer, or Marine Life under Mr. Bartram Cadbury.

The cost of any of the five camp sessions is \$95.00 - a \$15.00 deposit to be paid with registration, then \$80.00 later. The fee covers everything (except a small rental for sheets and towels if you don't want to bring your own), includes board, lodging, tuition and transportation on all scheduled field and boat trips - and there are no tips, no extras of any sort. In fact you don't have any opportunity to spend any more money except for candy or books!

It is not too soon to write to the National Audubon Society and make your reservation now; - 1130 Fifth Avenue, New York 28, N.Y. Or if I can be of any help in your planning to attend any one of the 5 summer terms, phone or write me - Mrs. Hawes Coleman, Jr., 1513 Palmyra Avenue, Richmond 27, Virginia.

-- Richmond, Virginia

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NOTES

Scarlet Tanagers at Ellerson, Hanover County. Mrs. Catherine Bentley, of Ellerson, in Hanover County, just north of Richmond, writes that she had five pairs of Scarlet Tanagers to nest near her home in the summer of 1953. One of the nests was begun on June 24, the female doing the work, and apparently was finished on June 26. The eggs hatched on July 14. The young left the nest on July 22, the female taking the first two away, and the male attending the third, which hatched later in the day.

Baltimore Oriole at Arlington in Winter. A.H. Fast writes that a Baltimore Oriole visited the feeding station of Beth L. Edmondson early in December, 1953, and again on December 25 and 30, and the feeding station of Wayne Sieck on December 25, the stations being about one-fourth of a mile apart, and in Arlington, Virginia.

Cooperation Migration Study. Virginia bird students seem to have taken no part in the "cooperative study of bird migration through the use of Spring arrival dates", which was announced for last spring. Chandler S. Robbins, writes that the results of this study were gratifying. Only three states east of the Rockies had no reports, Virginia being one of these. A full notice of this project was published in the September-October, 1953, issue of THE RAVEN. Our readers should refer back to this notice, and then send in reports to Chandler S. Robbins, Patuxent Research Refuge, Laurel, Maryland.

FROM THE PRESIDENT'S FILES

Christmas vacation provided the opportunity for Mrs. Hostetter, my daughter and I to visit Death Valley, California. The summer temperature in the Valley of 134 degrees F. in the shade encourages students to enter the Valley during the winter when the temperatures in the day are very warm and pleasant and at night below freezing. The water pipes to our cabin in the last night spent in the Valley were frozen in the morning; we borrowed water from a nearby restaurant to prepare our breakfast.

Our first stop was made at Hoover Dam constructed at a cost of \$167,000,000 in Boulder Canyon of the Colorado River. The dam, 727 feet high and containing 3,250,000 cubic yards of concrete, is a flood-control project. Generation of electricity and supplying water for irrigation are secondary interests, although to date the government has received \$77,000,000 from the sale of current. Beautiful Lake Meade formed by the dam is 110 feet deep and 115 miles in length.

Death Valley, 4 to 16 miles wide and 140 miles long, lies between the Amargosa and Panamint Ranges and contains the lowest area in the United States. The mountains bordering the Valley are very beautiful, fantastic in design and colorful. In composition they represent a complex mixture of volcanic and sedimentary rocks. Various canyons and drives are especially colorful.

The vast salt flats, the salt deposits in one area being 1,200 feet in depth, are very intriguing. Probably the principal salts are table salt and borax. None of the three borax mines are in operation at present, but some of the original machinery is now on exhibit in the Valley. Sand dunes, salt beds and lakes, lava flows, erosional features, abandoned mines, colorful canyons and drives are the principal features in the Valley.

The salt lakes represent the remnant of ancient Lake Monly whose geological history is similar to that of Lake Bonneville.

Vegetation is sparse and consists chiefly of desert-holly saltbush and spreading creosotebush, and several species of cacti. Obviously, only such species can grow here that are adapted to withstand the burning heat and dryness of summer. At this time of year all the vegetation was brown except for one type of fleshy stemmed plant growing in the midst of the salt crusts. To the taste these stems were decidedly salty.

Twenty-six species of mammals have been recorded on the Valley floor and others live in the higher elevations. We have seen no mammals in the Valley except the Burros. Likewise we have seen no birds although 232 species are on record for the area within the Death Valley Monument. Except for the vegetationless salt beds, the Valley provides a variety of habitats for animal life.

A view long to be remembered is one from Badwater, 279.8 feet below sea level, to Mt. Whitney, 14,495 feet high, 70 miles distant. These two points represent the lowest and highest in the United States.

While crossing the deserts we saw many marsh hawks^{flying} low, looking for rodents. Many, too many, were lying dead along the highways. It may be they were killed by passing cars, but I am more inclined to believe it is the work of cattlemen. One coyote was killed on the highway, two others were suspended from the wire fence as a warning to other coyotes.

Birdlife in the Southwest was at a low ebb, however, we did see the following: Western Crow, Mourning Dove, Marsh and Sparrow Hawks, Horned Lark, Western Meadow-lark, Mockingbird, California Quail, Loggerhead Shrike, Starling, Curved-billed Thrasher, Gila Woodpecker and Cactus Wren.

Good roads and perfect weather all contributed to making this a most interesting Christmas vacation.

-- D. Ralph Hostetter
Harrisonburg, Virginia

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COOPERATIVE STUDY OF BIRD MIGRATION THROUGH THE USE OF SPRING ARRIVAL DATES

The reports received for the spring of 1953 were very encouraging. About 7,500 observations were reported, representing 47 states and provinces. Cooperators in New York State supplied the largest number of records, followed by Wisconsin, Ontario, Illinois and Pennsylvania, in that order. The arrival dates for the 28 species on the 1953 list have been put on IBM punch cards, which are on file at the Patuxent Research Refuge. These cards enable the data to be sorted and arranged in any desired order, and then listed by electric tabulating machine. Copies of the 1953 material are already being used by several research workers.

Nine additional species have been added to the list for 1954.

The success of the various studies involved depends directly upon the number of records received. Preliminary analysis of some of the 1953 data indicates that we need several times as many reports in subsequent years as were received in 1953, if we are to reach our objectives in correlating migratory movement with specific weather conditions. We urge you, therefore, to encourage others in your community to report their arrival dates, either direct, or through you.

Birds that are not seen until several days after they have arrived (due to the observer's absence from that particular area during the intervening time) should not be reported; nor do we wish 25 reports on the same individual bird from 25 people who saw it on the same bird club trip. But if 25 or 50 people in the same town recorded the date on which their House Wrens returned to their gardens, each and every report would be welcome. This study is scheduled to continue for four more years.

No one is expected to be able to provide arrival dates for every species on the list. Several of the species probably wintered in your area; do not report the first date you observed these unless you were able to detect

the arrival of migrating individuals. Departure dates may be listed if known, provided they are marked as departures. Otherwise only arrival dates are requested except for the Canada Goose and White-throated Sparrow; for these two species please also state any dates of increases or decreases, dates of main flights, or daily counts.

| STATE | COUNTY | LOCALITY |
|----------------------|---------|-------------------------|
| OBSERVER | ADDRESS | |
| Canada Goose | 172 | Wood Thrush 755 |
| Marsh Hawk | 331 | E. Bluebird (male) 7664 |
| Killdeer | 273 | E. Bluebird (fem.) 7665 |
| Wilson's Snipe | 230 | Red-eyed Vireo 624 |
| Mourning Dove | 316 | Black & White Warb. 636 |
| Common Nighthawk | 420 | Yellow Warbler 652 |
| Chimney Swift | 423 | Myrtle Warbler 655 |
| Ruby-th. Hummingbird | 428 | Oven-bird 674 |
| Yel.-shaft. Flicker | 412 | American Redstart 687 |
| Eastern Kingbird | 444 | Red-wing Blackbird 498 |
| Crested Flycatcher | 452 | Baltimore Oriole 507 |
| Eastern Phoebe | 456 | Scarlet Tanager 608 |
| E. Wood Pewee | 461 | Rose-br. Grosbeak 595 |
| Barn Swallow | 613 | Indigo Bunting 598 |
| Purple Martin | 611 | American Goldfinch 529 |
| Common Crow | 488 | Slate-colored Junco 567 |
| House Wren | 721 | Chipping Sparrow 560 |
| Catbird | 704 | White-crowned Spar. 554 |
| Brown Thrasher | 705 | White-thr. Sparrow 558 |

Please send reports to Chandler S. Robbins, Patuxent Research Refuge, Laurel, Maryland, or to your Audubon Field Notes Editor.

-- John V. Dennis
 Gilbert S. Raynor
 Chandler S. Robbins
 James H. Zimmerman

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PLANS FOR 25th ANNIVERSARY MEETING

Lynchburg, Virginia

April 23 - 24

Friday, April 23

- 9:30 A.M. Executive Committee Meeting in Senior Parlor, Westover Hall (women's dormitory), Lynchburg College. The organization meeting was held in this room, Dec. 7, 1929.
- 12:15 P.M. Luncheon for Executive Committee, Westover Hall.

- 1:00 P.M. Registration, hall of Main Building, Lynchburg College.
- 1:30 Afternoon program, auditorium, same building.
- 3:30 Tea, Room 14
- 4:00 Resume program until 5 P.M.
Exhibit, Room 11. Mounted birds, study skins, copy of first RAVEN, books, etc.
- 6:15 Annual dinner, Smith Memorial Banquet Hall, Randolph-Macon Woman's College. \$1.65 a plate. Business meeting.
- 8:00 Open meeting, Smith Memorial Banquet Hall, Dr. Maurice Brooks will speak on "The Appalachian Mountains as a Place for Bird Study".

Saturday, April 24

- 6:00 A.M. Breakfast, Town & Country Restaurant, about 2 miles north of city on US 29.
- 7:45 Field trip, Sweet Briar College. Box lunches will be obtained from Boxwood Inn, Sweet Briar.

Suggestions for overnight accommodations:

Virginian Hotel, Eighth and Church Streets:

Single, \$3.50 and up

Double, \$6.00 and up

Thomas Motor Lodge, three miles north of city on US 29

Single, \$6.00 Two double beds in each room

Double, \$8.00

Four, \$10.00

Ash's Brick Cottages, one mile west of city on US 460

Single, \$4.00

Double, \$5.00 and \$6.00

Harvey's Motel, south edge of city on US 29

Single, \$5.00

Double, \$8.00

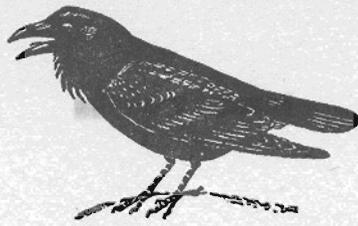
Notes:

Members planning to attend the meeting should secure their own overnight accommodations.

Reservations for the dinner and the picnic lunch must be made in advance. Returned cards will be mailed to all members for this purpose.

Lynchburg College is at the west end of town, Vernon Street off Langhorne Lane from Memorial Avenue.

-- Mrs. James W. Wiltshire, Jr., Dr. Florence Hague, Miss Gertrude Prior, Dr. Ruskin Freer, Planning Committee (with assistance of 18 local members of V.S.O.)



The Raven

BULLETIN OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

J. J. MURRAY, EDITOR
LEXINGTON, VA.

Vol. XXV

APRIL, 1954

No. 4

VIRGINIA SOCIETY OF ORNITHOLOGY

Twenty-fifth Anniversary



LYNCHBURG, VIRGINIA

APRIL 23, 24, 1954

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PROGRAM OF THE ANNIVERSARY MEETING

VIRGINIA SOCIETY OF ORNITHOLOGY
1929-1954

ACTIVE CHARTER MEMBERS

Bobbitt, Mrs. R.W., Keysville
 Burgess, Mrs. C.L., Lynchburg
 Carroll, Robert P., V.M.I., Lexington
 Daniel, Bertha, Naruna
 Davidson, W.M., Silver Springs, Md.
 Dize, Mrs. Joseph, Lynchburg
 English, A.O., Roanoke
 Freer, Ruskin S., Lynchburg
 Hague, Florence, Sweet Briar
 Handley, C.O., Charleston, W.Va.
 Henderson, Lena B., Lynchburg
 Lewis, Ivey F., Charlottesville
 Lewis, J.B., Broadnax
 Murray, J.J., Lexington
 Ragsdale, Mrs. Bracy A., Dewitt
 Wiltshire, Mrs. James W., Jr., Lynchburg

1954 EXECUTIVE COMMITTEE

Officers

| | |
|--------------------------|--------------------|
| President | D. Ralph Hostetter |
| Vice-President | Jack Perkins |
| Secretary | Florence Hague |
| Treasurer | C. C. Steirly |
| Past President | James W. Eike |

Committee Chairmen

| | |
|------------------------|------------------------|
| Membership | Mrs. Colgate W. Darden |
| Publicity | R. J. Watson |
| Conservation | W. F. Rountrey |

Members At Large

| 1954 | 1955 | 1956 |
|-------------------|----------------|------------------|
| Mrs. A.H. Michie | C.C. Steirly | A.O. English |
| Royster Lyle, Jr. | Paul G. Favour | R.S. Freer |
| Mrs. L.W. Machen | W.F. Rountrey | Chas. W. Stevens |

THE RAVEN

J. J. Murray, Editor

Gertrude Prior, Publisher

PROGRAM

Friday, April 23, 1954
Lynchburg College

9:30 A.M.

Executive Committee Meeting, Senior Parlor, Westover Hall,
Lynchburg College. The organization meeting was held in this
room December 7, 1929.

12:15 P.M.

Luncheon for Executive Committee, Westover Hall

1:00 Registration, Main Building, Lynchburg College

1:30 Afternoon Program, Auditorium, Main Building, Lynchburg
College, Dr. D. Ralph Hostetter, Presiding

1:35 Welcome Dr. Florence S. Hague

1:40 The Art of Bird Study Robert O. Paxton

1:50 Organizing a Christmas Count C. O. Handley, Sr.

2:00 The Contributions of the VSO to Virginia Ornithology
J. J. Murray

2:20 The Program of Work for VSO in Future Years
(Read by title) John H. Grey, Jr.

2:30 Panel: Activities and Progress of Bird Clubs and Chapters of
VSO in Virginia

Mrs. James W. Wiltshire, Jr., Moderator

Turkey Sag Club of Charlottesville Kenneth Lawless

Hampton Roads Bird Club Mrs. L. W. Machen

Cape Henry Bird Club Mrs. L. E. Burford

Northern Virginia Chapter James W. Eike

Roanoke Area A. O. English

Lynchburg Chapter Ruskin S. Freer

3:00-3:30

Tea, Room 14; Exhibits, Room 11

3:30 Conservation Round Table - W.F. Rountrey, Presiding

3:35 Research as a Basis for Conservation . . . Dr. Henry S. Mosby

3:55 Caution for Conservationists J. J. Shomon,
Editor, "Virginia Wild Life"

- 4:15 Protection of Hawks and Owls in Virginia . . W. F. Rountrey
- 4:30 Food Habits of Common Owls in Virginia . . . Jeck E. Perkins
- 5:00 Announcements and Adjournment

Friday Evening, April 23

- 6:15 Anniversary Dinner, Smith Memorial Hall, Randolph-Macon
Woman's College, Ruskin S. Freer, Presiding
- Presentation of Charter Members
- Acknowledgement of Members according to years of membership
- History of VSO Ruskin S. Freer
(Read by title)
- 8:00 P.M.
Address: The Appalachian Mountains as a Place for Bird Study,
Maurice Brooks, West Virginia University
- 9:15 Saturday Field Trip Plans - Gertrude Prior
- 9:20 Business Session

Saturday, April 24

- 6:00 A.M.
Breakfest, Town and Country Restaurant
2 Miles North of Lynchburg, U.S. Highway 29
- 7:45 Field Trip, Sweet Briar College
- 1:00 P.M.
Box Lunch at Sweet Briar Lake

TWENTY-FIFTH ANNIVERSARY MEETING OF THE V.S.O.

By Florence S. Hague

At 9:30 A.M. on April 23, 1954 the Executive Committee of the V.S.O. met in the Senior Parlor of Westover Hall, Lynchburg College with Dr. Hostetter presiding. With the exception of Mrs. Michie, Royster Lyle, Jr., and C.C. Steirly, all of the members of the Committee were present and also Fred Scott and W. Edwin Miller. Before the business of the morning began Professor Freer exhibited a brass plaque, a gift from the Lynchburg Chapter of the V.S.O., which is to be placed in that room. It bears the inscription: In this room the Virginia Society of Ornithology was founded December 7, 1929.

For the Conservation Committee Mr. Rountrey reported that at Stumpy Lake the making of the golf course is proceeding with care to keep the natural setting where possible and to plant trees and shrubs of varieties that will attract birds. He is hoping that, by cooperation with other organizations, there may be some legislation on bird conservation for the General Assembly of 1956. The report showed so much thought and progress that it was moved and carried that Mr. Rountrey be reappointed Chairman of the Committee and allowed to choose others whose help he desires.

Mr. Watson reported that the Washington Conservation group, in which he represents the V.S.O., so far is inactive but he is ready to respond when they call. He also presented a summary of the study on the formation of local chapters of the V.S.O. This report is on file; the recommended by-laws were accepted with the understanding that they were to be presented and voted on at the business meeting of the Society.

Dr. W.A. Pennington, a physician of Buckingham County and a past president of the Virginia Wildlife Federation, addressed the Executive Committee on the history and aims of that Federation. It was organized in 1950 and now has 3500 members scattered throughout the state. Some are individual members but most are affiliated groups such as County Wildlife Clubs and Sportsman's Clubs. Conservation and restoration of the natural resources of Virginia, both living and non-living, is the aim of the Federation. They are working with both Maryland and North Carolina on Fisheries projects and belong to the National Wildlife Federation. After expressions of hearty approval of and enthusiasm for their work but hesitancy of assuming the assessment of 25¢ per member with our present income, it was moved to table the question of affiliation until the October meeting of the Executive Committee. At that time the Conservation Committee will be expected to report on this matter.

It was suggested by Dr. Murray that the Secretary send a special report of this meeting to J.B. Lewis and Mrs. A.C. Reed both of whom have been active workers in the V.S.O. but are not able to be at this anniversary meeting. The names of Mrs. Mary Dice and Ralph Brown were subsequently added. Because of the Anniversary Year the Editor of THE RAVEN promises eight or nine numbers instead of the usual six, and more pages also.

There has been very little sale for the Check-List since October according to A.O. English. The sale thus far has brought in \$229.08 above expenses and there are still about 650 copies on hand. It was agreed that copies should be sent to the State Library for Bookmobiles and local libraries and to College Libraries; also that the price should be reduced to 50%. Local chapters of the V.S.O. were suggested as possible centers for additional sales of the Check-List.

Mrs. Darden reported a membership of 360, the net result of 27 new members and 6 resignations. However, 85 of these have not yet paid dues for 1954.

The Treasurer's report for November 15, when Mr. Miller passed the work on to Mr. Stairly, showed receipts of \$966.25; expenditures of \$377.54 and a balance of \$588.71. The Treasurer's report for April 20, 1954 is on file and appears in this issue of THE RAVEN.

Mr. Perkins brought with him Audubon Society Field Check lists for sale at 2¢ each to members for their use or for them to take to affiliated groups. After expression of sufficient interest in a Blue Ridge Foray several dates were suggested and June 18-19 were the days named. Having two Back Bay trips proved sufficiently advantageous in 1953 that a similar plan will be tried again.

The V.S.O. was again invited by Jack Perkins to meet in Norfolk in 1955. After a discussion as to whether the meeting should be in the winter or in the spring, it was voted to accept the invitation for the third week-end of April. Dr. Hostetter then appointed a Nominating Committee consisting of Mrs. Darden, Chairman, Mr. Eiko and Miss Haguo; and a Resolutions Committee consisting of Mrs. Machon, Chairman, Mr. Favour and C.E. Stevens. The Committee then adjourned for lunch at which they were guests of Professor and Mrs. Freer in a special College Dining Room in Westover Hall.

The afternoon session was called to order in the Auditorium of the Main Building of Lynchburg College about 1:30 P.M. by the president, Dr. Hostetter. The welcome by the Secretary mentioned the facts that of the 15 persons who attended the organization meeting in December of 1929, 9 are still members; of the 42 who paid dues in the early months of 1930 and were accordingly counted charter members, 16 are still on our rolls and their names are listed on the program.

The papers by Robert O. Paxton, C.O. Handley, Sr. and J.J. Murray are to be published in early issues of THE RAVEN. At the last minute Dr. Grey was unable to come and his paper was not read. The Panel on Activities and Progress of Bird Clubs and Chapters of the V.S.O. which was planned and moderated by Mrs. Wiltshire brought out the varied work of different groups. The Turkey Sag Club was started in 1949 by Dr. Grey and has one very active field worker, C.E. Stevens. It feels the need of teen-agers in its membership but has aroused widespread interest in birds and other animal life through bringing a series of Audubon Screen Tour Lectures to Charlottesville. The Hampton Roads Bird Club was organized in 1951 and has monthly meetings from September through June. There are many children among its 35 members. The Cape Henry Bird Club, an offspring of the Tidewater Natural History Council is only a year old and has many young members.

It has meetings regularly from November through March, the members presenting the programs. The Roanoke Area Club, organized in 1936, is less active now but has collected much information on its spring field trips. From a group of bird students of earlier days in Lynchburg, three were mentioned who have retained a very active interest in birds while pursuing professional studies in other fields. After a period of reduced activity, a High School boy is "spark-plugging" the rejuvenation of the Lynchburg Chapter.

At this point the presentation of papers was interrupted and all adjourned to the exhibit room where Mrs. Wake was serving delicious punch. The exhibits included the first issue of THE RAVEN, some recent books on birds, pamphlets on the value of hawks and owls, bird skins, mounted birds and a demonstration of bird banding.

The Conservation Round Table included papers by Mr. Shomon and Dr. Mosby which will appear in THE RAVEN. Mr. Rountrey explained that the present state laws concerning birds are too general. They refer to blackbirds instead of a particular species of blackbird and allow an open season on predatory or undesirable species without naming any species. The model law which has recently been adopted by several states allows any bird caught in the act of killing (as of poultry) to be killed rather than allowing the killing of that species in general. It is his hope, after educating the citizens on the value of hawks and owls as destroyers of rabbits and field mice and with the cooperation of other organizations in the state, to recommend the model law to the General Assembly. With the possible exception of the Great Horned Owl which frequently includes poultry in its diet, the value of owls in general in destroying rats, mice and rabbits was emphasized by Mr. Perkins. The film about hawks and owls did not arrive. After directions for finding Randolph-Macon Woman's College where the next events were scheduled, the meeting adjourned.

An autographed copy of the Check-List of the Birds of Virginia and a green Scare-Crow sheet beside each dinner plate along with place cards in the shape and color of male cardinals lent color to the tables and proved to be very interesting. About 80 members and friends enjoyed the dinner. The eight charter members in attendance were seated at the table with the officers and speaker of the evening. An important event that was not on the printed program was the presentation by Mr. Miller on behalf of the V.S.O. of an original copy of the rare first volume of Bent's LIFE HISTORIES OF NORTH AMERICAN BIRDS to Dr. Murray in appreciation of his invaluable work as Editor of THE RAVEN. The next hour passed very quickly as Dr. Brooks, with his pleasant, informal manner and fluent command of words, narrated some of the geological history and pictured the uniqueness of the fauna and flora of the Appalachian Mountains.

At the business meeting it was moved and voted to adopt the revised constitution as published in the November-December issue of THE RAVEN. Mr. Watson read the proposed By-Laws in regard to the affiliation of Local Clubs or Chapters and along with the By-Laws published with the constitution they were adopted as read. At a second brief business meeting held at the end of the field trip luncheon on Saturday the reports of the Nominating Resolutions Committee were heard. Mrs. Darden presented the following nominations: President, Jack Perkins; Vice-President, Paul Favour; Secretary,

Robert J. Watson; Treasurer, C.C. Steirly; for the Executive Committee, for one year to fill unexpired terms, Mr. Beaseley and Mr. Eike; for three years, Mrs. Machen, Dr. Grey and Mrs. Coleman. No nominations came from the floor in response to the call for such and the above named slate was unanimously elected.

Mrs. Machen read the following report: The Committee on Resolutions deeply appreciates the efforts of all who have made this silver anniversary meeting memorable. Our thanks to Professor and Mrs. Froer for the delightful luncheon for the Executive Committee on Friday, April 23; to Mr. Samuel Roller for the temporary emblem appearing on the program and for the place cards at the annual dinner; to Miss Laura Bliss and Miss Hester Hastings for managing registration; to Mr. M.B. Tilletson for the sketch on the dinner tickets; to John Withrow and Melvin Mitchell for the exhibits; to Mr. A.H. Fast and Bruce McCartney for the bird banding demonstration; to Mr. Wiltshire for his donation of the printed programs; to Miss Margaret Dowdy, Lynchburg College News Bureau for sending out 134 letters about the V.S.O. meeting; to Mrs. Wiltshire, Dr. Hague, Miss Prior and Professor Froer and their committee for arrangements for the V.S.O. meeting; to Dr. Murray for the Scare-Crow sheets at the dinner; to Mrs. Wills for the flowers at the dinner; to Mrs. R.B. Stephens and Mrs. Walter Wineman for floral arrangements at Lynchburg College.

Our further thanks to Lynchburg College for the use of their buildings for the Executive Committee, the afternoon program and the Tea on April 23 (it was peculiarly appropriate for the Executive Committee to meet in the very room where the V.S.O. was founded in 1929); to Randolph-Macon Woman's College for the use of their facilities for the dinner and the evening program; and to Sweet Briar College for the use of their grounds for the field trip and of their boathouse for the lunch; and finally to the Lynchburg Chapter for their donation of the plaque in honor of the founding of the V.S.O.

Mr. Perkins announced the reappointment of Dr. Murray as Editor of THE RAVEN and the Chairmen of the Conservation, Membership and Publicity Committees. Then in the early afternoon of Saturday, April 24, the 25th Anniversary Meeting of the V.S.O. adjourned.

-- Sweet Briar, Virginia

TREASURER'S REPORT

| | |
|--|------------|
| On hand and deposited in Bank of Waverly, November 7, 1953 | \$ 589.71 |
| Received from dues and gifts (through April 20, 1954) | 515.00 |
| TOTAL | \$ 1104.71 |

Expenditures:

| | |
|-----------------------------|----------|
| Envelopes and printing | \$ 19.32 |
| Letterheads for RAVEN | 91.05 |
| Postage (treasurer) | 21.00 |
| Check Lists N.A.S. | 9.25 |
| Dr. Murray's gift | 40.00 |
| RAVEN production (3 issues) | 164.28 |

\$ 344.90

\$1104.71
344.90

On hand in Bank of Waverly, April 21, 1954 \$ 759.81

-- C.C. Steirly, Treasurer

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THE 1954 V.S.O. FIELD TRIP

By Kenneth Lawless

The V.S.O. field trip associated with the annual spring meeting began for the eager parties about 4:30 A.M. with other parties starting at various later times, the majority getting out around 7:00 A.M.

The early hours were cloudy with slight fog, and this changed to broken clouds for most of the morning with warm sunshine. Although early in the morning it seemed to be a good day for the "grounding" of birds and thus better observation conditions for the observers, the later improving weather probably enabled the migrating species to move on, thus cutting down on the total number of individuals observed.

No tremendous flocks of warblers or other migrating birds were observed as often happens at this time of year, but small numbers of a fairly large number of individuals were observed. The greatest flocks (and these were small) of warblers appeared along the ridge above the lake on the Sweet Briar Campus. Myrtle Warblers were in general the most abundant transient warbler.

Two lakes, one of about 12 acres on the Sweet Briar Campus and a slightly larger one just off the campus, yielded a very disappointing list of water birds consisting of a Pied-billed Grebe, two Blue-winged Teal, a Wood Duck, a Green Heron, and several Spotted Sandpipers. A trip to the much larger Pedlar lake by one group added only the Osprey to this list of birds associated with water.

Nesting activity was apparent on all sides. The most interesting "finds" were a Pileated Woodpecker nest and several Yellow-throated Vireos and Blue-gray Gnatcatchers building nests.

The group did not break 100 on this trip but did come close with 98.

The list of individuals seen follows: Pied-billed Grebe; Green Heron; Blue-winged Teal; Wood Duck; Turkey Vulture; Black Vulture; Sharp-shinned Hawk; Cooper's Hawk; ~~Broad-winged Hawk~~ Red-tailed Hawk; Osprey; Sparrow Hawk; Bob-white; Killdeer; Spotted Sandpiper; Mourning Dove; Yellow-billed Cuckoo; Barred Owl; Whip-poor-will; Chimney Swift; Ruby-throated Hummingbird; Belted Kingfisher; Flicker; Pileated Woodpecker; Red-bellied Woodpecker; Red-headed Woodpecker; Hairy Woodpecker; Downy Woodpecker; Kingbird; Crested Flycatcher; Phoebe; Tree Swallow; Rough-winged Swallow; Barn Swallow; Blue Jay; Crow; Carolina Chickadee; Tufted Titmouse; White-breasted Nuthatch; House Wren; Bewick's Wren; Carolina Wren; Mockingbird; Catbird; Brown Thrasher; Robin; Wood Thrush; Hermit Thrush; Gray-cheeked Thrush; Bluebird; Blue-gray Gnatcatcher; Ruby-crowned Kinglet; Cedar Waxwing; Loggerhead Shrike; Starling; White-eyed Vireo; ~~Yellow-throated Vireo~~ Mountain Solitary Vireo; Red-eyed Vireo; Black-and-white Warbler; Parula Warbler; Yellow Warbler; Cape May Warbler; Myrtle Warbler; Black-throated Green Warbler; Cerulean Warbler (five of these seen); Yellow-throated Warbler; Pine Warbler; Prairie Warbler; Yellow Palm Warbler; Oven Bird; Louisiana Water-thrush; Yellow-throat; Yellow-breasted Chat; Hooded Warbler; Redstart; English Sparrow; Eastern Meadowlark; Red-wing; Baltimore Oriole; Purple Grackle; Cowbird; Scarlet Tanager; Summer Tanager; Cardinal; Rose-breasted Grosbeak; Pine Siskin; Goldfinch; Red-eyed Towhee; Savannah Sparrow; Grasshopper Sparrow; Vesper Sparrow; Slate-colored Junco (2); Chipping Sparrow; Field Sparrow; White-crowned Sparrow; White-throated Sparrow; Song Sparrow.

-- Charlottesville, Virginia

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THE ART OF BIRD STUDY

By Robert O. Paxton

With this annual meeting the Virginia Society of Ornithology has passed a very important milestone in its career: a silver anniversary. It occurs to me also that individual bird students pass milestones in their development in this hobby. "There is a point of transferal", Roger Tory Peterson wrote in Birds Over America, "that bridges the gap from the bird lister to the bird watcher." Peterson went on to describe one man, Joseph Hickey, who made the

transfer from a bored victim of "the lure of the list", as he calls it, to the author of the classic A Guide to Bird Watching. In that book Hickey himself compared the two kinds of bird study. On one side of this point of transferal, there is the "field card school of ornithology, which," says Hickey, "measures success in terms of the rarity, the first migrant, and the big list. At its best, it is a sport, testing the eye, the ear, and one's legs. At its worst, it is a mad rush to the next oasis, with birds ticked off on the run, and a great reliance placed on both gasoline and brakes." On the other side of this point of transferal is the art of bird watching. Says Hickey, "It is the art of discovering how birds live. Through it the naturalist can cross the frontier of knowledge and explore an unknown world."

On this twenty-fifth anniversary, it behooves us to ask, "Are we, as a group, listers or real bird students?" I feel sure that we are a healthy mixture. Tomorrow we are going on a listing spree, which many of us enjoy to the point of being dubbed "the lunatic fringe". Throughout the year, too, many V.S.O. members study birds seriously, adding to scientific ornithology - some by profession, some by avocation. There is room for a great deal more.

Just what is so desirable about passing that point of transferal, becoming a bird student who enjoys an occasional listing spree rather than just a lister? The simplest answer is, it is more fun. Many a person who has grown stale with a simple interest in the out-of-doors has seen new horizons in serious bird study. In the spring of 1984, a rather unambitious bank clerk with a mild liking for the out-of-doors, named Frank M. Chapman, was awakened by one experience with a cooperative project. "I read a notice," Dr. Chapman wrote later in his autobiography, "big with import for me, calling for volunteers to observe and report upon the migration of birds... This step determined my future... Between March and May I went through the motions of a bank clerk, but for the whole period I lived, thought and dreamed the life of a bird student." Plugging away almost around the clock, he lost a lot of weight. In the process he caught the disease of serious bird study, which, as Joseph Hickey explains, is a "sort of paralysis of the central nervous system which can be cured only by rising at dawn and sitting in a bog".

There is another reason for passing this "point of transferal". The ornithologist, unlike the chemist, has all nature for a laboratory. Except for the very few genuine controlled experiments which have been devised in biology, the ornithologists depends for data upon the notes of amateurs like you and me.

"Bird watching," Joseph Hickey went on to say, "embraces the individual enterprise on one hand, collective effort on the other." It is marked by "a ready exchange of experience". If the individual effort half of bird study is to have any significance, it must be communicable to others. Effective notes are the foundation of serious bird study. The essential qualities of good notes are completeness and absolute accuracy, of course; but just as vital, some system of order which will make the notes intelligible and valuable to others. Most material is best arranged with one page or one card allotted to each species or sub-species. Entries are made according to date and subject matter. In this way, a life history is compiled for each species. Notes kept in diary form show the ebb and flow of the seasons, but allow no work on individual species.

Now the second half of serious bird study; collective effort. There are now open for V.S.O. members a number of cooperative enterprises which not only give bird study conscious direction and broader horizons, but also help make this group a potent influence in a growing science of ornithology.

The old standby among cooperative enterprises in serious bird study is the Christmas Bird Count. In these past twenty-five years, 263 Christmas Bird Counts have been taken and published in Virginia, quadrupling from 6 in 1929 to 24 in 1953. This is a project which gratifies both the listing and the studying instincts. The real significance of the counts appear only after the same area has been covered a sufficient number of times for the chance factor to have been largely cancelled out.

Winter population studies are more intensive - and hence, more valuable - projects. A specific territory is selected, preferably of a homogeneous ecological type, and population figures are arrived at after many trips to the area. These are published along with a description of the habitat. Studies of this type have been made in recent years at Charlottesville.

A similar operation is involved in a Breeding Bird Census. Again a specific territory is selected, preferably of a well-defined ecological type, and the territories of breeding birds mapped out in it. Valuable information appears on the density of particular species (how many ovenbirds nest per hundred acres of a given type of forest?), on the density of total bird population in certain types of habitat (are there fewer birds in grazed woodlands than in ungrazed?), or on the relation between habitat and species. A model breeding bird census has been Wendell Smith's study in Vermont of a forest area damaged in the hurricane of 1939. In 15 years the habitat has changed, and with it, the bird life. In Virginia, to my knowledge, breeding bird censuses have been taken and published only at Lexington, Appomattox County, and Norfolk.

Every fall, hawk watchers take stations on peaks throughout the Middle Atlantic States. A date is set each year by Chandler S. Robbins, at the Patuxent Research Refuge, usually about the middle of September. Counts are made from 9 a.m. to 5 p.m., with tabulations along with weather data every half hour. On September 17, 1949, Mr. and Mrs. Max Carpenter ticked off 636 hawks from the top of Reddish Knob, near Harrisonburg.

A cooperative study of migration dates in comparison with weather is now being carried out at Patuxent. A list of birds included in this study, along with instructions for participating, appeared in the current RAVEN.

One project to which many members of the V.S.O. are now contributing is the quarterly national survey of the season, published in Audubon Field Notes. Those living east of the Blue Ridge should send data to Dr. Murray, 6 White Street, Lexington, Virginia; those living west of the Blue Ridge to Dr. Maurice Brooks, Division of Forestry, West Virginia University, Morgantown, West Virginia. Seasonal summaries are due on April 1, June 1, August 15, and December 1. A valuable addition to THE RAVEN has been the Virginia Seasonal Reports drawn up by Fred Scott. These, of course can be no better than the material sent in.

Bird banding is a cooperative enterprise of which everyone has at least a vague impression. Aside from some intermittent banding of shore bird colonies by V.S.O. members, most of the banding in Virginia is done at Back Bay and By Mr. A.H. Fast and Mrs. M.B. Peacock at Arlington.

I believe the most exotic cooperative project of all is lunar migratory study. Do birds fly across the Gulf of Mexico each spring, or do they work their way up the isthmus to Texas? The states of Texas and Louisiana have had a running feud on the matter. Then in 1946 George H. Lowery, Jr., Curator of the LSU Museum of Zoology, set out observers to scan the moon with a low-powered telescope and to note the direction of each passing bird. A math professor at LSU was able to translate these directions into compass courses, with the aid of sines, cosines, and tangents. After this project got started, it appeared that the students manning their telescopes were doing more than merely settling the difference between Texas and Louisiana. When do birds travel? Do they move in groups? How high do they fly? How many pass through over one area on any one night? Such questions could be given concrete answers with the help of a telescope, some people who would rather watch birds, even crossing the moon, than sleep, and a math professor. By 1948, 29 posts were established throughout the East. None of this work has been done in Virginia, as far as I know.

These few cooperative enterprises are just a sample of those open to members of the V.S.O. Many people could dream up their own projects. Not only can V.S.O. members get a lot out of such projects; the V.S.O. can enter its second quarter-century stronger and more useful for its members who have passed that "point of transferal".

-- Lexington, Virginia

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THE CONTRIBUTION OF THE V.S.O. TO VIRGINIA ORNITHOLOGY

By J.J. Murray

Pre-VSO ornithology in Virginia was an individual matter, with the individuals few and far between. To be sure, there had always been an active group of professional workers around Washington, few of whom lived on our side of the river and others of whom had been doing field work and collecting in our state. Their activities, however, were centered in the Capital City. There was also a rather active Audubon Society in Alexandria, under the leadership of Miss Katharine Stuart. Apart from these, only two or three people in the state were making any serious effort at bird study in 1929.

When Professor Freer sent out his letter in October, 1929, suggesting a state organization he had before him the names of about 65 people, many of them in the Alexandria organization, who were said to have some interest in birds. From these prospects he had replies from 35 people, 18 of whom were present at the organization meeting in Lynchburg. Few of these 18 people had had much field experience, but all of them wanted to begin.

At this first meeting it was agreed that the two primary purposes of the V.S.O. would be, first, "to draw together the bird students of the state into a group where they may know and help one another"; and, second,

"to gather and assemble data on the birds of Virginia... and thus to lay the foundation for the preparation of a revised catalogue of the birds of Virginia". Although all of us were strictly amateur in status, it was decided even at the beginning that our aims would be chiefly scientific. While a welcome was extended to anyone interested in birds, no matter how slight his knowledge, we were not concerned so much with numbers as with thoroughness of work.

During the 25 years of our existence that program has been adhered to. All have been welcome; the effort has been made to provide a pleasant fellowship; but the program of the society has been set on the plane of study. In the first issue of THE RAVEN, in January, 1930, the kind of information desired was outlined. The February issue repeated the statement that "the primary object of the Society and of 'The Raven' is to provide a medium for the exchange of field notes and for the compiling of data on Virginia birds". It was made clear that for our purposes a report on the status through the year in any locality of a common bird, such as the Cardinal, was of much more value than the record of the isolated occurrence of some rare species. This issue also contained the statement that it was probable that, leaving out the section just around Washington, less ornithological work had been done in Virginia than in any other Atlantic Coast state, with the exception of Georgia. Following the work that has been in these 25 years, it may now be said that there are few Southern states which have a more accurate ornithological picture than Virginia.

It may be pointed out that at the time of the organization of the V.S.O. only two Southern states were publishing state journals: Florida, with THE FLORIDA NATURALIST, and Kentucky, with THE KENTUCKY WARBLER. THE MIGRANT began publication in Tennessee in the same year as THE RAVEN. It may also be said that our society had a very definite influence on the organization of the North Carolina Bird Club, which has since grown into the Carolina Bird Club, and possibly also on the other state groups.

During this period the material in THE RAVEN has totalled about 2000 mimeographed pages, or enough to make some ten ordinary books of 300 printed pages.

The first result of the field work of V.S.O. members was the publication in our second year, in February, 1939, of "A Consolidated List of the Birds of Nine Local Regions of Virginia". The nine places were the Hampton Roads area, King William County, Amelia County, Brunswick County, Charlottesville, the Lynchburg area, Rockbridge County, Montgomery County, and the Bristol area. That preliminary list covered 279 birds, 14 of which had not been listed by Rives. This became the basis for our future field work. Additions to and changes in this list were published from time to time. Another early result was the publication in THE AUK, in April, 1933, of a paper, "Additions to the Virginia Avifauna Since 1890". This paper briefly brought up to date the Virginia part of the list in Rives' book, "A Catalogue of the Birds of the Virginias". His list was extended to 353 species and subspecies.

During these years attention has been called, both in THE RAVEN and at the annual meetings of the Society, to the gaps in our knowledge. The places which need special study and the type of problems which should engage our attention have been pointed out.

It is interesting to note the number of areas in the state which have been studied with some care. Long and detailed annotated lists, based in most cases on a minimum of five years study, have been published in THE RAVEN from the following places: Cape Henry Region (John H. Grey, July-August and September-October, 1950); Richmond (F.R. Scott, September-October and November-December, 1951); Albemarle County (John H. Grey and C.E. Stevens, Jr., November-December, 1949); Amelia and Brunswick Counties (John B. Lewis, September, 1938); Chatham (Eleanor Herrick, September-October, 1937); Pittsylvania County (Robert B. Eggleston and Royster Lyle, Jr., May-June, 1952); Rockbridge County (J.J. Murray, July and August, 1944). Included here should be briefer papers, bringing up to date papers published elsewhere: Lynchburg area (R.S. Freer, August-September, 1941); Montgomery County (C.O. Handley, Sr. and Jr., January, 1937, March-April, 1940, January, 1946; J.W. Murray and R.J. Watson, July-August, 1949).

In addition we have had extensive papers, based on shorter periods of work and particularly during the breeding season, for many other places: Stumpy Lake, Norfolk (Mrs. A.C. Reed, February-March, 1941; W.F. Rountrey, February-March, 1954); Cobb Island (J.J. Murray, June, 1937; Maurice Brooks, January-February, 1940; Alexander Sprunt, October, 1940; as well as many good accounts of one day trips); Dismal Swamp (J.J. Murray, June, 1932, March-April, 1948; C.E. Stevens, Jr., July-August, 1946); Chesterfield County (W.R. DeGarmo, April-May, 1938); Camp Lee, Petersburg (A.L. Nelson and Ray Greenfield, November-December, 1936); Prince William County (James Baird, September-October, 1952); Appomattox County (Morton Marshall, September-October, 1945); Camp Rapidan, Madison County (James R. Sydnor and William B. Ward, April-May, 1941; Sydnor, June-July, 1942); Fairy Stone State Park (J.J. Murray, July, 1941); Front Royal (J.W. Taylor, March-April, 1953); Fort Valley, Shenandoah County (C.O. Handley, Jr., November-December, 1945); Apple Orchard Mountain (R.S. Freer, May-June, 1936); Highland County (Maurice Brooks, November-December, 1935; J.J. Murray, August, 1938, June-July, 1939; Minor, Scott, and Stevens, September-October, 1948); Mountain Lake (Robert P. Carroll and D.R. Hostetter, October-November, 1933; Hostetter, July-August, 1937, January-February, 1945); Burke's Garden, Tazewell County (J.J. Murray, July, 1940); Rocky Knob District, Blue Ridge Parkway (William Lord, March-April, 1949); White Top Mountain (J.J. Murray, September-October, 1935, May-June, 1936); Mt. Rogers, (J.J. Murray, July, 1937; Minor, Scott and Stevens, September-October, 1948)

It will be seen that these papers fairly well plot the map of Virginia. At the same time, it should be pointed out that there are two important areas in which our data is still far from complete: the lower Shenandoah Valley, around Winchester; and the wider valley floors in extreme Southwest Virginia.

The third year of THE RAVEN saw the first papers on nesting birds, beginning with one by F.M. Jones on "The Nesting of the Sycamore Warbler in Southwest Virginia" (February-March, 1932). Later papers discussed the Red-tailed Hawk (F.M. Jones, May 1932; J.J. Murray, July-August, 1943); Broad-winged Hawk (F.M. Jones, July, 1932); Cooper's Hawk (F.M. Jones, June, 1932); Great Horned Owl (J.B. Lewis, April-May, 1933); Kingfisher (J.B. Lewis, September-October, 1936); Pileated Woodpecker (J.B. Lewis, June, 1934); Prairie Horned Lark (J.B. Lewis, April-May, 1937); Blue Jay (J.J. Murray, January, 1938); Raven (Jacob H. Hostetter, November-December, 1936; J.J. Murray, July-August, 1949). More extensive life history papers were published on the

Hummingbird (Mrs. A.C. Reed, September, 1942); Brown-headed Nuthatch (Floy Barefield, September-October, 1943); and a Master's Thesis for Cornell University on "The Life History of the Brown Thrasher", by Edna Becker of Hollins College (June, 1941). We need more papers in the life history field.

Among special studies that have appeared in THE RAVEN are the following: on the distribution of shrikes (C.E. Addy and C.O. Handley, Sr., July, 1940); on faunal zones in Virginia (J.J. Murray, January, 1939, March-April, 1945, September-October, 1946; R.J. Watson, September-October, 1948; Richard L. Hoffman, May-June, 1950); on the range of the Black Vulture (J.J. Murray, November-December, 1937); on the relation of lumbering to bird distributions (C.C. Steirly, July-August, 1953); a topographic study of Virginia ornithology (J.J. Murray, May-June, 1940); the plotting of the Evening Grosbeak invasion in 1951-52 (Robert O. Paxton, July-August, 1952); and an analysis of the Christmas Counts during the work of the V.S.O. (John H. Grey, January, 1954);

In population studies we have not done much, possibly because of the drudgery involved in this kind of work and the amount of time which it requires. There have been very few breeding bird censuses in Virginia. A series of eight (1944-1951) by the writer and of two (1947, 1948) by Robert Paxton at Lexington, one by Mrs. A.C. Reed at the Wildflower Sanctuary at Norfolk, and three (1942-1944) by Morton Marshall at Pamplin, Appomattox County, seem to be the total. The only winter bird population studies have been those by C.E. Stevens, Jr. at Charlottesville, from 1948 to 1952. We need more censuses of both kinds in many different kinds of habitat. We need also intensive cooperative studies of small areas during the breeding season, such as those made by the Brooks Bird Club of West Virginia on its annual forays.

It may be said that the V.S.O. program was the inspiration of the only Doctor's degree in ornithology ever given by a Virginia institution. This degree was awarded by the University of Virginia to Dr. D. Ralph Hostetter for his work on the life history of the Carolina Junco at Mountain Lake.

The climax of our field work to date has been the publication of the book, "A Check-List of the Birds of Virginia" in 1952. Unpretentious in form, it nevertheless contains a good deal of information and gives a reasonably complete survey of the status in Virginia of some 412 birds.

No doubt the most important thing that the V.S.O. has done for Virginia ornithology has been the development of a good group of younger bird students. During these years not a few of them have become competent field workers. Some of them indeed are already being pushed along into an older class by the new crop that is rapidly coming to the front. We can feel, with the training of these younger and more energetic men and women, that the future of our Society and of Virginia ornithology is secure.

-- Lexington, Virginia

SUGGESTIONS FOR FUTURE PROGRAM OF WORK FOR THE V. S. O.

By John H. Grey, Jr.

One simple sentence may summarize my suggestions. To stimulate our members to study birds. If such a statement sounds trite then let us recall three facts which may indicate that if we are studying birds, we must be hiding our light under the proverbial bushel.

1. Virginia sent no report to the Fish and Wildlife Service to help in their cooperative study of the arrival dates of birds. Reports came from 47 states and provinces, with Virginia among the three states which did not report.

2. THE RAVEN for 1953 was an excellent volume. Thirty people wrote the whole of it - some 10% of our membership - and only seven sent in more than one contribution. Nearly half the material was furnished by Murray and Scott, and had it not been for the material of these two hard workers, there would have been scant information in a slender volume.

3. The official bird group of the U.S.A. is the American Ornithologist Union, with its magazine the AUK. Most people who are really interested in studying birds belong, not only to learn, but also to add their support to the authoritative work which the Union does. The October 1953 issue of the AUK lists all those affiliated with the Union. I did not count every page, but I did check the first 1,200 names, and among these are only ten members of the V.S.O., and ten others from Virginia around Washington. Not very hearty support for a strong club like ours that has been established a quarter of a century.

Now, let's take a look at some of the things we might do to stimulate our members to study birds; understanding that in this case "to study" means three things - to observe, to record, and to report. Some of these ideas may need official sanction of the Executive Committee, but there are others which anyone may lay hold of and work on. In other words, here are some things you and I may do, together and separately.

I. Establish More Local Clubs. We already have some strong clubs such as Turkey Sag at Charlottesville; the Hampton Roads of Newport News and Hampton; and the Natural History Society of Norfolk. None of these are groups of specialists, nor have any of them been established very long. However, each is furnishing a good deal of leadership for the V.S.O., is doing a good job of enlisting the interest of new people, and is training a large group of observers in the study of birds. We need a lot more such groups. A club need not be large, for one of the best I ever knew was the Midlothian of Edinburgh, with only six members - young men in their early years who together ran a banding station.

Also, each club ought to have some simple field problem to work on. For instance, any group could take a piece of land that is being developed as a housing area, and study the changes in bird life, as farmland gives way to suburban. Meadowlarks might disappear, and Mockingbirds come in; and in every section of our state there would be some difference in the species and numbers which take over. Any amateur could add to our knowledge of bird life in Virginia through such study.

II. Intensive Work in Certain Areas: It is amazing that after 25 years there are still large sections of Virginia from which we have little data. For instance, the southwestern corner from Radford west has been touched but lightly; the Northern Neck has been overlooked; the territory around Winchester deserves lots of investigation. Eastern Shore was worked for nesting birds on the outer islands, but no one knows just what land birds are there, although Scott is now working on that area and persuading a few others to help him out. Buggs Island Dam would be a fascinating study as the lake shore changes in vegetation and the waterfowl find more food in the lake. Southside Virginia has had little work done on it and Steirly has recently undertaken to make a study of some parts of it. James River Peninsula is being worked by Beasley and others of the Hampton Roads Club. Rountrey and Burford are adding a great deal to our knowledge of bird life around Norfolk; and Perkins has a thorough knowledge of the birds of Back Bay. There are many other areas which invite just as careful a study, and which might prove equally interesting.

III. Life History Studies: We are proud of the work already done on the Carolina Junco; the Brown-headed Nuthatch; and the Brown Thrasher. There are several other birds which need to be studied in Virginia, or to the south of us, as we are close to the northern limit of their range. The Mockingbird, which we take for granted, gets scarce above Washington; likewise the Carolina Wren, Summer Tanager, Blue Grosbeak, Black Vulture, Chuck-will's-Widow, Prothonotary Warbler, and Swainson's Warbler.

Morton Marshall, who lived at Pamplin, began work on the Carolina Wren, and because he could walk limited distances chose a pair in his back yard. One of his greatest thrills was recording the variations in the song of that male bird - in fact he told me he had observed 25 differences in the song, and he was sure there were others he had missed. Some people think of life studies as done only in graduate research for a degree - but here was a chap who did it just for fun, and found it rewarding.

IV. A Foray: The Brooks Bird Club of West Virginia has popularized this method of bird study by getting the members to spend a week together at some camp in June, and make a thorough study of the bird life in the community. Anyone may come who is willing to work in the field. This might offer our best way to stimulate many members to study birds, for it would mean that each one would learn a great deal, and some would have to dig out their field manuals and identify birds for themselves, rather than depend merely upon some leader to tell them what they were seeing. The only way to learn birds is to look at them, and you learn best when you are forced to do your own observing and make your own records.

A natural place to begin such a Foray would be the Parkway. Shelter and food could be made available, and it would be easy to spend our time in the field without the problems of cooking and what to do with dirty dishes. Then we ought to move out to other places - Middle Mountain in Highland County, Mt. Rogers, Eastern Shore, or any of a dozen other interesting spots.

If we undertake such a gathering there should be some limit on numbers - at least to begin with, on the theory that groups in the field would not be more than four to six, and that each would have a competent leader.

Then there should be a somewhat larger group of those who are as yet inexperienced in field work, and wish to learn. As a person became proficient they would naturally graduate to a smaller group that would be assigned a special area.

V. Regional Field Trips: The annual trips we now take are well attended, and I believe they indicate how many people really want to learn how to study birds. The increase in the number of trips we take is encouraging - Back Bay, Cobb Island, Hog Island, Christmas Count - but we need a great many more. The Audubon Society of the District of Columbia has a trip nearly every week, or a lecture of some kind. We could not equal this just now, but it ought not to be hard to schedule one a month. I should think that the area to the east of Richmond could arrange a trip a month without too much trouble. A second grouping might be the Piedmont; or this could be divided between Lynchburg and Charlottesville and the Valley folk could be worked into these. The Valley itself offers so many interesting trips that one a month might not be enough. The purpose of such trips would be not only to learn all we could about the bird life of the vicinity, but also to stimulate people into using their eyes and notebooks so that they would know how to get the most out of a trip and thus add to the pleasure in living.

In addition to regional trips we need to encourage local groups to plan regular trips to nearby points that offer good bird study. Many a novice goes along on these and gets interested enough to go it alone with glasses and field manual to learn for himself. In migration a local group ought to get into the field once a week for at least a couple of hours, for there is hardly a trip that does not add to our knowledge of the birds.

One of the most interesting trips a local group can take is a May Count - similar to a Christmas Count, but with excellent chances of breaking 100 species and thousands of individuals. Also, a local club might well have a contest to see who sees the most species of birds in a year. The Massachusetts Audubon Society does this every year with astonishing results.

VI. More Help for the Editor: I never understood how Murray gets all the work done that he turns out, and how he keeps it up to such excellent quality. THE RAVEN has been a source of pride to all of us. It just is not fair to leave as much of the burden to the Editor, or to have him be forced to prod people as hard as he has to prod me to get an article.

I would suggest an editorial board of a few people who were willing to work hard on certain assignments. Such a group might map out a series of articles that should be written, and then ask individuals to write them - keeping the request alive till the article was in print. Also, there might be regular departments - The Seasons, Field Notes, Christmas Count, Field Trips, Special Projects of Study, News of Local Clubs, and the like. Such a board might distribute the load of the Editor without lessening the quality of the material.

What we need to do is for each of us to feel the V.S.O. is our personal responsibility, and to take hold of the phase of bird study which most appeals to us. Then - observe, record, and report what you have done.

-- Williamsburg, Virginia

CAUTION FOR CONSERVATIONISTS

By J. J. Shomon

Chief, Education Division and Editor, Virginia Wildlife
Commission of Game and Inland Fisheries

Lest there be some chance that the title be misunderstood may I say that the topic assigned to me is the status of the rare and threatened and persecuted forms of wildlife in America. It is a big assignment and I feel a certain inadequacy to the task. But if you will bear with me I shall attempt to give you a short resume of the status of critical wildlife in North America as best as I've been able to ascertain the facts.

Extinct Species

Since George Washington's day, or more specifically since 1768, a regrettable 15 species or subspecies of American birdlife have become extinct on the North American continent. To this list we can add 5 species of mammals, with possibly several other subspecies, and one species of fish. There may have been other subspecies to pass out of the picture which we don't know about or which failed to be recognized before taxonomists began seriously classifying plant and animal life. I particularly refer to the Townsend bunting and the sea mink, about which there has been considerable question in the past.

According to the latest information I have been able to obtain, 15 species of birdlife have recently disappeared in America. They may be listed as follows, with probable date of extinction:

| | | | |
|------------------------|---------|-------------------------|--------|
| Guadeloupe macaw | Unknown | Guadeloupe caracara | 1900 |
| Louisiana parouquet | Unknown | Carolina parouquet | 1904 |
| Gosse macaw | 1800 | Black-capped petrel | 1912 |
| Townsend bunting | 1852 | Passenger pigeon | 1914 |
| Pallas cormorant | 1852 | Heath hen | 1931 |
| Great auk | 1853 | Eskimo curlew | 1930 |
| Cuban tricolored macaw | 1864 | Ivory-billed woodpecker | Recent |
| Labrador duck | 1878 | | |

Time does not allow me to go into the details of the causes of decline of the above species, since extinction factors are complex, obscure. Suffice it to say that natural extinction of a species is the rule in nature, just as biologic death of a single individual follows a basic natural law. Plant and animal forms have arisen and fallen in the geologic past, a number leaving no trace whatever of their existence, some living to evolve into other forms, still others to exist as remnants to carry on the spark of life. We do know that some forms just naturally disappear. In recent times the inroads of settlement and such things as pursuit of fur and plumage and eggs have had serious effects on the status of the rarer forms of wild life. Excessive hunting for sport and trophies and even wanton destruction has certainly helped deepen the path of oblivion for many species.

Rare and Threatened North American Birdlife

Now for a look at our disappearing birds. According to the latest reports available, the following species of American birds can be classed as rare or threatened in America:

| | |
|--|----------------------------|
| Ivory-billed woodpecker (Probably extinct) | Mexican black hawk |
| Whooping crane | Red-bellied hawk |
| Laysan teal | Sennett white-tailed hawk |
| California condor | Short-tailed hawk |
| Everglades kite | Sage hen |
| Hawaiian goose | Great white heron |
| Trumpeter swan | Mississippi kite |
| Greater sandhill crane | Swallow-tailed kite |
| Attwater's prairie chicken | White-tailed kite |
| Ross goose | Florida burrowing owl |
| Masked bobwhite | White-crowned pigeon |
| White-winged dove | Cape Sable seaside sparrow |
| Aplomado falcon | Aleutian tern |
| Peregrine falcon | Roseate tern |
| Harris hawk | Kirtland warbler |
| | Sutton warbler |

As you can see, the above is a large and tragic compilation of disappearing birdlife. I wish a short resume of each were possible but time does not permit it. A few of the more critical wildlife forms, however, deserve a short treatment.

Ivory-billed Woodpecker. This magnificent woodpecker has just about disappeared from the country. The National Audubon Society says the ivory-billed is "now probably extinct" and that the society has closed its sanctuary in northwestern Florida. I have not been able to know of any recent records of ivory-bills anywhere in the south with the possible exception of northeastern Louisiana, where two female specimens were reported seen by Roger Tory Peterson, the eminent ornithologist, in 1942. One ivory-bill was seen in this same Singer Tract as late as December 1946.

Whooping Crane. This bird is now generally conceded to be the rarest North American bird. Birds are now in migration. A year ago the population at the Aransas Refuge in Texas was listed as 21. Twenty-four of the birds returned to their wintering grounds in Texas last fall, an increase of 3 birds. There are also 2 individuals in the New Orleans Audubon Park Zoo. The dramatic story of saving these rare birds is well known to this group so I will not go into the whooping crane story.

Laysan Teal. This bird is reported as occurring on Laysan Island of the Pacific Ocean, and, according to the Fish and Wildlife Service, its numbers are down to a critical low figure, perhaps less than 50 birds.

California Condor. The next rarest bird is the California condor, of which about 60 birds still remain. Dr. Clarence Cottam, Assistant Director of the U.S. Fish and Wildlife Service, says that the population of condors has been held at about 60 birds for a number of years. It is a senescent race with low reproduction, the birds being subject to many ailments which do not befall the more vigorous species. Their nesting grounds are largely in the Los Padres National Forest in the High Sierras of California.

Everglades Kite. This bird is now restricted to about 60 individuals in the Lake Okeechobee area of Florida. The Fish and Wildlife Service is hopeful that the development of their Loxahatchee Refuge southeast of Lake Okeechobee will favor the return of this unique hawk. The bird is restricted in its food habits and lives largely upon a single species of mollusk which is found in this area.

Hawaiian Goose. This is another very rare form of waterfowl. It is flightless and it is critically low in population. Fortunately, however, a few birds were taken to England recently and there they seem to be doing well in captivity and are breeding.

Trumpeter Swan. According to the Audubon Society the number of this species has been increasing in recent years. In 1935 when the Fish and Wildlife Service acquired the Red Rock Lakes Migratory Waterfowl Refuge in Montana there were only 73 trumpeters left in the United States. Since that time information has disclosed that there was a fair population in northern British Columbia and southern Alaska. Through conservation and protection the trumpeters have come back until now the population is listed at 577. The U.S. Fish and Wildlife Service is transplanting young trumpeters to a number of other refuges where they formerly occurred as breeding birds, and there is hope of an increase.

Greater Sandhill Crane. Largely restricted in its nesting habits to the large wildlife refuges in the west, this crane is at a very low ebb. The larger sandhill crane is endangered because it is associated with the lesser sandhill crane, which is abundant and sometimes causes crop damage.

Attwater's Prairie Chicken. This is another threatened species. Valgone Lehmann in his North American Fauna 57 lists the birds as being reduced to a few thousand. He points out that their future is entirely dependent upon land practices in the Texas area.

Ross Goose. Information reported to me is that the species is hovering somewhere in the neighborhood of 2400 birds. Though fully protected, they are seen with their larger cousins, the lesser snow goose, and a few are killed each year. They are said to nest in the Perry River region where it nears the Arctic Coast.

Though I have not listed the American Bald Eagle as critical, it is generally conceded that this fine American bird is also slowly disappearing. Myrtle Broley in her book "Eagle Man" says that the birds have seriously declined in recent years and that the bald eagle is now in a bad way. Her husband, Charles Broley, who has banded over 1000 eagles, believes the U.S. population is down to 1500 nesting pairs. The main remaining concentrations are in Florida and the Chesapeake Bay area.

Extinct North American Mammals

As reported earlier, 5 species of American mammals have disappeared from North America since 1768. Since all wildlife is related I believe they should be mentioned here. They are as follows:

| | | | |
|--------------------|------|----------------|------|
| Steller sea crow | 1768 | Arizona elk | 1901 |
| Sea mink | 1860 | Dawson caribou | 1908 |
| California grizzly | 1900 | | |

Rare and Threatened North American Mammals

A number of mammals have been reduced generally throughout their range and only remnants remain. A list of those endangered is as follows:

| | |
|----------------------|-----------------------|
| Teton grizzly bear | Plains wolf |
| Plains grizzly bear | Cougar |
| Merriam elk | Guadalupe fur seal |
| Texas mountain sheep | Nelson walrus |
| Glacier bear | Atlantic walrus |
| Fisher | Sierra mountain sheep |
| Black-footed ferret | Nelson mountain sheep |
| Wolverine | Florida manatee |
| Sea otter | Carolina beaver |
| Desert fox | Elephant seal |
| Kit fox | West Indian seal |
| Woodland caribou | |

May I point out again that this list may not be complete, and, that there is not full agreement among mammalogists and zoologists and biologists as to the status of these species. For example, one conservation group classes the Eastern fox squirrel as rare and threatened, yet the animal is fairly plentiful over certain sections of its range as to question this. There is not complete agreement on the exact status of the cougar because it is such a persecuted species. The marten too is a beautiful furbearer which is apparently in critical balance.

The important thing to remember is that during comparatively recent times a perfectly amazing number of species of American wildlife has been extinguished or is nearing extinction in North America. It is time for conservation groups to take stock of the situation and do something drastic about it. An action program of protection and education is needed.

In passing, may I offer a few suggestions as to what conservation groups can do to help safeguard our priceless American wildlife heritage.

There are two things that man can do: provide the necessary protection for the existing threatened species by reducing, in a practical way, all destructive factors. This means safeguarding the right quality and quantity of food and cover for a species and reducing to a minimum the decimating factors such as wanton destruction, illegal gunning, fire, floods, overgrazing, excessive lumbering, etc. Secondly, we must have a resurgent crusade for conservation in America, directed at both young and old, so that all persons will have a better and a greater respect for all living things. This means mass education toward the conservation concept as a way of life.

Education and protection, the two greatest bulwarks we have for the safeguarding of our remaining critical wildlife, must be strengthened. This demands an action program. Every conservation group should begin immediately - if it has not already done so - a program of action aimed at the long-range conservation and restoration of critical species in its area. A real challenge faces the Virginia Society of Ornithology, just as it faces other conservation groups in the state, in the nation. The Virginia Society of Ornithology is in an enviable position in Virginia to lead the conservation battle for birdlife. Will the challenge be accepted or go unanswered? I leave that question before you this afternoon.

REVISED CONSTITUTION AND NEW BY-LAWS ADOPTED BY THE V.S.O.

At the business meeting of the V.S.O. held on April 23 the revised constitution was adopted as printed in the November-December, 1953, issue of THE RAVEN.

The following new by-laws governing affiliation of local clubs with the V.S.O. were also adopted:

5. Any group of six or more persons may organize a local group and apply for affiliation as a chapter of the Virginia Society of Ornithology. All applications shall be subject to the approval of the Executive Committee of the V.S.O. Any group which has had its application accepted shall remain a chapter in good standing so long as it complies with the requirements of the by-laws.
6. Each chapter shall pay annual dues to the Virginia Society of Ornithology, payable on January 1. The amount of the dues shall be determined by the number of members of the chapter as of January 1. A chapter consisting of 6 to 15 members shall pay dues of \$5.00 per year; 16 to 25 members, \$7.50; over 25 members, \$10.00.
7. Each chapter shall be entitled to receive one or more subscriptions to THE RAVEN as follows: a chapter consisting of 6 to 15 members shall receive one subscription; 16 to 25 members, two subscriptions; and more than 25 members, three subscriptions. Advance notice of all VSO activities, such as meetings, field trips, and the like, shall be sent to each chapter by the Secretary of the VSO, and chapter members shall have the privilege of attending all such activities. News of chapter activities which may be of general interest shall be published in THE RAVEN.
8. Each local chapter not already represented on the Executive Committee of the VSO may choose a representative for this purpose, as provided in the Constitution. Such representative shall be required to be a member in good standing of the VSO.
9. Local chapters may choose any name they may desire, except that no chapter may use a name already selected by another group. They shall have full power to regulate their own organization and affairs, provided their actions do not conflict with the Constitution or by-laws of the VSO.

(For by-laws 1 to 4, see THE RAVEN, November-December, 1953, page 92)

PLANS FOR THE BLUE RIDGE FORAY

in Shenandoah National Park

June 18 and 19, 1954

A two-day foray in the northern Blue Ridge Mountains will again be held this year on Friday and Saturday, June 18 and 19, in Shenandoah National Park. During the past two years this V.S.O. outing with its opportunity to observe the summer birdlife, wildflowers and outstanding scenery on the crest of the Blue Ridge has proved to be a very popular one. Among the interesting mountain birds that will be seen in their breeding territory are the raven, veery, mountain solitary vireo, Cairns' black-throated blue warbler, chestnut-sided warbler, Canada warbler, rose-breasted grosbeak, Carolina junco, and (possibly) the winter wren.

Headquarters of the Foray will be at Skyland (elev. 3600 feet) with the trips each day scheduled to start from the dining room parking area at 7:15 a.m. (Standard Time). Foray leader will be Park Naturalist Paul Favour, assisted by Ranger-Naturalist Donald Hoffmaster. Specific destinations for both days' trips will be announced on Thursday evening, June 17, at the regularly scheduled illustrated natural history talk by Mr. Favour in the Skyland Recreation Hall at 8:30 p.m.

Both lodging (cottages) and meals, including special early 6:30 breakfasts on Friday and Saturday mornings, are available at Skyland. Single room rates, \$3.00 - \$5.00; double, \$5.00 - \$8.00. Besides cottage rooms, dormitory rooms each with two twin-beds are available at \$1.50 per person.

Skyland is located in the central section of Shenandoah National Park along the Skyline Drive ten miles south of Thornton Gap (Panorama), where U.S. 211 crosses the Drive. For those approaching from the south, Skyland is 24 miles north of Swift Run Gap, where U.S. 33 crosses the Drive.

It is suggested that those wishing to stay overnight at Skyland write for reservations to the Virginia Sky-Line Company, Luray, Virginia. When writing, be sure to identify yourself and party as members taking part in the Virginia Society of Ornithology foray.

Accommodations may also be secured at Big Meadows Lodge (ten miles south of Skyland) or outside the Park near Luray and Sperryville (15 to 20 miles from Skyland). Those wishing to camp will find an excellent campground in the Big Meadows area (campsites are unreserved).

-- Paul Favour
Luray, Virginia

FROM THE PRESIDENT'S FILES

I should like to continue the practice begun by Dr. Hostetter, my predecessor, in writing this column which is in effect a letter to the membership and may decrease the number of individual letters which must be written.

First, I want to express my appreciation to the membership for the trust you have placed in me in giving me this job. I will try to live up to the leadership given to us by Dr. Hostetter and all the other fine presidents for the past 25 years.

We owe a debt of thanks to all those in the Lynchburg area who worked so hard to make the Annual Meeting the success it was. The meeting certainly fulfilled all expectations for an important anniversary. One innovation which I should like to see continued in future meetings was the display of mounted birds and skins.

Now that we have a new constitution and provisions for the affiliation of chapters I am anxious that the various local clubs around the state take the necessary steps to become full-fledged chapters as soon as possible.

As my first official duty I appointed chairmen of three of the permanent committees. I should like to take this opportunity to appoint the other members of those committees and request that they serve. The committees are as follows:

Conservation Committee:

W.F. Rountrey, Chairman
Mrs. James W. Wiltshire
James Sydnor

Publicity Committee:

Max Carpenter, Chairman
Dr. Ruskin S. Freer
Mrs. L.E. Burford

Membership Committee:

Mrs. Colgate W. Dardon, Jr., Chairman
W. Edwin Miller
Dr. John H. Grey, Jr.

Committee on Local Chapters:

Frederick H. Scott, Chairman
Jim Eike
Mrs. Margaret H. Coleman

V.S.O. Representative to Washington, D.C. Conservation Group:

Robert J. Watson

I want to emphasize again that if the V.S.O. is to attain its goal to protect the hawks and owls in Virginia it is up to the individual members to put on an educational campaign to this end. I want to apologize for failing to provide the film which was to be shown in Lynchburg on hawks. Anyone who would like to obtain it for showing to local clubs, or any interested groups may borrow this same film, "Know the Hawks", by writing to Regional Director, Fish and Wildlife Service, Peachtree-Seventh Building, Atlanta 5, Georgia. There is no fee charged. The only expense is the cost of mailing it back to Atlanta. A 16 mm. sound projector will be necessary, however. This is a good time to mention that other films on wildlife subjects are also available on a loan basis and a list of same is available from the same address. I hope that in the future we can print a list of film sources for those of you who are concerned particularly with youth education.

-- Jack E. Perkins
Back Bay Refuge
Virginia Beach, Virginia

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MICHIGAN PROTECTS ALL HAWKS AND OWLS

Michigan's hawks and owls won't have to dodge bullets any longer. They have a friend in Governor G. Mennen Williams, who this week signed a bill which protects all hawks and owls in the state.

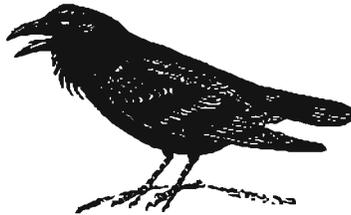
The National Audubon Society reported that the bill was passed after an intensive state-wide educational campaign by Audubon Societies and sportsmen's clubs. There was only one dissenting vote in the state legislature.

It is now illegal to kill any kind of hawk or owl in Michigan. An exception provided that farmers may destroy these birds on the rare occasions when they are doing actual damage to domestic stock.

The National Audubon Society observed that Michigan is the second state to give effective protection to all birds of prey. Connecticut took the same action in 1951. Hawks and owls are not protected by the Migratory Bird Treaties, as are most other wild birds.

The Society has just completed a survey of state bird protection laws which reveals that only nine states still do not protect any hawks or owls. Most states protect the majority of predacious birds, having enacted such laws at the behest of nature groups and farm organizations which have pointed out the value of these birds in controlling rodent populations.

The Society also reported that 23 state conservation departments are cooperating with it in the distribution of circulars about the value of hawks and owls. A spokesman said, "We believe that many other states will soon follow Michigan's good example. The public is beginning to recognize that predators are essential to the health of the wildlife community and that the continued slaughter of hawks, owls, and other predatory species is detrimental to the cause of wildlife conservation. The small creatures that hawks and owls eat breed so rapidly that there is an important job for every bird of prey to do. In addition, these birds are among the most interesting and highly-adapted creatures in the out-of-doors. Study of them will reward anyone who undertakes it."



The Raven

BULLETIN OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

J. J. MURRAY, EDITOR
LEXINGTON, VA.

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THE EASTERN SHORE OF VIRGINIA

By F. R. Scott

Introduction

Smith's Island is undoubtedly the most historic place on the Eastern Shore, for it was here that John Smith and his party landed on June 2, 1608, and the none-too-modest Captain thought well enough of it to name it for himself. Spending several days in "Ye ancient Kingdom of Accawmacke", the explorers were overwhelmed with the kindness of the peninsula's Indians, and the adventurous Captain took special notice of the fine hunting trips he made here.

This peninsula between Chesapeake Bay and the ocean became one of the eight original shires of Virginia in 1634, and twenty-nine years later it was divided into the counties of Accomack and Northampton. Approximately seventy-five miles in extreme length it is merely a narrow offshoot of the entire Eastern Shore of Chesapeake Bay extending 180 miles to a point close to the northern border of Delaware.

The Virginia part of the Eastern Shore has an average width of about fourteen miles (including marshes and barrier islands) and an extreme width of about twenty-two miles. Contrasted to this, the Shore at the southern boundary of Delaware reaches a maximum width of fully seventy miles, and the area of the Virginia part is only one-sixth of the whole. (For further details consult the excellent history by Ralph T. Whitelaw (1951) and the descriptive booklet by L.W. Wood (1952).)

An amazing number of estuaries, or "creeks", cut into the mainland of the two counties from both sides, forming numerous "necks". On the ocean side a series of sandy barrier islands runs the entire length of the peninsula, separated from the mainland by a number of bays and extensive salt marshes.

The section is chiefly rural, the largest town, Chincoteague, having a population of only 4000. Intensive truck farming is the principal land use, and over sixty-five different vegetables are grown here, the main ones being white and sweet potatoes, green and lima beans, peppers, onions, broccoli, and tomatoes. These are shipped by truck and rail to the nearby urban markets from Washington to New York.

In spite of the large areas devoted to farming, lumbering is also a highly important industry. About 95 percent of the forests are softwood (predominately loblolly pine), and most of the hardwood occurs near the Maryland line. Since the percentage of pine is so much higher than that of most of the other Tidewater counties, a rather unusual ecological situation is created.

As in certain other parts of eastern Virginia the Department of Defense is taking over increasingly large areas to the extreme sorrow of the ornithologist. Fort John Custis has been reactivated at the southern tip of the peninsula. On the mainland near Chincoteague is the recently expanded Naval Air Station and the Naval Ordnance Experimental Station.

Nearby Wallops Island has been taken over and given the imposing name of "The National Advisory Committee for Aeronautics's Langley Aeronautical Laboratory's Pilotless Aircraft Research Station at Wallops Island, Virginia". The work being done here is described in a recent article by J.A. Shortal (1954).

The birds of the peninsula have never been analyzed as a whole, but the area seems at first glance to be one of transition between the north and the south. Southern breeding birds include, in addition to many of the characteristic Carolinian species, the herons and egrets, Chuck-will's-widows, and Brown-headed Nuthatches, whereas the northern element is represented by breeding Black Ducks, Horned Larks, and Tree Swallows. More information is given farther along under descriptions of some of the outstanding localities of the Eastern Shore.

Chincoteague Area

Chincoteague National Wildlife Refuge was formally established in 1945 as a link in the chain of Federal refuges along the Atlantic Coast. Approximately 9000 acres in size it occupies the southern third of Assateague Island (the Virginia part of the island) and is separated from Chincoteague Island by a narrow channel. The topography of the island is typical of the barrier islands of the Middle Atlantic coast. A wide sandy beach is backed by a series of low dunes which fall away to extensive salt marshes bordering Chincoteague Bay. Some parts of the refuge, particularly the southern end, also contain extensive areas of pine and oak, interspersed with ponds and potholes.

After the establishment of the refuge a program was initiated by Refuge Manager John H. Buckalew to form some shallow, fresh-water impoundments in order to make the refuge more attractive to waterfowl. This program is being continued at an accelerated pace by the present Manager, E.O. Mellinger, with notable results.

In winter the waterfowl are undoubtedly the most interesting feature of the refuge, and thousands of geese and ducks can be found there, principally Canada Geese, Mallards, Black Ducks, Pintails, Baldpates, Green-winged Teal, and Shovellers. Frequently, large flocks of Snow Geese winter on the refuge or stop there during their migrations. From ten to twenty thousand Brant now regularly winter in the refuge area, and thousands of diving ducks can be found in the waters surrounding it. A number of Black Ducks and a few Blue-winged Teal nest regularly on the island, and in recent years individual Gadwalls and Shovellers have spent the summer. As conditions improve, these may reasonably be expected to breed here as they do at nearby Bombay Hook Refuge in Delaware.

Shorebirds are an outstanding feature of the migration periods, and sometimes large concentrations may be found on various parts of the island. A few remain to breed, such as the Piping and Wilson's Plovers, Killdeers, Willets, Oyster-catchers, and perhaps Spotted Sandpipers. Large numbers of herons and egrets can usually be found on the impoundments from mid spring to late fall, the greatest numbers being found in late summer. No heronries have been found on the refuge, but others are known to be nearby in both Virginia and Maryland.

An interesting and informative popular account of this refuge has been written by Rachel L. Carson (1947), but this is now somewhat out of date.

A five-mile causeway connects Chincoteague Island with the mainland of Accomack County, crossing a series of marshes and tidal creeks. This area is famous for its concentrations of migrating shorebirds and late summer flocks of herons and egrets. Clapper Rails breed abundantly along the causeway, and this was the site of a very interesting research paper on this species (Stewart, 1951). About thirty pairs of Willets breed along the road, and in recent years a number of Laughing Gulls have nested in plain view of passing motorists. Boat-tailed Grackles, flocks of which may be expected here at any time of year, have a nesting colony within a few feet of the road. In winter noisy flocks of Brant often feed in the shallows along the marsh edges.

Cobb's Island Area

Nathan Cobb and his family moved to Oyster, Northampton County, in 1855 from Cape Cod, and soon afterwards he acquired the barrier island that has since borne his name. The lucky salvage of a shipwrecked vessel enabled the family to construct a small hotel on the island, which was to become famous for its hunting all along the East Coast.

A history of the ornithology of the Eastern Shore is virtually a history of Cobb's and the surrounding islands. Beginning with an important lead article in the first number of the Bulletin of the Nuttall Ornithological Club by H.B. Bailey (1876), a succession of innumerable articles, notes, chapters in books, and warden reports have appeared describing field trips to Cobb's and neighboring islands to study breeding shorebirds, gulls, terns, and skimmers. A few of the most interesting of these are listed under References at the end of this paper. In addition, H.H. Bailey (1913), Bent (1921), and Murray (1952) give valuable information under separate species headings.

Most of the gulls, terns, and shorebirds were all but wiped out in the last part of the nineteenth century by shooting, trapping, and eggging. Protection for these species has gradually brought a number of them back, whereas, some, such as the Gull-billed and Royal Terns, still appear to be in greatly reduced numbers.

A series of bad storms during the last sixty years has steadily whittled away at Cobb's Island, and these culminated in the hurricane of August, 1933, which wiped out all the buildings on the island and took the life of George W. Cobb, grandson of Nathan Cobb. The island is now somewhat under six miles in length, and breeding birds have gradually moved to neighboring islands, such as Wreck Island to the south. One of the major reasons for this shift in breeding terns and skimmers is, in the opinion of Dr. John H. Grey, Jr., a result of the removal of livestock from the island the subsequent heavier vegetation.

Reaching either Cobb's or Wreck Island is merely a matter of hiring a boat at Oyster for the eight-mile trip. At present during the early summer one can generally expect to find on the two islands colonies of Common and Least Terns and Black Skimmers and smaller numbers or individual pairs of Piping and Wilson's Plovers, Willets, Oyster-catchers, and Gull-billed Terns. Although a few Royal Terns may nest on these two islands, most of them at present seem to be farther north in the vicinity of Hog and Parramore Islands. In the marshes west of Cobb's and Wreck Islands, and most of the other barrier islands, thousands of Laughing Gulls and a number of Forster's Terns regularly nest.

Cape Charles Area

The town of Cape Charles is chiefly notable, ornithologically, for its proximity to the tip of the peninsula and its waterfront. The southern end of the Eastern Shore has long been known for its immense fall buildup of migrating land birds, and the Audubon Society of the District of Columbia has sponsored a number of field trips there. Virtually every land bird species breeding north of Virginia can be expected in this area in the fall. Although different species may be the predominant bird on different days, some of the birds which are regularly found in large concentrations during the fall migration are the hawks, Flickers, Kingbirds, Tree Swallows, Robins, Myrtle Warblers, and Palm Warblers.

By far the best place to observe this concentration is at Kiptopeke Point itself, which is now within Fort Custis, an Air Force radar station. Admittance to the Point can generally - but not always - be obtained.

The waterfront at Cape Charles makes easy work of observing the birds offshore. In the morning with the sun at his back one can observe the birds here at any time of year without moving from his car. In winter the dominant waterfowl include Horned Grebes, Surf Scoters, Oldsquaw, Red-breasted Mergansers, and Herring and Ring-billed Gulls, whereas Gannets and Cormorants are often abundant in migration, and Laughing Gulls and Common and Forster's Terns are seen regularly from April to October. There is a small colony of Least Terns on a long sand spit across Cherrystone Inlet from Cape Charles, but this can not be seen from the town side of the inlet.

Chesapeake Bay Ferry

The Little Creek-Kiptopeke Beach ferry offers an outstanding opportunity for anyone to observe pelagic birds in Virginia. The crossing, approximately twenty-one miles long, takes an hour and twenty-five minutes and passes through several distinct ecological niches. The harbors at both terminals, particularly Little Creek, have winter concentrations of gulls that probably can not be surpassed elsewhere in the state. At the entrance to the Little Creek harbor the ferry passes between two rock breakwaters, one of the few suitable places in Virginia for the Purple Sandpiper.

From the beaches out into Chesapeake Bay there is a distinct ecological unit extending out perhaps two miles or a little more. It is here that there are large numbers of gulls and most of the wintering loons, grebes, and ducks. Oddly, the area off the Kiptopeke shore is generally far more productive than that off Little Creek.

The middle part of the ferry crossing really approaches ocean conditions, and this is the favored habitat of the Wilson's Petrel in summer and the Gannet in winter. The Ring-billed Gull which was abundant near the shore is relatively scarce here except during migration, whereas the Herring Gull is usually common. Similarly, the large numbers of wintering loons, Horned Grebes, and all three scoters are usually less common and often scarce to relatively rare here.

Migration appears to cause exceptions to nearly all ecological rules, and this is certainly true of the ferry crossing where birds are apt to be found in unusual numbers and places. Frequently, there are spring and fall concentrations of gulls and Forster's and Common Terns which, joined by Ospreys and other birds, follow movements of fish into the middle of the Bay. At these seasons Gannets can often be observed from shore, whereas non-pelagic birds such as swallows can occasionally be seen passing the ferry several miles from shore.

Work Still Needed

The Eastern Shore is so little known ornithologically that there seems to be an almost infinite number of problems to be investigated, and this paper can only touch a few of these. In common with the rest of the state this area needs ecological investigations, such as breeding-bird censuses. One of the most interesting habitats that should be studied is the mature Loblolly Pine woodlands. The scarcity of lowlying deciduous woodlands and wooded swamps causes an interesting invasion of some of the pine woodlands by such birds as Acadian Flycatchers, Red-eyed Vireos, and Kentucky Warblers.

Conversely, this scarcity of certain types of forests seems to be responsible for a number of species being very rare or totally absent as breeding birds away from some of the small tributaries of the Pocomoke River, all lying within two or three miles of the Maryland line. These species include the Wood Duck, Pilcoated Woodpecker, Blue Jay, White-breasted Nuthatch, Prothonotary and Parula Warblers, Louisiana Water-thrush, and Redstart. Most of these are very common in the Pocomoke Swamp of nearby Maryland.

An interesting ecological succession problem is posed by the recently constructed impoundments on Chincoteague Refuge. Originally filled with salt water, these impoundments are slowly passing through brackish stages to reach a final fresh-water condition. A survey was made of the breeding birds of one of these ponds in 1953, and this should be continued year after year in order to correlate the changes in bird life with the changes in the salinity of the water.

Because of the configuration of the land mass there is a spectacular fall land-bird migration and seemingly a rather poor spring one. Both of these need extensive field work, although the work of Rusling (1936) at Kiptopeke gives a good account of part of the fall migration for one year. Rusling also observed that relatively little diurnal cross-Bay migration of land birds occurs in the fall, but recent unpublished work by Dr. John H. Grey, Jr., and Mr. Bruce McCartney in the fall of 1953 indicates that nocturnal fall migration is often heavy across Chesapeake Bay. A paper by Wetmore (1936) leads one to believe that there is little cross-Bay migration of land birds in spring, with the bulk of the birds passing up the western shore of the Bay. Preliminary conclusions as a result of field work during the spring of 1954 tend to confirm this view, and it appears that there is ordinarily very little movement of most small land birds in spring except for the summer residents. These conclusions are highly tentative, however, and more field work is needed.

The taxonomy of land birds on the Eastern Shore needs considerable work. Identification of subspecies of both breeding and transient birds is almost untouched. Collections should be made of representative series of

species that differ geographically, such as Hairy and Downy Woodpeckers, House Wrens, Yellowthroats, Purple Grackles, and Savannah and Swamp Sparrows.

It can probably be said that no field trip to the Eastern Shore is not capable of adding considerably to our knowledge of the distribution and abundance of certain birds. It has already been pointed out that much more information is needed for the spring and fall migrations. In June a number of birds have not been recorded at all, such as all Accipiter and Buteo hawks, none of which appear to breed here. Also apparently unrecorded in summer are the following birds: Woodcock, Kingfisher, Red-headed Woodpecker, Rough-winged Swallow, Short-billed Marsh Wren, Cedar Waxwing, Loggerhead Shrike, Hooded Warbler, and Scarlet Tanager, and there are others that have been found only once or twice. Further work will be required to show if these are truly absent in summer or if they have merely been overlooked previously.

A number of other species that are known to breed in the area, particularly water birds, need additional work to determine their exact status. These include all the breeding herons, ducks, marsh birds, shorebirds, and terns, as well as such land birds as Boat-tailed Grackles and Sharp-tailed Sparrows. The Baltimore Oriole was well known as a breeding bird many years ago, but since there are no recent summer records, it is presumed not to breed in the area today. Again, this may be a result of insufficient field work.

On the whole the Eastern Shore is probably most well known for its breeding gulls, terns, and Black Skimmers. Yet, because of the relative difficulty of reaching most of the barrier islands, this is one of the widest gaps in our knowledge of the breeding birds. There are some excellent surveys of many of the islands, some of which are mentioned under Cobb's Island and in the Reference section of this paper, but the last comprehensive survey made of Cobb's Island was by Austin (1932), who worked on the island during the late spring of 1931. He estimated the breeding birds to include 6200 pairs of Laughing Gulls, 1000 pairs of Black Skimmers, 400 pairs of Forster's Terns, and 200 pairs of Common Terns. Birds whose present status is particularly in need of investigation are the Gull-billed, Royal, Caspian, and Least Terns.

Various published reports have mentioned the presence of heronries on Hog, Rogue, and Mockhorn Islands, and a large one is at present known to exist on Cedar Island. The exact status of none of these is well known, however, and there seems to be no published information at all on the Cedar Island one. A colony of Snowy Egrets is suspected of being on the Chesapeake Bay shore south of Saxis, but its precise location has not been found.

A number of problems remain in the study of wintering birds, but the most pressing seems to be a study of the waterfowl, especially the diving ducks, of the Chesapeake Bay shores. Long known to the hunting fraternity, this area seems to have been overlooked by the ornithologists. Such a study should include Poconoko and Tangier Sounds, extending out into the Bay twelve miles to the various islands that make up the Tangier group.

The above problems are but a sample of the many fields that await the serious bird student on the Eastern Shore. Apparently this area will entice the ornithologist for many years to come, for as each problem is explored, he finds himself with just enough additional information to pose further questions.

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-- Richmond, Virginia

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BIRD BANDING IN ARLINGTON

By Arthur H. East

The 1945-1946 invasion of the Evening Grosbeaks provided the stimulus for our banding operations. From late February through April, 1946, we banded 51 Evening Grosbeaks (the first of such bandings for Virginia) on our home acre, 4924 Rock Spring Road, Arlington, Virginia. (See RAVEN, Vol. XVIII, p.17). During a two months period in the spring of 1947, we banded 875 Cedar Waxwings - more than twice the number banded by all other banders in the United States and Canada for that year. Not even one additional Cedar Waxwing has been banded by us before or since that period. We are informed that no other bander in the Eastern states has had a similar run of Cedar Waxwings. A few similar instances have occurred in the Western states, particularly California.

In early 1952 during the second invasion, we banded 316 Evening Grosbeaks. (See RAVEN, Vol. XXIII, p.62). Pine Siskins to the number of 221 were banded in 1953, in comparison to a total of 2 of these birds for all other years. During the banding year just closed, we banded our greatest number (403) of Purple Finches. Generally speaking, we band as many or up to twice as many birds during the period late February to early May as the total for the other months of the year. Our banded birds have been recovered from the Provinces of Quebec, and New Brunswick, Canada, to the State of Louisiana - including 8 Evening Grosbeaks recovered in the Province of Quebec and the New England States. We have recovered a number of birds banded by others - including 5 Evening Grosbeaks banded in the New England States. In December, 1952 we succeeded in adding a new bird - the Cassiar Slate-colored Junco, Junco hyemalis cismontanus - to the Virginia list. (See RAVEN, Vol. XXIV, p.3).

At first we operated only one 12-cell trip-step trap. Other traps and types of traps have been added from time to time. Traps especially designed for woodpeckers were first used in 1949. At first the U.S. Fish and Wildlife Service (the agency which issues the bands and to which banding reports are made) required its licensed banders to submit annual banding reports for the year ending June 30. Beginning in 1949 the end of the banding year was changed to April 30. In the annexed tabulation, the bandings

listed for the year ending June 30, 1946 cover a period of only 4 months. The Evening Grosbeaks listed for the year ending April 30, 1953 were banded during the first week of May, 1952. Likewise the Pine Siskins listed for 1954 were banded in early May, 1953.

The tabulation shows the number of birds, by species and by year, banded on our home acre. Birds banded at other locations, and by other persons using bands charged to us, have been eliminated.

| Species | TABULATION | | | | | | | | | Totals |
|---------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|--------|
| | Year Ending | | | | | | | | | |
| | June 30, 1946 | June 30, 1947 | June 30, 1948 | Apr. 30, 1949 | Apr. 30, 1950 | Apr. 30, 1951 | Apr. 30, 1952 | Apr. 30, 1953 | Apr. 30, 1954: | |
| Mourning Dove | - | 13 | 23 | 20 | 25 | 16 | 25 | 25 | 28 | : 175 |
| Flicker | - | - | - | - | 2 | - | - | - | 1 | : 3 |
| Red-b. Woodpecker | + | 2 | 3 | 1 | - | - | 2 | 1 | 1 | : 10 |
| Hairy Woodpecker | - | - | - | - | - | 3 | - | - | - | : 3 |
| Downy Woodpecker | + | - | - | - | 8 | 21 | 9 | 9 | 7 | : 54 |
| Phoebe | - | - | 1 | - | - | - | - | - | - | : 1 |
| Wood Pewee | - | - | - | - | - | - | - | 1 | - | : 1 |
| Blue Jay | 16 | 19 | 25 | 8 | 13 | 38 | 25 | 44 | 54 | : 242 |
| Car. Chickadee | - | 5 | 7 | 7 | 15 | 5 | 9 | 7 | 11 | : 66 |
| Tufted Titmouse | - | 18 | 17 | 6 | 13 | 9 | 11 | 16 | 17 | : 106 |
| White-b. Nuthatch | - | - | 10 | 7 | 9 | 12 | 10 | 2 | 5 | : 55 |
| House Wren | - | - | 1 | 1 | - | 4 | 11 | 1 | 1 | : 19 |
| Winter Wren | - | - | - | - | 1 | - | 1 | - | 1 | : 3 |
| Carolina Wren | - | 5 | 3 | 2 | 4 | 6 | 3 | 3 | 5 | : 31 |
| Mockingbird | 2 | - | 10 | 3 | 2 | 8 | 4 | 1 | 8 | : 38 |
| Catbird | 11 | 42 | 26 | 13 | 13 | 25 | 36 | 24 | 25 | : 215 |
| Brown Thrasher | 7 | 11 | 21 | 36 | 19 | 27 | 15 | 12 | 18 | : 164 |
| Robin | - | 1 | 6 | 2 | 2 | 1 | 2 | - | 5 | : 19 |
| Wood Thrush | - | 2 | 6 | - | 1 | 4 | 4 | 4 | 2 | : 23 |
| Olive-b. Thrush | - | - | - | - | - | - | 3 | 1 | 1 | : 5 |
| Veery | - | - | - | - | - | - | - | - | 1 | : 1 |
| Bluebird | - | - | - | - | - | - | - | 2 | 1 | : 3 |
| Cedar Waxwing | - | 878 | - | - | - | - | - | - | - | : 875 |
| Myrtle Warbler | - | 9 | 83 | 3 | 24 | 6 | - | - | 1 | : 126 |
| Oven-bird | - | - | - | - | - | - | - | - | 2 | : 2 |
| Northern Water Thr. | - | - | - | - | - | - | - | - | 2 | : 2 |
| Conn. Warbler | - | - | - | - | - | - | - | 1 | - | : 1 |
| Yellow throat | - | - | - | - | - | - | 3 | - | 3 | : 6 |
| Purple Grackle | - | 1 | - | 1 | - | - | 1 | 8 | 9 | : 20 |
| Cowbird | 7 | - | 34 | 8 | 2 | 2 | 7 | 3 | 9 | : 72 |
| Cardinal | 38 | 54 | 57 | 53 | 53 | 43 | 48 | 36 | 55 | : 437 |
| Indigo Bunting | - | 1 | - | - | - | - | - | - | - | : 1 |
| Evening Grosbeak | 51 | - | + | - | - | - | 274 | 42 | - | : 367 |
| Purple Finch | 82 | 94 | - | 4 | 64 | 1 | 25 | 170 | 403 | : 843 |
| Pine Siskin | - | 1 | - | - | - | 1 | - | 205 | 16 | : 223 |
| Goldfinch | - | 5 | - | 15 | 81 | 27 | 220 | 122 | 244 | : 714 |
| Red-eyed Towhee | 5 | 17 | 49 | 31 | 43 | 32 | 35 | 29 | 34 | : 275 |
| Slate-c. Junco | 9 | 124 | 155 | 147 | 108 | 132 | 184 | 265 | 183 | : 1307 |

| Species | Year Ending | | | | | | | | | Totals |
|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-----------------------|--------|
| | June 30, 1946 | June 30, 1947 | June 30, 1948 | Apr. 30, 1949 | Apr. 30, 1950 | Apr. 30, 1951 | Apr. 30, 1952 | Apr. 30, 1953 | Apr. 30, 1954 : | |
| Tree Sparrow | - | - | 4 | - | - | 4 | - | - | - : | 8 |
| Chipping Sparrow | - | - | - | 2 | 1 | - | - | - | - : | 3 |
| Field Sparrow | - | - | - | 1 | - | 1 | - | 1 | 1 : | 4 |
| White-c. Sparrow | 2 | - | - | 1 | - | - | 1 | 4 | 1 : | 9 |
| White-t. Sparrow | 154 | 122 | 304 | 106 | 200 | 288 | 251 | 491 | 219 : | 2135* |
| Fox Sparrow | 3 | - | 9 | 17 | 10 | 1 | 3 | 4 | - : | 47 |
| Swamp Sparrow | - | - | - | 1 | 4 | 2 | 5 | 1 | 3 : | 16 |
| Song Sparrow | 37 | 64 | 112 | 89 | 71 | 143 | 103 | 83 | 99 : | 801 |
| Totals | 424 | 1444 | 1006 | 586 | 788 | 862 | 1331 | 1617 | 1474 : | 9532 |
| 46 Species | | | | | | | | | | |

* 22.3% of birds banded were White-throated Sparrows

-- 4924 Rock Spring Road
Arlington 7, Virginia

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A WARBLER MAKES THE NEWS

By J. J. Murray

There has been great excitement in the Washington area during the last few weeks. A Bachman's Warbler has shared the headlines with McCarthy and Indo-China in the NEW YORK TIMES, the WASHINGTON POST, the RICHMOND TIMES-DISPATCH, and many other papers throughout the East. This bird, so rare this far north that it has only been recorded three times previously in Virginia, was discovered along the banks of Pohick Creek, not far from Mt. Vernon.

On the usual May Day Count of the District of Columbia Audubon Society, on May 8 this year, Harriet Sutton and Morgan Gilbert were working the swampy lowlands along Pohick Creek at 'Lebanon', the estate of Dr. Paul Bartsch, near Lorton, in the southern part of Fairfax County, when they heard an unfamiliar song. Tracing it down and checking their field guide, they realized that they had made the find of a lifetime and that they were seeing a Bachman's Warbler. Others were called in to verify their identification. Then, hoping that the bird might be taking up territory and that it might find a mate, the members of the Audubon Society had the area closed to visitors. Guided visits, when bird students could be held to the trail, were permitted on May 15 and 22.

The warbler sang persistently throughout the month of May. Territory was definitely established. Unfortunately, no female Bachman's Warbler was in hearing, and on June 1 the singing bird disappeared.

Bachman's Warbler is possibly the rarest warbler and certainly one of the rarest songbirds in the United States. It was discovered by Dr. John Bachman, a Lutheran minister of Charleston, South Carolina, who took a specimen near that city in July, 1833. He showed the specimen to his great friend, John James Audubon, who then named the bird after the minister. It was not seen again anywhere until Charles S. Galbraith, a millinery collector with more than a business interest in birds, took a specimen at Lake Ponchartrain, near New Orleans, in 1886, and then 37 additional specimens during 1887 and 1888. The bird nests in deep swamps and is very local in its distribution. Few ornithologists have ever seen it.

Although it is now known to occur at spots near Charleston, it was not until Wayne collected a specimen on May 15, 1901, that it was again found near the place of its discovery. It has been known to breed as far north as northwestern Arkansas, southeastern Missouri, and possibly southern Indiana. Specimens have been collected at Fayetteville, Arkansas; Versailles, Kentucky; Raleigh, North Carolina; and Aylett, King William County, Virginia. Except for a pair seen at Indianapolis throughout the breeding season, this Fairfax County bird is the most northern record.

This is the fourth Virginia record. William Palmer saw a specimen, "undoubtedly a young male of the year", in the collection of a young boy, P. Henry Aylett, which had been taken at Aylett in August, 1892 (The Auk, 11, 333). There are two sight records, one from the Dismal Swamp and one from southeastern Augusta County, reported in A Check-List of the Birds of Virginia.

-- Lexington, Virginia

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AN ABSOLUTE ABUNDANCE CENSUS IN A VIRGIN FOREST IN CUMBERLAND COUNTY, VIRGINIA

By Steve Messenger

Introduction

The purpose of the work was to determine which of the wintering birds are to be found in a virgin forest and to what extent they occur in such a community.

The virgin forest is located on the E.R. Cocke estate in Cumberland County, Virginia. It is essentially uniform in composition with the exception of several small groups of overmature Shortleaf Pine (Pinus echinata). The topography is slightly rolling with one small stream arising near the center and flowing out the west side of the tract. Vegetation near the stream exclusively consists of Ground Pine (Lycopodium obscurum) and Wild Ginger (Asarum virginicum). American Beech (Fagus grandifolia) is concentrated near the stream, but occurs throughout the area. The remainder of the tract consists of the following overstory trees in order of their abundance:

White Oak (Quercus alba), other oaks (Quercus spp.), Tulip Tree (Liriodendron tulipifera), Hickory (Carya spp.), Shortleaf Pine (Pinus echinata), Sweet Gum (Liquidambar styraciflua), Black Gum (Nyssa sylvatica). Understory trees are: Flowering Dogwood (Cornus florida), Eastern Redcedar (Juniperus virginiana), American Beech (Fagus grandifolia), Blue beech (Carpinus caroliniana), Elm (Ulmus spp.), Black Cherry (Prunus serotina), and Red Maple (Acer rubrum).

Areas adjacent to the forest are: a field, a road, a stand of second growth pine, and a stand of second growth hardwoods.

Methods

The study area was divided into 3 strips running parallel to the longest side of the approximately rectangular tract. Along each of these strips sampling points were taken at random, but always evenly spaced to allow complete coverage of the strip. Approximately fifteen minutes were spent at each point of which there were eight. A strip of 150 feet was left between the census area and the forest edge to reduce the "edge effect".

Each census was taken from 7:30 a.m. until 9:30 a.m. The entire area was covered on each census via an established route.

Eight censuses were taken between December 20, 1952 and January 1, 1953.

Results

Census No. 1

December 20; 7:30 to 9:30 a.m. Cloudy; wind northeast, 5; 36°-37° F. Flicker, 3; Pileated Woodpecker, 1; Red-bellied Woodpecker, 2; Yellow-bellied Sapsucker, 1; Hairy Woodpecker, 1; Downy Woodpecker, 1; Crow, 1; Carolina Chickadee, 4; Tufted Titmouse, 3; White-breasted Nuthatch, 6; Goldfinch, 1; Carolina Wren, 2.

Census No. 2

December 21; 7:30 to 9:30 a.m. Cloudy; wind north, 5; 38°-39° F. Flicker, 3; Pileated Woodpecker, 1; Red-bellied Woodpecker, 3; Downy Woodpecker, 1; Carolina Chickadee, 16; Tufted Titmouse, 3; White-breasted Nuthatch, 7; Ruby-crowned Kinglet, 1; Goldfinch, 1; Carolina Wren, 1; Golden-crowned Kinglet, 1; Purple Finch, 12.

Census No. 3

December 22; 7:30 to 9:30 a.m. Cloudy; wind north-northeast, 13; 42°-46° F. Flicker, 6; Red-bellied Woodpecker, 1; Crow, 1; Carolina Chickadee, 9; Tufted Titmouse, 3; White-breasted Nuthatch, 5; Carolina Wren, 2.

Census No. 4

December 23; 7:30 to 9:30 a.m. Cloudy; wind northwest, 2; 39° F. Flicker, 3; Red-bellied Woodpecker, 1; Hairy Woodpecker, 1; Downy Woodpecker, 2; Carolina Chickadee, 3; Tufted Titmouse, 3; White-breasted Nuthatch, 5; Carolina Wren, 1.

Census No. 5

December 24; 7:30 to 9:30 a.m. Foggy until 9:00 a.m., then clear; wind south, 5; 41° F. Flicker, 4; Red-bellied Woodpecker, 5; Yellow-bellied Sapsucker, 2; Downy Woodpecker, 2; Carolina Chickadee, 2; Tufted Titmouse, 1; White-breasted Nuthatch, 5; Carolina Wren, 2; Robin, 8; Bluebird, 7.

Census No. 6

December 25; 7:30 to 9:30 a.m. Cloudy; wind northeast, 2; 37° F. Flicker, 2; Pileated Woodpecker, 3; Carolina Chickadee, 9; Tufted Titmouse, 4; White-breasted Nuthatch, 2; Carolina Wren, 3; Purple Finch, 3; Bluebird, 18.

Census No. 7

December 30; 7:30 to 9:30 a.m. Cloudy; wind south-southwest, 6; 33°-35° F. Flicker, 8; Pileated Woodpecker, 4; Red-bellied Woodpecker, 6; Yellow-bellied Sapsucker, 2; Downy Woodpecker, 4; Carolina Chickadee, 2; Tufted Titmouse, 4; White-breasted Nuthatch, 3; Golden-crowned Kinglet, 1; Myrtle Warbler, 2; Goldfinch, 1; Carolina Wren, 2; Robin, 58; Purple Finch, 6; Junco, 1.

Census No. 8

January 1; 7:30 to 9:30 a.m. Clear; wind northwest, 8; 36°-37° F. Flicker, 3; Pileated Woodpecker, 2; Red-bellied Woodpecker, 1; Yellow-bellied Sapsucker, 1; Hairy Woodpecker, 2; Downy Woodpecker, 1; Crow, 1; Carolina Chickadee, 2; Tufted Titmouse, 2; White-breasted Nuthatch, 4; Robin, 1; Carolina Wren, 3.

Summary

Twenty species of birds were recorded in the forest. Seven of these occurred constantly; three occurred occasionally but in flocks, thus accounting for their high average in Table 1.

Species flying over the area and not alighting were: Red-tailed Hawk, Mourning Dove, Crow, Robin, Bluebird, Purple Finch, and Goldfinch. Some representatives of the above species did alight and they were recorded; the others were not. No Mourning Doves or Red-tailed Hawks were recorded on the area, but one Red-tailed Hawk was observed on the forest edge adjacent to the field mentioned in the description of the area.

Table I

Census Numbers

| Species | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Average | Density per 100 Acres |
|--------------------------|------------|-----------|-----------|-----------|-----------|-----------|------------|-----------|---------|--------------------------|
| Flicker | 3 | 3 | 6 | 3 | 4 | 2 | 8 | 3 | 4 | 12 |
| Pileated Woodpecker | 1 | 1 | 0 | 0 | 0 | 1 | 4 | 2 | 1 | 3 |
| Red-bellied Woodpecker | 2 | 3 | 3 | 1 | 5 | 5 | 6 | 1 | 3 | 9 |
| Yellow-bellied Sapsucker | 1 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 1 | 3 |
| Hairy Woodpecker | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 3 |
| Downy Woodpecker | 1 | 1 | 1 | 2 | 2 | 3 | 4 | 1 | 2 | 6 |
| Crow | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | (/) | 1 |
| Carolina Chickadee | 4 | 16 | 9 | 3 | 2 | 10 | 2 | 2 | 6 | 18 |
| Tufted Titmouse | 3 | 3 | 3 | 3 | 1 | 4 | 4 | 2 | 3 | 9 |
| White-breasted Nuthatch | 6 | 7 | 5 | 5 | 5 | 2 | 3 | 4 | 5 | 15 |
| Carolina Wren | 2 | 1 | 2 | 1 | 2 | 3 | 2 | 3 | 2 | 6 |
| Robin | 0 | 0 | 0 | 0 | 8 | 0 | 58 | 1 | 8 | 24 |
| Bluebird | 0 | 0 | 0 | 0 | 7 | 18 | 0 | 0 | 3 | 9 |
| Golden-crowned Kinglet | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | (/) | 1 |
| Ruby-crowned Kinglet | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | (/) | (/) |
| Myrtle Warbler | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | (/) | 1 |
| Purple Finch | 0 | 12 | 0 | 0 | 0 | 3 | 6 | 0 | 3 | 9 |
| Goldfinch | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | (/) | 1 |
| Slate-colored Junco | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | (/) | (/) |
| TOTAL | 26 | 50 | 31 | 19 | 38 | 56 | 104 | 23 | | |
| (/) | .5 or less | | | | | | | | | |

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A HALF-HOUR WITH SHOREBIRDS

By C.C. Steirly

The inland naturalist doesn't have much of a chance to do anything with that most interesting order of birds - the shorebirds. It is true that a small wooded pond might now and then yield a solitary sandpiper and almost any pond or open stream might have its occasional spotted sandpiper. The open fields will contain a few killdeer and the lucky observer might flush a woodcock from a woodland streamside or wet spot. This is often the extent of the inlanders opportunities for shorebird work unless he visits the right combinations of habitat such as the seashore, estuaries, tidal mud flats and the coastal island.

On May 8 the writer happened to be doing some field work along the James River in northeast Surry County when he found a pond just in from the river that happened to satisfy many of the requirements of shorebirds. This pond was long and rather narrow. Owing to comparative freedom from tidal fluctuations the pond was little more than an exposed mud flat with very clumpy and somewhat scattered marsh vegetation. Pools of water were rather frequent and brush and arborescent vegetation were confined to the edges of the pond (otherwise it would soon be a swamp). The characteristic notes of the greater yellowlegs brought up the binoculars in a hurry and the whole mud flat was quickly scanned. There blending almost perfectly with the dry marsh grasses and the darker sedges were six greater yellowlegs leisurely feeding on the rich harvest of the mud flat. Now and then one would fly up, circle a bit of the pond, and drop down again among its fellows exhibiting the characteristic white tail and long, trailing legs. Upon remaining concealed in a *Baccharis* bush the observer soon became aware that the pond contained much more than a few greater yellowlegs. Over by a clump of sedge, and for a time partly concealed behind it a dowitcher seemed to be furiously dabbing its bill into the mud. Partially hidden around the edges of a grassy island were five Wilson's snipe. A few spotted sandpipers toctored continually as they worked around the edges of the pond and approached the island of the snipe.

The familiar peep sound was heard and a formation of least sandpipers wheeled over the center of the pond and dropped into the area occupied by the yellowlegs. These were hastily surveyed with the binoculars, the color of the legs being noticed for there was uncertainty in the observer's mind as to whether or not they might have been the semi-palmated sandpiper. These were definitely leasts - birds more typically found in such situations than is the case with the semi-palmated which usually prefers dandy situations.

A little to the right of this center of interest ten more yellowlegs were noticed. They made no sound but kept wading about in one of the watery places, feeding as they went. Somehow they didn't quite look like the yellowlegs to the left. For several agonizing minutes this state of affairs continued until at last one of them walked over among those to the left. Here together, and in an excellent comparative view, were both the lesser and the greater yellowlegs feeding side by side. In a moment all of the lessers were moving about among the greaters. The least sandpipers arose in unison and the little flock seemed literally to turn itself inside out and drop as one among the yellowlegs.

Here in one binocular view or "eyeful" were the least sandpiper, greater yellowlegs, lesser yellowlegs, dowitcher, spotted sandpiper and Wilson's snipe. A laughing gull passing overhead and a male redwing perched in a *Baccharis* bush in the background completed the ornithological picture. It was like looking at one of the magnificent plates in Forbush.

Time did not permit further observation of this interesting group but the half hour thus spent became one of those golden moments, long remembered yet available to anyone patient enough to sit and wait within a likely habitat. A "lister" would have merely checked off the names of the birds and hurried to the next habitat.

-- Eaverly, Virginia

A FEEDING METHOD OF THE GREEN-WINGED TEAL

By C. C. Steirly

While engaged in some reforestation work March 16, 1954 at Hog Island State Waterfowl Refuge in northeast Surry County with John E. Bryant, refuge manager, some strange feeding manners of the green-winged teal were observed. The writer and his companion chanced to look out over a large expanse of mud flat in a pond exposed by the ebbing tide. A number of green-winged teal were walking about in the muddy shallows and at first glance gave the appearance of a flock of large shorebirds. Binoculars were trained on them and they were proven to be green-winged teal. The manner of feeding attracted considerable attention, enough to warrant returning to the car for the 30 X telescope. Through this instrument the teal were observed to be feeding by skimming the muddy water with the lower mandible immersed. Some of them were moving along in this fashion in water or fine mud perhaps two inches or so in depth, and at a rather lively rate. With the telescope it was impossible to ascertain the type of food being sought and the observers were not properly equipped to go out on the mud flat.

Associated with the green-winged teal on this mud flat were a number of blue-winged teal, common crows, ring-billed gulls, killdeer and Wilson's snipe. As far as the observers could notice the green-winged teal were the only birds feeding in this fashion.

A survey of the literature available, i.e., Bent, Forbush, Sprunt & Chamberlain, and Kortright, does not indicate that this is a common method of feeding by the species. These authors mention only tipping.

Other ducks observed at the refuge that morning included, in addition to the two species of teal, black duck, American merganser, baldpate, lesser scaup and numerous pintails.

-- Waverly, Virginia

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LINCOLN'S SPARROW IN NORFOLK COUNTY

By Richard H. Peake, Jr.

A Lincoln's Sparrow was observed on March 19, 1954, under ideal conditions, by the writer; the place of observation was on the southern end of Greenbrier Farms Nursery in Norfolk County. The bird was first positively identified on March 18, after two previous sightings on February 14 and 29. This bird, and a second one, were observed by W. F. Rountrey, who confirmed the identification, and myself. These birds were seen under good conditions, by other members of the Cape Henry Bird Club. The birds were observed on

April 3, 10, 17, and 24. On April 3 another bird was found on a nearby farm; the first two birds were both seen shortly afterward.

The birds found on Greenbrier Farms seem to have been attracted by the digging of large drainage canals on the farm. These created large brush piles, a water filled ditch, and a grassy cover on the canal banks, the bank being used greatly for feeding purposes. The other bird was found on an over-grown farm ditchbank, located by an unplowed field.

-- Box 292, R.F.D. #4
Norfolk, Virginia

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A COOL MORNING AT LEBANON

By Paul Bartsch

April 4, 1954

A glimpse from my bedroom window this morning was quite a surprise for all the landscape was covered with a light blanket of snow, presenting a chilly atmosphere. As the first rays of the sun rose over the eastern horizon the flock of Starlings crowded in the tip-top branches of our giant Honey Locust Tree for their morning devotion in song to Old Sol as did the human sun worshippers of old.

The restlessness of the huge flock of Purple Finches, this winter's chief avian guests, indicated that the supply of sunflower seeds on the feeding shelf of my study window must have been depleted. They had been helped in their endeavor by a large family of Flying Squirrels during the night, which this winter had shifted their home from bird boxes about the house to the attic, evidently preferring the warmer quarters in the house.

The bird bath at the foot of the locust adjacent to the house, on the side of my study window was covered with ice, while the one on a stump, in the pile of stumps, our main feeding station, looked lukewarm as usual, and was well patronized even at this early hour. In this bird bath we have placed a Trumbull Automatic Electric Water Warmer, an inexpensive device which automatically shuts off the current when the water reaches 45°. This is a wonderfully helpful device, which has kept this bath from freezing for the last two winters. At this station we dispense water, sunflower seeds, coarsely ground corn, and ground suet. How much food is consumed here can be estimated by my bill covering 800 lbs. of sunflower seeds purchased for 1952-1953. But then we had several hundred Evening Grosbeaks boarding. They have been replaced this year by the Purple Finches. How favored this feeding station has become may be visualized by the list of diners during breakfast time. This included: Hairy Woodpecker, Downy Woodpecker, Yellow-bellied Woodpecker, Red-bellied Woodpecker, Flicker, Blue Jay, Crow, Starling, Cowbird,

Purple Finch; English Sparrow; White-throated Sparrow; Chipping Sparrow; Junco; Song Sparrow; Fox Sparrow; Cardinal; Myrtle Warbler; Mocking Bird; Carolina Wren; House Wren; White-breasted Nuthatch; Tufted Titmouse; Carolina Chickadee.

Pohick Bay, which separates Lebanon from Fort Belvoir looked cold and chilly from my study window (Belvoir has joined us in making the upper part of Pohick Bay a Wildlife Sanctuary) and made us wonder what our avian friends were doing there. We therefore drove to Washington's Landing, a favorite aquatic observation station. Here we found flying over the water, close to the surface, stopping to pick up probably dead, drowned insects, or other elements of food, quite an assemblage of Swallows, including Tree, Bank, Rough Winged, and Barn Swallows. They were not happy, and sought rest on stakes and stubs, where they were huddled up and puffed up to keep warm. This type of Swallow feeding was a new experience for me. Phoebe also joined in feeding from things on the water surface, but that was not a new experience for me.

Other birds observable from this station were: Herring Gull, about a dozen; Ring-billed Gull, about 60; Bonapartes Gull, about 20 just arrived; Great Blue Heron; Kingfisher; Mallards; Bald Eagle; Carolina Wren; Song Sparrow; Swamp Sparrow; White-throated Sparrow.

-- "Lebanon"
Lorton, Virginia

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NEWS OF V. S. O. MEMBERS

Reports to the Fish and Wildlife Service from Virginia. Two of our members have written in to say that the statements that there were no Virginia reports for the cooperative studies of the Fish and Wildlife were too drastic. Mr. Jackson M. Abbott of New Alexandria states that he has been sending in reports regularly on arrival dates. Another member, who does not wish his name mentioned, says that he has a report on this spring's arrival dates ready to go in, and that he and his wife have been making lunar bird migration records for some time.

Sydney Mitchell, of Newport News, writes that his bird observations have been somewhat curtailed. He writes: "I am one of the charter members of the Hampton Roads Bird Club. At present my birding activities are a little slow as I am a patient at Catauba Sanatorium. They are going to tear down a huge chimney here soon. Some of you may be interested in the Swift nests. So far I have 32 on my list from ~~my~~ window. There is also a Pileated Woodpecker hole I can see from my window. I thought someone might be interested in the nests." How is this for birding from a window! The Editor has always maintained that an alert person can find birding anywhere from a sick bed to the middle of the Atlantic Ocean. How about writing to friend Mitchell of your observations. Catauba Sanatorium, Virginia, is the address.

W.M. Davidson, 1504 Bodell Street, Orlando, Florida, writes: "In the anniversary issue of 'The Raven' I notice that my address is given as Silver Springs, Maryland. I am now domiciled in Florida. I feel proud to be one of the charter members of the V.S.O. and greatly enjoy 'The Raven'. Floreat! I am secretary of the Florida Audubon Society. Some of us fear that the continued influx of migrants (Homo sapiens) will lead to reducing our avifauna, but the sight of 62 Sandhill Cranes in one flock perhaps should minimize these fears."

J.B. Fearneyhough, 4302 Northrop Street, Richmond, Virginia. Miss Ada D. Ball writes: "Yesterday afternoon I went to see Mr. J.B. Fearneyhough, who for years was an active member of the V.S.O. He is now eighty-six years old and quite infirm. He said that he had a complete file of 'The Raven' up to and including the year 1941; and he would be glad to give them to the V.S.O. ... He is quite a bird student, having made an average of 96% in a class taught by Ludlow Griscom at the summer school of the University of Virginia many years ago. For one or two summers Mr. Fearneyhough taught the class in birdlife himself, and I think the University allowed the students credit for it".

(We would be glad to have news of interest from any of our members, particularly those of long standing in the V.S.O.)

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VIRGINIA BIRD NOTES

Common Loon. Richard H. Woodling, of the Virginia Forest Service, reports the observation of a Common Loon on April 29, 1954, in Nansmond County, a mile and a half east of Whaley Station. The bird was found in a low swamp through which a stream, rather shallow and not more than ten feet wide, was running slowly. The Loon did not take readily to flight but gave no indication of being injured.

European Teal. On April 1, 1954, Don Kunkel observed a drake European Teal at Dyke, Fairfax County. On April 3 Kunkel and Jackson M. Abbott found the bird back of the dump at Hunting Creek, in Alexandria; and the next day showed it to other members of the D.C. Audubon Society. This time, studying the bird carefully, they noted that it had both the vertical white stripe characteristic of the American Green-winged Teal and the horizontal white stripe along the scapulars, characteristic of the European Teal. "Obviously", writes Abbott, "this bird was a hybrid and, to my knowledge, the first such recorded." Kunkel saw it again on April 10 at Hunting Creek and reported that the bird was apparently mated, as a female teal followed the drake wherever he swam.

Bufflehead. One was seen at the Powhatan Club Pond, near the center of Powhatan County, on November 28, 1952, by Steve Messenger.

Screech Owl, nesting in Wood Duck nest box. C.C. Steairly writes: "A Wood Duck nest box erected on a large loblolly at Hog Island State

Waterfowl Refuge was utilized by a Screech Owl as a nest site. Three young were found in it by Jesse King, an employee at the refuge, early in May. On May 8, when the owlets were observed by the writer they were estimated to be about three weeks old, using the information in Bent's Life Histories of North American Birds of Prey (Part 2) as a criterion. This next box was placed in a pine woods along the river shore and was nailed to a tree about twelve feet above ground."

Long-eared Owl. On June 23, 1954, J.J. Murray heard two owls at his cabin on Maury River, three miles north of Lexington, that he felt sure were Long-eared Owls, probably an adult and a young bird on the wing. At dusk the calls began, loud, shrill, screams, something like the scream of a cat. A glimpse of one of the birds in the half-light showed it to be an owl of medium size, too large for a Screech Owl. This was near where a Long-eared Owl had been seen on the Christmas Count in 1951. Judging by the size of the owl and the character of the screams, it could hardly have been anything else.

Iceland Gull. Jack E. Perkins writes that on April 21 and 26, 1954, near Sandbridge he saw what he judged to be an Iceland Gull. On both occasions the bird was in the company of Herring Gulls. On neither occasion did he have glasses, but was able to get very close to it. It was definitely white, not an albino, and about the size of the Herring Gulls or a little smaller.

Rose-breasted Grosbeak. Steve Messenger saw one on September 17, 1954, and another on September 20, both females, in different parts of Powhatan County.

Snow Bunting. Jack Perkins reports a flock of about 50 Snow Buntings seen in the dunes at False Cape, Back Bay Refuge, on or about December 18, 1953. These were in addition to the 23 to 25 birds seen near Sandbridge for a couple of weeks and already reported.

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PLANS FOR SUMMER V. S. O. FIELD TRIP

Date: August 14

Area: Pea Island, North Carolina

Specialties: Order Charadriiformes and others.

Meeting Place: Jennette's Pier at 8:00 A.M. August 14 (11 miles north of Oregon Inlet). At this point everyone should plan on doubling up so that as few cars as possible will be in entourage to Pea Island which involves a crossing on a ferry. Jennette's Pier is down the highway from Nag's Head.

Accommodations: There are numerous motels, hotels, etc. around Nag's Head and Kill Devil Hill. This is the height of the tourist season so reservations should be made. Apparently all sorts of accommodations are available ranging from \$2.50 to \$8.00 per day single.

A few selections are:

| | | |
|-----------------|-----------------------|-----------------------|
| Sea View Inn | \$2.50 | Nag's Head, N.C. |
| Hotel Parkerson | \$6.00 single | Nag's Head, N.C. |
| Croaton Hotel | \$6.00 per day double | Kill Devil Hill, N.C. |

Reservations should be made immediately.

Lunch: Sandwiches can be obtained at Pea Island. However, one member of the committee suggests that those who bring their own lunch ingredients will fare better.

General: A vial of mosquito dope might be a necessity.

For further information write C.C. Steirly, Box 222, Waverly, Va.

This trip, while out of the state, will take the place of the annual summer trip to Cobb Island.



The Raven

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J. J. MURRAY, EDITOR
LEXINGTON, VA.

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BIOTIC ZONATION IN THE SOUTHERN APPALACHIANS

By J. J. Murray

Those of us who live in the Appalachian highlands consider ourselves exceedingly fortunate. We have a climate which is brisk but in which the winters do not go to great extremes nor last unduly long. The scenery around us is always interesting and frequently magnificent. From any point a short drive will take one into wilderness territory; and a moderate climb will show endless purple vistas, where in DuBose Heyward's phrase "the mountains shoulder to the skies". The plant and animal life is not only rich but exceptionally varied. In few places can such biological changes be found within a few miles. In the wilder spots great Ravens are still common, and fiercely powerful Duck Hawks seek their prey among their lesser kin.

At this time, however, we are considering not the beauty of this high country but the interest of its biological problems. The theme assigned to me in this panel, "Biotic Zonation in the Southern Appalachians", is one with which I have long been concerned but about which more study seems to bring less assurance. There would not be time within the limits of this paper, even if the writer had the ability, to make a proper critical analysis of the concept of faunal zones, but certain theoretical suggestions may be hazarded.

Since the days of J.A. Allen and C. Hart Merriam the discussion of the faunal zone concept has passed through several phases. First, there was the brilliant but rather loose formulation, chiefly by Merriam, of the theory that definite bands or zones of plant and animal life could be traced; that these zones were bounded above by isothermal lines and below by other isothermal lines for which there was a definite formula; and that the zones were transcontinental in extent. For a long time this theory was considered to be almost sacrosanct. Then came the period of criticism, chiefly in the past two decades, when the weaknesses of the system were exposed; and when, particularly, the temperature laws were shown to be hasty generalizations from insufficient data, and the application of the zonal idea on a continuous transcontinental basis to be insecure. Now we seem to have come to the point where biotic distribution is seen to have a much more complex basis than was understood by Merriam and his associates; where it is necessary to complement the zonal theory by sociological concepts; but where in certain areas, particularly in the mountains, the zonation theory is realized to have merit and practical usefulness. It may be pointed out that not a great deal of work has been done on the life zone theory in recent decades, except such as was critical of its principles. We have been satisfied on the one hand simply to repeat what the pioneers said, or on the other to throw away their work. The theory merits more careful examination, kindly as well as caustic.

(The faunal zone concept is far from dead. Since the present paper was written additional support for it has come to light. In the first issue of Systematic Zoology (Vol.1, No. 1, Spring, 1952) a life zone map was published, which as compared with the standard map published in 1910 by C. Hart Merriam and others has only minor revisions, pertaining chiefly to Alaska and the southern tip of Texas. This new map was taken from Hymenoptera of America North of Mexico - Synoptic Catalog (U.S. Department of Agriculture,

Agricultural Monograph No. 2, 1952). The authors of this monograph, C.F.W. Muesebeck *et al.*, have shown that in many groups of Hymenoptera the ranges may be satisfactorily stated simply by reference to life zones.)

Trying for years to analyze the distribution of birds in the mountains of the South, one of the things that has made me question the zone theory, certainly in so far as it claims to be all-sufficient, is the very great difficulty of tabulating groups of zonal indicators. I have never seen any published lists which I felt were satisfactory. The lists, for example, in our ornithological Bible of the East, Chapman's Handbook, have very little meaning. Such lists are not at all easy to make. For instance, while there are birds that are clearly limited to the Lower Austral, I cannot think of a single species which is found only in the Upper Austral. The two which come nearest to being so definitely limited are the Louisiana Water-thrush and the Yellow-breasted Chat, but the former of these finds its breeding territory to a limited extent both above and below this zone, while for the latter great intrusions into higher zones must be explained. This does not mean that there are no indicators for the Carolinian Zone. It simply means that such a list must on the one hand exclude birds which are specifically Lower Austral and must on the other hand consist of birds which, while they are found also in the Lower Austral, reach their limit at the upper boundary of the Carolinian. Similarly, most Alleghenian Zone indicators extend their breeding ranges also into the lower reaches of the Canadian. There is to a certain degree an altitudinal succession of species within the zone as well as an altitudinal succession of groups which characterize and distinguish zones. The Canadian in the South is more sharply marked off, although its clearest indicators are birds which are found mainly in one biome, the spruce association. Nevertheless, even when all the difficulties of naming the indicators of the various zones are recognized, I do not believe we can get away from the fact that there is a rather clear altitudinal stratification in the southern Appalachians which must be recognized apart from biomes. In short, it seems to me increasingly clear that in the study of distribution the point is not that of zone versus biome but rather of zone plus biome. That is, the two concepts are complimentary, and may need the assistance of still other concepts before we begin to understand the complex business of plant and animal distribution.

After what has been said about published lists of zonal indicators, it is with great temerity that I go on to suggest certain lists in this paper. I do it, not because I think that these lists will carry conviction generally, nor even because I am entirely satisfied with them myself, but because they may give other workers in this area something to criticize and to work from. The mistakes of the audacious are often useful source material for the cautious.

For the Carolinian Zone the Louisiana Water-thrush and the Yellow-breasted Chat are, as has been said, fairly distinctive. So also is the Cerulean Warbler, although it is distributed only sparingly to the eastward. Eight birds, found also in the Lower Austral, normally reach their upper limit in the Carolinian: Acadian Flycatcher, Blue-gray Gnatcatcher, Mockingbird, White-eyed Vireo, Prairie Warbler, Summer Tanager, Blue Grosbeak, and Cardinal. Of these the White-eyed Vireo and the Blue Grosbeak, while still uncommon in most of our valleys, are probably on the increase in the Appalachians. Three other birds, while occurring both below and above this zone, are more typical of the Carolinian: Tufted Titmouse, Wood Thrush, and Kentucky Warbler.

For the Alleghenian Zone a larger group of five birds may be said to be distinctive: Black-billed Cuckoo, Least Flycatcher, Mountain Vireo, and Chestnut-sided and Golden-winged Warblers. Two others, Yellow-throated Vireo and Worm-eating Warbler, also extend their ranges below this zone; and eight others range also into the Caradian: Veery, Cairns's, Black-throated Green, Blackburnian, and Canada Warblers, Scarlet Tanager, Rose-breasted Grosbeak, and Carolina Junco, the last being about as characteristic of the Canadian as of the Alleghenian.

The Canadian Zone has more birds which are distinctive and fewer which are at home in other zones. I would suggest nine birds as typical: Black-capped Chickadee, Red-breasted Nuthatch, Brown Creeper, Winter Wren, Golden-crowned Kinglet, Hermit Thrush, Northern Water-thrush, Mourning Warbler, and Purple Finch. Some of these are not found in the more southern part of this region. The Olive-backed Thrush is also distinctive in the northern and higher parts of the region, although outside our territory it ranges also into the Hudsonian. Two birds, Yellow-bellied Sapsucker and Magnolia Warbler, belong chiefly to this zone but are found to some extent in the higher parts of the Alleghenian.

Some remarks may be made here as to the readiness of certain austral species to press far beyond the altitudinal limits of the zone to which they belong and to occupy what are probably recent and man-made extensions of their normal habitat. I may say that these range increases do not seem to me to invalidate the zone concept, as they are not movements of the part of a complex biome but merely a movement on the part of a single species which is apparently more flexible in its adaptation than other members of the biome. The Chat is a good example. Normally and I think quite definitely a Carolinian species, the Chat, when suitable habitat develops, will range high on the mountains, pressing into territory where in the adjoining forest such high Alleghenian species as the Veery are singing. There are limits to this adaptability which are no easier to explain than the adaptability itself. While we get the Chat up to 3500 feet in the mountains bordering the valley of Virginia, it is not found in what is apparently just as appropriate territory on Middle Mountain, Highland County, Virginia, at 4000 feet (except very sparingly), nor on White Top or Mt. Rogers, nor at Blowing Rock, North Carolina, at 3500 to 3800 feet, an elevation which is not zonally any higher than 3000 feet in central Virginia. The obvious explanation would seem to be that central western Virginia is in closer contact with wide stretches of Carolinian territory. But while the lack of such contact is true of Middle Mountain, it is not true of Blowing Rock plateau. Furthermore, Brooks reports this bird as a "common summer resident throughout West Virginia", except in such dense forests and in the highest spruce belt where it would not be suited anyway. Very much the same situation applies to the Prairie Warbler. The Carolina Wren, usually considered an austral species, is now so widely spread that I have ignored it as a zonal indicator. This spread, like the northward extension of the Mockingbird and Cardinal and other austral species, may possibly be correlated with a succession of years with warmer average temperature, or even with a longer-range temperature cycle.

One of the most puzzling examples of Appalachian distribution is that of the Yellow Warbler. When one considers that this species breeds from tree limit south to northern Georgia, it seems odd that in Appalachian country it should be more common at the lower levels. It seems strange not to find it more common where its type of habitat occurs at high altitudes. In my own

county of Rockbridge it is strictly a low elevation bird. I have not found it on Middle Mountain, although it is occasionally seen in the high valleys to the east, nor at Mountain Lake or White Top or Mt. Rogers, where there is a good deal of apparently suitable habitat. Brooks says that in West Virginia it is an "abundant summer resident throughout the lowlands of the state, becoming much less common in the higher mountains". I have rarely seen it on the Blowing Rock plateau in North Carolina, where there are wide stretches of good territory. While this is not pertinent to the question of zones, it is an interesting puzzle in distribution.

Three ecological associations, the Carolinian, the Alleghenian, and the Canadian, can easily be recognized and can with somewhat less ease be mapped in the southern Appalachians. It may not be too fanciful to say that two of these zones, the Carolinian and the Canadian, representing two great biotic Regions, the Boreal and the Austral, are in tension with one another, while the third, the Alleghenian, represents the resolution of that tension. From this viewpoint, the Alleghenian, which can be thought of as the type zone of our area, is the focus of the warfare between the boreal and austral forces which create respectively the biota of the Canadian and Carolinian Zones. Going further with the same metaphor, the Appalachian mountain system may be looked upon as an invasion of boreal powers into austral territory, with the austral forces counter-attacking whenever any change of climate gives them an advantage. Such changes of climate may be natural, because of the swing of temperature cycles, or they may be man-made, due to the effects of deforestation in the past. More hopefully possible afforestation may turn the process in the other direction in the future. Because of this struggle, and because of the fact that the Appalachian region is a relatively narrow and island-like outpost, it is only to be expected that the Alleghenian, which is the central of these three zones, is a transition type of zone; and, further, that the character of each of the zones in this area is somewhat colored by its dominion status. The Canadian is considerably less than pure, especially along its edges; while the Carolinian lacks some of the species, such as the Yellow-throated Warbler, and exhibits rather sparingly others, such as the White-eyed Vireo and the Blue Grosbeak, which are to be found more commonly in the Carolinian of the Piedmont to the east and of the wide river valleys to the west.

It may be said that in the southern Appalachians the Carolinian Zone occupies the main river valleys, with its upper limit varying from 1200 feet in western Maryland to 3000 feet and over in northern Georgia. The Canadian Zone is found only along the crest of the highest ridges in West Virginia, on a few mountain tops above 4500 feet in Virginia, and in the high areas above 5000 feet in North Carolina and Tennessee. Most of this Appalachian country, then, falls in the Alleghenian, which is the eastern form of the Transition Zone. It is transition territory between the life forms of the north, to which it is linked as a line of mountains, and those of the great southern stretches by which it is surrounded. It is island, or rather peninsular country. Professor Maurice Brooks, speaking in another connection about the central part of this territory, has said, "The region offers a natural meeting place for forms of life which follow the mountain ridges down from the north, which gain entrance from the south through unobstructed river valleys, or which invade the area from both the east and the west. At such a junction point northern and southern, and eastern and western bird races meet, with somewhat puzzling intermediates becoming the rule rather than the exception".

Throughout this area the boundary lines between the zones are very irregular. These lines are not to be run with a ruler, like the United States-Canada border west of the ninety-fifth meridian, but like the same boundary east of that line are as crooked as a snake. That is only what is to be expected. If the presence of any association is caused by a complex of factors, including temperature, exposure, the precipitation/evaporation ratio, and many other things, then the altitude at which the association can be found will depend upon whether the place is on an open ridge or in a densely-shaded ravine, upon whether it has a northern or a southern exposure, and upon whether the soil on which it is based is limestone or shale or sandstone or granite. Furthermore, the boundaries of the zones have been made much more irregular by the lumbering and burning and clearing which the white man has carried on since his coming.

The effect of lumbering as it has been carried out in our mountains has been to raise in a marked way the altitude of the boundary line between the Carolinian and Alleghenian Zones, and in many cases to wipe out the conditions which made possible the association of plants and animals which we call the Canadian Zone. As man clears the heavy forests, and then, in the usual unhappy sequence, permits the mountain sides to burn, the character of the flora is changed, the ability of the soil to hold moisture is greatly reduced, the ground is exposed to the direct heat of the sun, and in consequence evaporation is made more rapid and the mean temperature is changed. All these changes together swing the ecological pendulum from boreal toward austral conditions, which in turn in the South, where we have all too little boreal territory, means an unfortunate wiping out of the unique in favor of the commonplace. This is particularly true in respect to the Canadian Zone, which in its most typical form is limited by the presence of spruce forests. When the spruce is once logged off, when fire has swept through its peculiarly vulnerable rubbish, when the young seedlings have been killed and the peat burned through to bare rock, there is little hope for anything except the most leisurely return of this fine type of forest and consequently of its characteristic breeding birds.

In closing may I suggest a piece of detailed work that needs to be done in many parts of this Appalachian region. Among the many factors which enter into the making of an associated group of plants and animals, humidity is an important one. It not only affects the altitude at which zone boundaries occur; but even more noticeably it affects the abundance of bird life within a zone. In my county of Rockbridge altitude will guide one as to the species of birds he may expect to find; but the abundance of individual birds will depend more upon moisture. As a rule the bird life on the Blue Ridge side of the Valley of Virginia is definitely richer than that on the outlying ridges of the Alleghenias on the western side of the Valley. The point which I would suggest for study is the effect of the direction of the prevailing winds upon the life forms of any locality. Brooks has mentioned briefly in his book, A Check-List of West Virginia Birds, that this is an important factor in the varying biotic conditions within that State. It is equally important in western Virginia. It would be of interest, for example, to know whether there is a noticeable difference between the bird life on the eastern and on the western slopes of the Blue Ridge in western Virginia, where that mountain line is narrow. There are probably many places in our Appalachian region where such studies would yield interesting results.

(This paper was read at the meeting of the Wilson Ornithological Club at Jackson's Mill, West Virginia, April 28, 1950.)

THE 1953 SUMMER SEASON IN VIRGINIA

By F. R. Scott

The weather during most of the summer was hot and dry, particularly in July when temperatures were 2.40 above the mean at Richmond. The drought in eastern Virginia was broken August 14 by a hurricane which passed off the coast, giving the coastal areas up to 6 inches of rain. Young Clapper Rails suffered badly on the Eastern Shore as a result, but there were no other reports of storm damage to birds.

Grebes through Herons. The shallow, brackish ponds on Chincoteague Refuge produced at least 2 broods of Pied-billed Grebes, both nests being found as well as the broods (E.O. Mellinger, F.R. Scott). A single Pied-billed Grebe near Norge on July 11 might have summered nearby (Bruce McCartney). A Brown Pelican 5 miles south of Alexandria on June 13 was an unusual record for anywhere in Virginia (C. Cottam). Approximately 75 Double-crested Cormorants summered in southwestern Northampton County and could usually be found at Kiptopeke Beach, Cape Charles, and Cherrystone Inlet. The only inland report of Snowy Egrets was 3 at Alexandria on July 22. The VSO field trip to Cobb's Island found 2 very late Green Herons just leaving the nest on August 8. Mr. Elton Miller and Mrs. Luther Machen reported a Yellow-crowned Night Heron's nest in Mr. Miller's yard at Hampton. The young left July 4. C.C. Steirly found 2 adults and one immature of this species near Waverly on June 14. Three Least Bittern nests were discovered at Chincoteague Refuge on June 16 (FRS). Two contained 3 eggs each and 5 young were just leaving the third. W.F. Rountrey, Paul Sykes, and Billy Efird saw a Wood Ibis at Stumpy Lake, Norfolk, on July 26. It was still there August 9.

Ducks. There was a good hatch of Black Ducks at Chincoteague and also a few Blue-winged Teal (BOM). A.O. English saw an adult Black Duck and brood of 6 at Murray's Pond, Roanoke County, on June 28 and twice later. An early migrating Blue-winged Teal appeared at Alexandria on August 8 (J.M. Abbott). There were the usual reports of summering, non-breeding ducks in the eastern part of the state. Mellinger reported a Gadwall and a Shoveller through the summer at Chincoteague, and a few Lesser Scaup were seen on several occasions in June at Fort Monroe (R.J. Beasley, FRS). A Ruddy Duck was still present at Alexandria on July 20 (R.R. Kerr), and a pair was found at Chincoteague in mid June. Red-breasted Mergansers were noted by a number of observers at Fort Monroe, Grandview, Cape Charles, and Parramore Island.

Hawks and Marsh Birds. A Broad-winged Hawk was again seen throughout the summer near Norfolk (WFR), and McCartney found one at Norge, near Williamsburg, on May 27 and June 12. Richard Peake, Jr., saw an adult Virginia Rail and 7 downy young at Butt's Station, near Norfolk, on July 14. A Florida Gallinule nest, first for the Chincoteague Refuge, was found there on June 16 (FRS).

Shorebirds. Mellinger saw and successfully photographed a male Ruff at Chincoteague on July 12, the third Virginia record. Four Wilson's Plovers, including one immature, were found on the north end of Wreck Island on August 8 by the VSO field trip. Beasley had a good early shorebird flight at Seaford, York County, on July 26, which included a Ruddy Turnstone, 2 Willets, and small numbers of Pectoral, Red-backed, and Western Sandpipers. The Audubon Society of the District of Columbia found 2 Marbled Godwits, 30-45 Oyster-catchers,

and 3 Stilt Sandpipers near Parramore Island on August 15. Twenty more Stilt Sandpipers were found along the Chincoteague Causeway the following day. Paul Sykes and John Withrow saw 7 Upland Sandpipers at the Norfolk airport on August 9; Rountrey found 9 there the next day. Paired Spotted Sandpipers were found near Cape Charles on June 18 and in Mathews County on July 11 (FRS). A White-rumped Sandpiper was reported by R.J. Watson on Wreck Island on August 8.

Gulls, Terns, Skimmers. Two Great Black-backed Gulls near Parramore Island on August 15 were probably summering, non-breeding birds (P.A. DuMont and others). On June 10 Lyle D. Miller made a survey of Hog Island Bay and estimated, among other things, 6 pairs of Royal and 12 pairs of Gull-billed Terns breeding on Rogue Island, and 15 pairs of Gull-billed Terns nesting on the southern end of Hog Island. A sick Roseate Tern was picked up on the beach near Back Bay on June 14 by Sykes, Mike Griffin, Betsy Stevens, and Elisabeth Thomas. It was identified later by Jack Perkins and mounted for the Norfolk Museum. Black Skimmers were seen several times in June in the lower Chesapeake Bay near the town of Cape Charles. Beasley found 2 at Fort Monroe on June 21 and July 12.

Cuckoos to Thrushes. On July 21 Rountrey found a pair of Black-billed Cuckoos in Princess Anne County where this bird is always rare. A Long-eared Owl was picked up dead near Churchville, Augusta County, on June 20 (Karl Haller). Nighthawk are now well established in Lexington with at least 3 pairs (J.J. Murray). They were strangely absent in the area in summer until 1947. Rountrey reported the nesting of the Horned Lark at Norfolk, and J.H. Grey believes it is increasing as a breeding bird on the Lower Peninsula. It was found to be relatively common in mid June on the Eastern Shore all the way south to Cape Charles. A colony of Bank Swallows was found at Presquille Refuge, between Richmond and Hopewell, by John DeLime. About 20 pairs were feeding young on July 3. J.K. Wright saw a high of 250 Bank Swallows on July 17 at Alexandria, across the Potomac from a nesting bank. A Veery at Lebanon on July 3 (RRK) is probably a unique summer record for the Coastal Plain of Virginia, though there is a small colony about 15 miles north in Washington's Rock Creek Park.

Warblers to Sparrows. John Westbfook found a Prothonotary Warbler nest with young at Danville on June 5 and two more on June 7. Scott reported a pair feeding one young bird at Farmville on July 4. At Norfolk Cowbird eggs were found in 2 Red-eyed Vireo's nests in Late June (Sykes), and young Cowbird were found being fed by a pair of Hooded Warblers on July 11 (Cape Henry Bird Club) and by a pair of Red-eyed Vireos on August 9 (Sykes and Withrow). Mrs. Catherine Bentley found 5 nesting pairs of Scarlet Tanagers at Ellerson, Hanover County, with the eggs in one hatching on July 14. Farther east, June pairs of Scarlet Tanagers were reported at Norge (EM) and Williamsburg (JHG). A Dickcissel at Norge on June 8 (EM) was the only summer report. John V. Dennis found 15 pairs of Henslow's Sparrows in June near Leesburg, Loudoun County.

-- Richmond, Virginia

NESTING STUDIES ON WRECK ISLAND

By C. C. Steirly

On July 13, 1954, John Grey and the writer spent the best part of the day on Wreck Island off the Eastern Shore. The trip had for its purpose the study of nesting terns and skimmers. Upon approaching the island Grey was put ashore on the north end, where he established a base of operations, namely the water jug and the packs containing food and other supplies. The writer was put ashore on the marshy area about a mile south of this and on the landward side, the idea being that as he moved northward to join Grey he would observe bird life in general and attempt to note any evidence of tern breeding in that section. On this journey a dozen oystercatchers, a number of willets, Wilson's plover, semipalmated plover and a few least terns were observed. No evidence of least tern nests could be found.

Upon joining Grey a rough reconnaissance of the north end of the island was made and from a vantage point the locations of common and gull-billed tern nests were plotted as the adults settled down after the disturbance caused by walking through the colony. A photographic blind was then erected in a suitable spot, from which nests of common terns, gull-billed terns and black skimmers could be seen. After the blind was erected, a difficult task in the wind, the two retired to a convenient log and amid scores of black skimmers ate their lunch of canned corned beef, brown bread and sand. Both then approached the blind and after Grey was well ensconced the writer withdrew to reconnoitre the lower end of the island. Grey was able to take motion pictures of the nesting terns.

The writer consulted the Cobb Island sheet of the topographic survey and walked toward the southern end of the island in order to determine whether or not there were any nesting colonies of terns and skimmers among the dunes shown on the whole seaward side of the island. This walk took the writer almost to the south end of the island but no evidence of a nesting colony could be found. Shortly after leaving the north end the skimmers became less numerous and in fact became absent less than half a mile down the beach. Four or five oystercatchers paraded along the edge of the sea and a few small flocks of semi-palmated sandpipers fed just behind the high water mark. A lone black-bellied plover was observed. In one area, about half way down a solitary gull-billed tern kept harassing the writer in much the same manner as they behave when one is within a breeding colony. However, the writer kept going in a straight line and the tern kept darting at him for a distance of at least 300 yards. No other terns nor evidence of nests could be found. Near the lower end of the island the writer went up the highest bit of dune in sight, a shell bank some ten feet up from the sea, and scanned the vast area of salt marsh to the west and north. Nothing could be seen but lone laughing gulls flying over, and every now and then a willet arose from the marsh. A few oystercatchers flew back and forth. In the more mesic portion of the marsh-dune edge a few passerines were noted. These included song sparrows, redwings, meadowlarks and barn swallows. No attempt was made to count them. Walking in the marsh became difficult so after cutting across a particularly grassy section of the dune the return journey was made along the shore to the tune of the whistling of the oystercatchers.

At the north end Grey had dismantled his blind and his location was easy to detect because of the hundreds of black skimmers and terns circling over him. A count was then made of the nests and young in the north nesting colony with the following results:

| | | | | |
|------------------|---|----------|---|-------------------|
| Black Skimmer | - | 59 nests | - | 23 young |
| Common Tern | - | 8 nests | - | 3 young |
| Gull-billed Tern | - | 5 nests | - | no young observed |

Grey reported hearing one Forster's tern.

A number of dead young skimmers were found throughout the colony. Perhaps most of them had been killed by shifting sands and parental neglect. There was evidence at hand to show that recent storms had done damage to the colony, which is quite exposed to the vagaries of the elements.

It is quite true that Wreck and Cobb Islands have been considerably worked over ornithologically in the past and perhaps these two islands are among the most frequently mentioned Virginia sites to be found in the entire series of A.C. Bent's "Life Histories of North American Birds". They are nevertheless quite fascinating and should not be neglected by the VSO. Even though they have been well explored and described by F.M. Chapman ("Camps and Cruises of an Ornithologist"), A.C. Bent ("Life Histories of North American Gulls and Terns"), and a number of others it must be recalled that these classic studies were made years ago before many of the colonies had recovered from the ravages of plumage trade, excessive eggging and unrestricted shooting. Furthermore it must be realized that these islands, like many other habitats, are not really static. While they retain their general character of sand dune on the seaward side and salt marsh on the landward side the proportion of each and the suitability of various portions for tern and skimmer nesting are somewhat subject to change as the result of storms that can in a short while alter the shapes of the islands, cover up marsh with shifting sand and wash whole sections of beach. While these storms are disastrous during the breeding seasons they often keep the habitat for tern breeding favorable by halting the gradual invasion of the beach grasses and other vegetation whose encroachment would alter the habitat unfavorably for tern and skimmer breeding. The southern edge of the present breeding colony seems to be limited by a rather rank growth of grasses, poison ivy and other plants. Terns (common and gull-billed) and skimmers seem to prefer the more open sections of dune and shell with sparse clumps of vegetation. Since each storm helps maintain this condition in the north colony it might conceivably create suitable nesting sites elsewhere on the islands. The islands are still worth an annual breeding study. The marshes should be more thoroughly investigated on any future expedition. Perhaps the Forster's tern might be found to be breeding there.

A count of the Charadriiform species found on the island is as follows: Black Skimmer, 400; Oystercatcher, 14; Willet, 12; Wilson's Plover, 15; Semipalmated Plover, 6; Semipalmated Sandpiper, 30; Ruddy Turnstone, 2; Black-bellied Plover, 1. No count was attempted on the laughing gulls, herring gulls and ring-billed gulls observed.

The journey to and from Wreck Island to Oyster was not very fruitful. Observations along this route included 14 Hudsonian curlews, 8 dowitchers, 1 American egret, 1 willet, 4 green heron, 2 great blue heron, 5 little blue herons, in addition to least terns and common terns. The comparative lack of herons was noticeable and the curlew flock seemed to be a bit early.

Notes kept on the observations made on the VSO Wreck Island trip of July 19, 1952, indicate that on that trip in the north area nests of the black skimmer and Common tern were found. One nest of the gull-billed tern was found and a small colony of least tern nests were found. An account of this trip was published in THE RAVEN for July-August, 1952.

-- Virginia Forest Service
Waverly, Virginia

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THE BACHMAN'S WARBLER

(An Editorial from the ARKANSAS GAZETTE)

While millions of Americans were watching Joe McCarthy tangle with the Army, the State Department was keeping one anxious eye on Geneva and the other on Guatemala, Agriculture Secretary Benson was taking a dim view of mounting farm surpluses, and the nation's economists were scanning the charts and graphs that record employment trends, a covey of earnest birdwatchers were down in a swamp near Mount Vernon fondly gazing at a warbler four and one-quarter inches long with a suffusion of yellow between the shoulders.

The bird, a Bachman's Warbler, has been rarely seen since it was identified by the Rev. John Bachman, a close friend of the great Audubon, in 1833, and never before so far north.

The Washington Audubon Society, as the Associated Press irreverently but accurately put it, looked upon the discovery with the awe of a craps shooter who finds a pair of dice that roll nothing but sevens.

We find the discovery of the Warbler a heartening note in a gray run of news - not because we are interested in birds, particularly, but because we are interested in people. It is comforting to be reminded that there are still Americans who like to walk through swamps and listen to birds sing - who, indeed, consider this a matter of urgent importance. We also like to think that there are still string-savers in this country, and people who build ships in bottles, collect match covers, play chess, or simply sit on sunny benches in parks and listen to the music of children's laughter.

In this disturbed season when we all seem to be beginning to look alike, we salute the men and women who dropped everything to plough through the swamp at Lorton, Virginia, and listen, enraptured, while an olive drab bird gave vent to a series of buzzy notes, zrr, zrr, seven or eight notes, all on the same pitch.

(Reprinted in the RICHMOND TIMES-DISPATCH, July 21, 1954)

THE PARULA WARBLER NEAR LEESBURG, VIRGINIA

By John V. Dennis

One of the most common warblers along the Potomac River in the vicinity of Leesburg in Loudoun County is the Parula Warbler (Parula americana). In the mature bottomland forest bordering the river about one singing male can be heard along every half mile of shoreline.

Since this species shows a high degree of specialization in choice of nesting site, I was particularly interested in viewing a nest I discovered on July 8, 1954. The nest was about 25 feet up in a scrub pine (Pinus virginiana), and near the outer tip of an uppermost branch. The tree was located in the front yard of a house overlooking the Potomac. Both parents were busily engaged in feeding what appeared to be an over-sized occupant whose bulk filled the tiny nest to overflowing.

Not until several weeks later was the nest revisited. This time the branch containing the nest was broken off so that the nest and its contents could be studied to good advantage. Within the nest I discovered the dried up remains of a young cowbird. The bird was quite well feathered, and, I should judge, had reached a stage where it might have been capable of leaving the nest. No clue suggesting the cause of its death was available.

The nest itself was a crudely built affair of the stems and veins of dead leaves held together with spider webbing. The leaf material seemed to be from one of the hickories. In addition, there was a small amount of another fibrous material, probably fine rootlets.

It remains to be seen whether or not this is a typical nest for this region. The Parula Warbler has been reported nesting in clumps of debris deposited in trees along the Potomac by flood waters. Typical nesting sites to the south are located in Spanish moss (Tillandsia), and northward in beard moss (Usnea).

-- Leesburg, Virginia

CHINCOTEAGUE MARSH TRIP

By C. C. Steirly

On May 23 Ray Beasley, Frank Richardson, Paul Sykes and the writer visited the Chincoteague Marshes in Accomac County. This trip duplicated one made by three of the group a year ago the same date and which was reported on in THE RAVEN. The weather was rather warm, with a light rain at noon. The tide was rather high during the visit but the marshes were not disappointing, despite a fierce attack by mosquitoes.

Only those birds observed in or over the marshes were recorded. Observations within this habitat included: great blue heron, American egret, snowy egret, Louisiana heron, little blue heron, green heron, black-crowned night heron, blue-winged teal, marsh hawk (a pair), osprey, clapper rail, semi-palmated plover, black-bellied plover, ruddy turnstone, Hudsonian curlew, spotted sandpipers, willet, greater yellowlegs, red-backed sandpiper, dowitcher, semipalmated sandpiper, laughing gull, common tern, least tern, kingbird, barn swallow, tree swallow, long-billed marsh wren, Maryland yellowthroat, yellow warbler, meadowlark, redwing, boat-tailed grackle, orchard oriole, sharp-tailed sparrow, seaside sparrow.

In the marsh the remains of a flooded out clapper rail nest was found. Upon opening the eggs they were found to contain well-developed embryos. Snowy egrets were quite common, far outnumbering the American egrets and other herons in abundance.

At the Kiptopeke Ferry Landing a Bonaparte's gull was observed.

-- Virginia Forest Service
Waverly, Virginia

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EARLY SUMMER FLOCKING AMONG WESTERN BIRDS

By John V. Dennis

One of the contrasts between the habits of birds in the East and the West, as I have recently noted, is that many western birds are still found in flocks during the nesting season. Between May 20 and June 5, 1954, while observing birds in Arizona, Utah and Colorado, I came upon many instances of this. The jays and their relatives afforded some of the best examples. In the Santa Rita Mountains of southern Arizona I always found the Arizona Jay in noisy flocks of from fifteen to twenty-five individuals. The same was true of the Pinon Jay which I found frequenting the juniper-pinon forests in Utah. As William L. Finley has reported, this species nests in colonies and the birds remain in flocks throughout the breeding season. On the outskirts of Eagle Pass in Texas I saw about fifteen White-necked Ravens in one group. And another example of a community-minded bird is to be found in the Acorn or California Woodpecker. In the Santa Rita Mountains there were always from six to eight in the trees about my camping site.

Doves, too, were often seen in flocks. I saw as many as a dozen Inca Doves in one flock on the outskirts of Tempe, Arizona. Mourning Doves were often seen in small flocks - one flock in the mountains east of Provo, Utah, contained ten individuals.

At the Grand Canyon Red Crossbills, and in the mountains of Colorado Pine Siskins were seen in large flocks. It was a surprising sight to see almost forty Red Crossbills at a time near the overlooks where tourists view

the Grand Canyon. The House Finch is another member of the sparrow tribe I found in large numbers. On a barren hillside near Phoenix, Arizona, I counted close to a hundred. I was unable to ascertain the reason for this congregation, but the birds may have been coming for grit.

Such social behavior during the nesting season is in sharp contrast to early summer flocking habits here in Virginia. We may sometimes see Brown-headed Cowbirds, noted for their ability to bypass domestic duties, in sizeable flocks. Also the Mourning Dove, Starling and Redwing seem to band in flocks well before the nesting season is completed.

It is reasonable to suppose that a number of western species in adapting their habits to periods of food scarcity or abundance find the flocking habit of value even during the nesting season. Probably for many of the species involved there is less insistence upon territorial rights, and thus, as in the Pinon Jay, we may find colonial nesting and community foraging for food.

-- Leesburg, Virginia

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VIRGINIA BIRD NOTES

Long-eared Owl - Correction. The young owls, reported in the last issue of THE RAVEN (May-June, 1954, p.89) as probably Long-eared Owls, turned out to be Great Horned Owls, when we got a good view of them. The confusing thing was that we did not hear, either from the adults or young, the typical hoot of the Great Horned Owl; and the shrill, cct-like, screams of the young were unlike anything we had ever heard from this species.

Pied-billed Grebe. One was seen by Max Carpenter on a pond near Waynesboro on June 27. This is the first record for the Valley between May and late July.

American Egret. Max Carpenter saw one at Dayton, June 21.

Waterfowl Breeding at Hog Island. C.C. Steirly states that John Bryant, manager of the Hog Island State Waterfowl Refuge in northeast Surry County, has advised him of the following waterfowl breeding records on the refuge this summer: Mallard, 2 broods; Black Duck, 2 broods; Blue-winged Teal, 4 broods; Canada Goose, 1 nest observed.

Hooded Merganser. Max Carpenter saw a female at Camp Shenandoah, near Swoope, on July 2.

Sparrow Hawk. The birds that have nested in the attic of the Editor's home at Lexington for several years moved this spring to a hollow in a locust tree near the front corner of the house. After the young (apparently 3) left the nest they were fed by the adults in the yard until August 2. Another pair nests on an open shelf under the eaves of Reid Hall on the Washington & Lee

Campus in Lexington, Stuart Davey, who is working on a deer population study for the Virginia Commission of Game & Inland Fisheries, reports that still another pair nested in the attic of the house where he lives. This is about a mile of the Washington & Lee Campus. It is interesting to have three atypical nest sites within such small radius.

Ring-billed Gull. Joshua Womeldorf reports that two very late individuals made intermittent visits to the fish pond on his farm from May 20 to June 6.

Albino Barn Swallow. An albino Barn Swallow, associated with a number of normal birds, was observed by C.C. Steirly on July 16 near the mouth of Powell's Creek (James River) in Prince George County.

Cliff Swallow. Joshua Womeldorf found another Rockbridge County colony in June, of seven nests under the open driveway of a barn at Bustleburg, near Brownsburg.

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NATIONAL AUDUBON SOCIETY NEWS

The National Audubon Society will celebrate its Golden Anniversary in 1955. At this time it will sponsor the publication of AN AUDUBON READER as one of the events in the fiftieth anniversary celebration. This book will contain some of the outstanding articles which have appeared in Audubon Magazine and its predecessor, Bird-Lore, since publication began in 1899. If you wish to recommend favorite articles for inclusion in the volume, please do so at once. Write to Ken Morrison at Audubon House.

Saving Wilderness Areas

The Audubon Society of the District of Columbia has been campaigning to save the wilderness areas in and about that city. This group presented an educational exhibit at the National Museum using maps, text, and other materials for the purpose of showing the public the "priceless heritage our city possesses in its remaining natural areas, and to delineate the dangers now threatening many of our cherished woodlands, meadows, marshes and waterways".

They assembled material, including photographs of the areas, in an attractive booklet called "Washington--City in the Woods" (price, 75¢). Quoting directly will be the best way to give you an idea of this project.

"Among the great cities of the world, Washington is alone in retaining so much of unspoiled natural settings within and near its boundaries.

"Historic plans for Washington have all made some provision for the preservation of wilderness But now a decade of boom-town growth, pushing the city far beyond its original boundaries, menaces all of the remaining natural areas, even those included within established parks

A careless public, unaware of the natural values to be preserved, may awaken too late to save what remains from ruin.

"As we dealt with each locality chosen, we tried to tell two stories-- first, what distinctive wildlife habitats it possesses and how much these could mean to us; and second, how this area illustrates a basic precept or problem of which we should be more aware."

This project to save the wilderness areas in Washington affects every one of us since it is our Capital. It is also hoped that the campaign of the Washington Audubon Society will receive support from all branches and affiliates since the District of Columbia does not have any Senators and Representatives of its own. This campaign may also provide you with ideas for saving wilderness areas in your own community.

The Sullivan County Audubon Society (N.Y.) has maintained a very successful booth at the county fair for the past two years. The exhibits were planned to educate the people about local conservation measures and to make the general public aware of the local Audubon Society and its activities.

The South Bend Audubon Society (Ind.) did several things to let the community know about the group's activities. They had a booth at the sports, travel and hobby show and they gave a series of lectures on conservation in cooperation with the Indians extension center.

The Evanston Bird Club (Ill.) maintains a booth at the garden club fair each spring. This club also has a collection of bird slides which their members use when called upon to give talks at various clubs and school groups in the community.

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WRITER SCORES THREATS TO NATIONAL CAPITAL'S PARKS

"There are values in and around Washington D.C.," writes Michael Nadel in the New York State Conservation Council's Bulletin for May, 1954, "that seldom get a mention in the news. These are in the capital parks, a part of the national park system, administered by the National Park Service."

In his article, Nadel cited Rock Creek Park, the Chesapeake and Ohio Canal, and Theodore Roosevelt Island, the Wildlife Management Institute reports. He wrote, "They are the admiration and the concern of our citizens the country over, for whom they have a special meaning; world tourists and temporary residents identify them with the quality of our democracy. But now an eruption is threatened that would destroy their essential meaning to every citizen and world visitor."

Of Rock Creek Park he wrote: "The road builders, ever economy minded, have cast a greedy eye on this emerald jewel. They propose to cut an expressway through Rock Creek Park, apparently under the theory that one enters the park in absence of mind and must depart through it in celerity."

The Chesapeake and Ohio Canal is slated for destruction, Nadel reports, because there is a plan "to replace the canal with a highway, emasculating it of the values which exist by virtue of its associative elements. Although plans were put on the drafting board long before the development of modern speedways and traffic lanes which now stretch everywhere from the capital, the road builders cannot resist dragging them out to fill in their crisscross pattern of cluttering concrete.

"It is not that we would obstruct progress as represented by building, But we cannot permit the builders to wreck our dwindling birthright, under the plausible but false guise of economy, when practical alternatives exist which are available to them.

"The threats to the natural areas in and around the capital must not be shrugged off. They are symptomatic of the threats to our entire national park system. And precisely because, in the national capital, they are symbolic of our democratic culture, they must not be assailed. The issue is a national one."

(Wildlife Management Institute, Washington, D.C.)

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REVIEW

SONGBIRDS IN YOUR GARDEN, by John K. Terres

274 pages. Illustrated with many thumbnail sketches. Published by Thomas Y. Crowell Company, 452 Fourth Avenue, New York 16, New York, 1953. Price \$5.95.

This is a very complete "how-to" book on attracting songbirds. One need not have an expensive layout to do this, the author writes, because birds can be attracted to even the most simple surroundings, whether in town or country, if their basic requirements are provided. These requirements, and how they may be supplied, are chosen for presentation in *SONGBIRDS IN YOUR GARDEN* from practices that have been found satisfactory over many years of trial.

The author discusses bird houses and feeding stations, and explains how they should be made, giving many plans and diagrams. Designs are provided for different kinds of houses and proper dimensions. Terres also has included an excellent description of bird baths and water fountains.

In a useful appendix are presented charts showing the effects upon birds of different seasons; plants and their rating as bird foods; a list of birds that have fed from the hand; lists of bird foods and dealers; house sizes for different species; garden flowers that attract hummingbirds; and many other subjects of interest.

(Review from Outdoors News Bulletin, of the Wildlife Management Institute, Washington, D.C.)

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THE WASHINGTON REGION

By James W. Eike and Robert J. Watson

That part of Virginia lying across the Potomac from the nation's capital, referred to as the "Washington region", is not an area with clearly defined natural boundaries. On the north and east, of course, it is set off sharply by the Potomac River, but there are no such convenient limits to the west and south. In speaking of the "Washington region", therefore, it is necessary at the outset to draw arbitrary limits for the territory to be considered. The usual practice in such cases is to follow the nearest county boundaries. In this case, however, we have found it more convenient, for our purposes, to ignore county lines, and to consider the western and southern boundaries of our area as being formed by the circumference of a circle with a radius of thirty miles (airline distance) from the center of Washington. The "Washington region", then, will here be defined as consisting of all the territory on the Virginia side of the Potomac lying within thirty miles of the capital.

The area thus circumscribed extends nearly to Leesburg, in the northwest; to Gainesville, in the west; and, in the south, to Quantico, on the banks of the Potomac. Included within these limits are two entire counties, Fairfax and Arlington (the latter actually a densely populated metropolitan area); parts of Prince William and Loudon Counties; the cities of Alexandria and Falls Church; the Fort Belvoir military reservation; and the Prince William Forest Park.

This region is one of the most highly urbanized in Virginia. Population has grown rapidly in recent years, reflecting the expansion of the Federal Government during the last two decades. Population estimates for 1954 show some 234,000 people in the two counties of Arlington and Fairfax, with an additional 69,000 in Alexandria and Falls Church. Naturally, the closer one approaches Washington, the denser the population and the more rapid the rate of growth. This process has inevitably resulted in wholesale destruction of native habitat within and adjacent to the urban regions. Areas which were rural two decades ago are now thriving commercial centers or housing developments. Owing to shortsightedness of city officials and apathy of the general public, no provision has been made to maintain an adequate system of parks within the cities; many spots which would have been well suited for retention as parks have been allowed to fall before the bulldozer.

It would be erroneous, however, to depict the entire region as exclusively urban. The zone of heaviest population extends to about ten miles from Washington. Outside of this limit, one finds himself once again in the familiar landscape of Piedmont Virginia: a pleasant scene of small farms, large and prosperous estates, lazily winding streams, and, in places, fairly extensive stretches of woods. The Army Map Service sheet for the Washington vicinity, dated 1947, indicates that, as of that date, about fifty per cent of the region here treated was wooded, although the percentage would be somewhat smaller today. The largest stretches of woodlands are to be found along the lower Potomac, between Alexandria and Quantico.

The region lies within the "Big Bend" of the Potomac River, which flows southeastward as far as Washington, then turns almost due south. The fall line is marked by the picturesque Great Falls of the Potomac, some ten miles above the Washington city limits, where the river cuts through a rocky gorge to enter the Coastal Plain. Most of the land lies between 100 and 300 feet above sea level; the extremes range from 518 feet at Tyson's Corner, in Fairfax County near Arlington, to less than ten feet along the lower Potomac. Aside from the river, there are no large bodies of water within the area.

Because of its proximity to Washington, this region has been quite thoroughly worked by ornithologists. From one point of view, this fact has been somewhat of a mixed blessing, for most of the work has been done by ornithologists living in Washington, and hence there has been a tendency to regard the region, ornithologically speaking, as a sort of appendage to the District of Columbia. However, thanks to the intensity with which field work has been carried on here, a number of interesting records have been compiled from this part of the state. The most recent of these was the discovery of a Bachman's Warbler at Lebanon, just below Fort Belvoir, in the spring of 1954 by a group from the District of Columbia Audubon Society. This discovery attracted nationwide attention in the press. VSO members who attended the 1953 meeting at Arlington will recall seeing the Willow Thrush displayed by Mrs. Elizabeth D. Peacock, of Pine Ridge, Fairfax County; this bird, the first of its subspecies recorded from Virginia, was caught by Mrs. Peacock in one of her banding traps. Another bird bander in this region, Mr. Arthur H. Fast, of Arlington, recently added the Cassiar Slate-colored Junco to the Virginia list. Other unique or interesting records from this region, listed in Murray's CHECKLIST OF THE BIRDS OF VIRGINIA, are the following: the first Virginia record (and one of only two) for the Anhinga at Roach's Run in 1936; the first Virginia record for the Evening Grosbeak, Alexandria, 1940; "about a dozen" records for the Northern Great Gray Shrike; and of older vintage, nineteenth century records for such rarities as the White Pelican, the Ruff, and the Parasitic Jaeger.

Considering its small size, this region is endowed with a fairly large variety of habitat. Moving westward from the shrubbery and gardens of the urban residential districts, one enters territory fairly typical of the northern Virginia Piedmont, a land of rolling hills, characterized by farms used primarily for grazing and stock-raising. Here the woods are of the familiar mixed hardwood type, consisting primarily of oak, hickory, maple, yellow poplar, and the like, with a considerable amount of pine. Abandoned fields of broomsedge, growing up in black locust, Virginia pine, and red cedar, may be found here and there. Toward the east, approaching the Potomac, the country becomes flatter, and the stretches of woodland appreciably larger in extent; while the rank growth of the broad creek bottoms along the lower Potomac, together with the abundance of such trees as the red gum, proclaim the influence of the Coastal Plain. Along the banks of the Potomac, mudflats and marshes are to be found in spots, and the river itself furnishes additional habitat for waterbirds.

The bird life of the region reflects its location. So far as land birds are concerned, the breeding avifauna is, for the most part, typically Carolinian. The Blue-Gray Gnatcatcher, the Tufted Titmouse, the Acadian Flycatcher, and the Kentucky Warbler in the woods; the Yellow-breasted Chat, the Catbird, and the Towhee in more open brushy areas; the Mockingbird, the

Cardinal, and the Carolina Wren in suburban regions; the Redstart, the Yellow Warbler, and the Parula Warbler along wooded streams and waterways - these are typical of this region, and of the Virginia Piedmont in general. The occurrence of the Prothonotary Warbler along the lower Potomac may be taken as evidence of Lower Austral influences in the extreme southeastern part of the region. The contiguity of the area to the Potomac enriches the avifauna with a considerable variety of waterbirds. To the abundance of ducks, loons, grebes, mergansers, and gulls which winter along the river, one may add terns and shorebirds during the spring and fall migrations, and herons in the late summer and early autumn.

Because this territory is small in size and is traversed by many excellent roads, its many spots suitable for birdfinding are located reasonably close together and are easily accessible by car. The Potomac itself furnishes a good example of this observation; a first-class road (Mount Vernon Memorial Highway) borders the river all the way from Washington to Mount Vernon. At the upper end of this highway, a short distance downstream from the bridge which carries Route 1 across the river, is the Roaches Run Wildlife Sanctuary, a small lagoon lying between the highway and the railroad. Large numbers of ducks winter here and become quite tame, affording an unusual opportunity to observe them at extremely close range. Just south of the city of Alexandria, the Memorial Highway crosses Hunting Creek, a broad, sluggish body of water which empties into the Potomac. Extensive mudflats, much frequented by shorebirds in migration, are exposed at low tide along the edges of this creek; these mudflats can, however, be observed better from Route 1, which crosses the creek about a half mile west of Memorial Highway. All along the river below Hunting Creek, Memorial Highway runs quite close to the water, and there are numerous parking places where one can stop and search the river for waterbirds, or explore the woods on the landward side. One of the most convenient of these places is the Belle Haven picnic area, about a mile south of Hunting Creek, a wide, grassy spot which affords an excellent view of the river. Just below the picnic area, on the grounds of the Belle Haven Boat Club, is a fairly large marsh, where the song of the Long-billed Marsh Wren can be heard during the nesting season. Another spot, worth mentioning is the Dyke parking area, located near another marsh, where the Prothonotary Warbler has been found breeding. Along the entire length of the river, one may look for ducks, grebes, loons, gulls, terns, or herons, depending on the season, while the Bald Eagle occurs along the river throughout the year.

Conveniently located, though small in area, are the two parks in Arlington, Glen Carlyn and Lubber Run, located adjacent to one another along Route 50, about two miles east of Fort Buffalo (Seven Corners). Each of these parks consists of a narrow, wooded stream valley, hemmed in on each side by residential areas; their combined lengths total slightly more than a mile. Like many city parks, these have recently suffered from an ill-advised program of cutting and clearing of the understory; however, they provide the best opportunity within the Arlington area for the observation of nesting and migrating land birds. Noteworthy here are the occurrence of the Broad-winged Hawk as a nesting species, and the regular occurrence of the Golden-winged and Blue-winged Warblers in spring.

About three miles west of Glen Carlyn Park, just off Route 50, is Pine Ridge, a newly developed residential district. Examples of several kinds of habitat may be found here, concentrated within a small area. Pine Ridge is

located on a low hill just above Accotink Creek. The slope of the hill, opposite the residential area, is heavily wooded, with overgrown clearings which produce an edge effect and thus give the area an unusually large nesting population. At the foot of the hill, Accotink Creek flows sluggishly through a broad belt of damp, well-wooded bottomland. The open pastures and farmlands of Willowmere Farm, with the adjoining Berniser property, located about a mile north of Pine Ridge just beyond Lee Highway (Route 29-211), offer an example of another type of habitat. VSO members may recall finding the Short-billed Sedge Wren here on the 1953 field trip.

Mention has already been made of "Lebanon", where the Bachman's Warbler was recently found, but this famous showplace cannot be passed over without further description. Lebanon is the estate of Dr. Paul Bartsch, curator emeritus of the National Museum. It is located on the Gunston Hall road, just off Route 1 between Fort Belvoir and Woodbridge, overlooking the small bay where Pohick Creek flows into the Potomac. The entire estate, some 450 acres in extent, is maintained by Dr. Bartsch as a wildlife sanctuary. An excellent description of Lebanon has been given by Dr. Irston R. Barnes in an article in the Atlantic Naturalist for January-February, 1954. According to Dr. Barnes, no less than 205 species of birds have been recorded from Lebanon; among these may be mentioned the Prothonotary Warbler, which nests here, and the occurrence of such erratic rarities as the White-winged Crossbill and the Golden Eagle. In addition to its variety of bird life, Lebanon is also famous for the wildflower garden maintained by Dr. Bartsch.

Along the lower Potomac, just north of Quantico, is Prince William Forest Park, a tract of some 11,000 acres of hardwood forest, maintained by the National Capital Parks. This park provides a typical and readily accessible example of the extensive stretches of woodlands to be found in this part of the region. It has already been described in a recent article ("The Summer Birds of Prince William Forest Park", James Baird, THE RAVEN, September-October, 1952), which gives some information on the breeding birds found here. The Red-tailed and Broadwinged Hawks, the Great Horned and Barred Owls, and, in a few places, the Summer Tanager, are among the birds which breed in this part of the Washington region.

-- Falls Church, Virginia, and
Arlington, Virginia

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THE POTOMAC VALLEY CONSERVATION AND RECREATION COUNCIL

By Robert J. Watson

The increasing popularity of outdoor recreation among Americans in recent years is a fact too well known to require comment. With the growth of opportunities for leisure, more and more people, seeking relaxation and relief from the pressures of modern living, turn to such activities as hunting, fishing, hiking, bird study, and the like. Under these conditions, our remaining wilderness areas and scenic spots assume a constantly increasing value.

Yet the number of such areas within easy reach of large numbers of people grows constantly smaller. Steady growth in population, increasing tendency toward urbanization, and an expansion in automobile traffic far out of proportion to the rate of population growth - all these put a high premium on undeveloped land areas within and adjacent to metropolitan areas, as the need for homes, commercial centers, highways, and the like becomes ever greater. So powerful are the economic forces involved in this process that other considerations are too often forced aside. Those who seek to call attention to the need for preserving facilities for outdoor recreation have trouble making their voices heard. City planners and highway engineers, given a job to do, harassed by the relative enormity of their own difficulties, can hardly be blamed too much if they are indifferent to the conservational and recreational problems raised by urban growth, or if they tend to feel that these problems can be solved by planting a shrub or two along newly constructed highways and erecting a few picnic benches on some forlorn grassplot squeezed in beside a new shopping center.

Probably nowhere are these problems more acute than in the region of Washington, D.C. The normal population growth of this city has been enormously increased by the expansion of the activities of the Federal government in the last twenty years. Areas which were rural two decades ago now are bustling centers of commerce. Year by year, as this process goes on, it becomes more difficult to maintain any areas suitable for the enjoyment of outdoor activities.

It was in answer to this problem that there was formed, in the early part of 1953, an organization known as the Potomac Valley Conservation and Recreation Council. Realizing the necessity of taking some action before it was too late, a group of conservationists decided to form an organization which would bring together those interested in the problem and enable them to speak with a united voice in support of conservation. Through such an organization, it was hoped, the alarming threats to the scenic beauty of the Potomac Valley could be pointed out, and public opinion might be rallied to save some areas threatened by the growing need for buildings and highways.

The guiding light in organizing this group was Dr. Irston R. Barnes, of the District of Columbia Audubon Society. A number of other interested organizations, such as the Izaak Walton League, the National Parks Association, the Garden Clubs of Virginia, and others, agreed to support the new Council and to name representatives to serve on it. It was realized that the Virginia Society of Ornithology, as an organization concerned with all aspects of conservation throughout the state, had an interest in the matter, and hence the Society was invited to name a representative. The writer was appointed the Society's representative. Later Mr. James W. Eike, of Falls Church, was named alternate.

For various reasons, the Council was slow in getting organized, but meetings began in the spring of 1954. Attention was at once directed to several recent developments involving threats to various natural spots within the city of Washington and in the adjacent parts of Maryland and Virginia. Committees were appointed by the Council to study these threats and to bring to the attention of member organizations the facts in each case, so that they might take whatever action was necessary to make their voices heard. Although most of these problems involve areas outside Virginia, they are of interest to Virginians for three reasons: First, because Virginia has an interest in

the Potomac River, which forms its northern boundary; second, because every citizen has a legitimate concern with the proper development of the capital of his country; and third, because the issues involved are typical of what is taking place throughout the country, and may set precedents which should concern everyone who is interested in conservation.

Most of these threats involve the construction of highways. One of the most widely publicized has been the proposal for a superhighway running westward along the route of the historic Chesapeake and Ohio Canal, a now-abandoned waterway which parallels the Potomac on the Maryland side as far west as Cumberland, Maryland. This canal is noteworthy not only for its picturesqueness and scenic beauty, but also because of its historic value as a nearly unique example of the great era of canal-building in the early nineteenth century. For these reasons, the Federal government, some years ago, purchased the right-of-way of the Canal, with the avowed intention of developing it into a national park. Unfortunately, nothing has been done to develop it properly. It is now proposed to obliterate the Canal by using it as the bed for a new superhighway, thus destroying a region of irreplaceable value for the sake of another road which, if actually needed, could easily be built along any of a number of other routes. Nominally, only a part of the Canal is to be so used at the present, but sponsors of the plan make no bones of the fact that they expect eventually to extend the road all the way between Washington and Cumberland. The National Park Service itself is among those supporting the plan.

What the outcome will be is not yet clear. Hearings were held at the Department of the Interior on May 28, at which interested parties were invited to submit testimony. The Potomac Valley Council alerted all its member organizations, many of which sent representatives to testify or to submit prepared statements. Although the Canal is on the Maryland side of the river, the VSO representatives on the Council felt that the Society had a legitimate interest in trying to preserve this national monument and in attempting to defeat the ominous precedent involved in sanctioning this proposed invasion of the National Park system. They therefore prepared and submitted a statement in which they attempted to make plain the interests of the Society in the matter and urged the selection of an alternate highway plan so as to preserve the Canal. How much effect such steps have is, of course, doubtful. But it is at least possible that similar action by a sufficiently large number of organizations might make some impression on those concerned.

Two other proposals involve threats to two of the parks within Washington: Rock Creek Park, the largest and best known park, and a smaller park, known as Glover-Archbold Park, in the Georgetown region of the city. Both of these parks consist of narrow, heavily wooded stream valleys, relatively unspoiled. Few cities anywhere near the size of Washington can boast of such natural areas within their borders. It is now proposed to utilize the upper portion of Rock Creek Park for an arterial east-west highway, and to obliterate Glover-Archbold Park entirely by constructing a similar road along its entire length. Those sponsoring these plans have adopted what might be termed a semantic attack on the problem, by referring to the proposed highways as "parkways". What, it is argued, could be more appropriate use for a "park" than to build a "parkway" through it? This preposterous verbal quibble has already been upheld by the courts in a suit brought to block the construction of the Rock Creek highway.

It should be pointed out that the need for additional highway facilities within Washington and on its outskirts, is not questioned. Anyone who has had occasion to drive in this vicinity will agree. The object of conservationists is simply to ensure that the highways will be planned so as to avoid destroying these parks. In every case, alternative plans have been prepared, together with the necessary justifications from the engineering viewpoint.

Some other threats involve the interests of Virginia more directly. One of these concerns the area known as Dyke Marsh, an extensive marsh area along the Potomac on the Virginia side, a few miles south of Alexandria. This region is described as the last of the once-extensive Potomac marshes now remaining in the Washington vicinity. It is now to be dredged for gravel by the commercial company which owns it. VSO members who attended the 1953 meeting in Arlington will recall the talk given by Dr. Barnes, in which he described his efforts to preserve this marsh by persuading the Federal government to take it over for a wildlife refuge. Dr. Barnes made it clear that the company had gone to extraordinary lengths in cooperating with his attempts, only to be blocked by administrative red tape. The company cannot be blamed for feeling that they have waited long enough. Apparently, therefore, it is too late to save Dyke Marsh.

One other threat has apparently had a happier ending, for the moment at least. Lying in the Potomac River, between two of the heavily-travelled bridges which carry traffic between Washington and Virginia, is Roosevelt Island, a 96-acre tract of woodland presented to the Federal government in 1933 by the Roosevelt Memorial Association, in memory of Theodore Roosevelt. The island is administered by the National Park Service, which plans to allow it to develop undisturbed as a natural biological community. Access to the island is only by boat. In accepting the island, the government agreed that any plans for developing it must be approved by the Roosevelt Memorial Association. The eagle eye of the highway engineer, surveying the need (which certainly cannot be denied) for additional bridges across the Potomac, lit upon this particular stretch of the river. A plan was drawn for a bridge which would skim the island at treetop level. Since the Association protested vigorously, it was obvious that adoption of this plan would involve a crudely flagrant breach of faith by the government. The final plan, approved by Congress at its last session, provides for a bridge which will bypass the island.

The District of Columbia Audubon Society, which has been in the forefront of the conservation fight in Washington, recently devoted two issues of its journal, the Atlantic Naturalist, to the theme "Washington - City in the Woods". Articles published in these issues stressed the good fortune of Washington in possessing an unusually large number of parks, or areas suitable for parks, and pointed out that this priceless asset would be lost if proposed plans for highway development were approved. Of particular interest to Virginians was the map which was printed comparing the number of parks, existing or planned, in the Alexandria-Arlington region, with those to be found in an equal area of London. This map unfortunately made it abundantly clear that the citizens of Washington's Virginia suburbs have been sadly indifferent to the needs and opportunities for park development. We are accustomed to think of the countries of Europe as teeming with a dense population cramped into a narrow space, in contrast with the vast open spaces of our more recently settled country. Yet this English metropolis, thanks to the wisdom and foresight of its citizens, is blessed with a wealth of parks which puts to shame the cities of Alexandria and Arlington, even though large parts of these cities were completely unsettled less than twenty years ago.

These are some of the problems faced by the Potomac Valley Council in its efforts to make the voice of conservation heard above the strident hub-bub of the city. At present the Council, though still in a formative stage, is continuing its efforts on these and other problems. It should be emphasized that the Council has no power to bind the member organizations; it merely provides the latter with a clearinghouse of information, and with a channel through which their representatives may consult with others and make plans for action. As the VSO representative on the Council, the writer will continue to try to represent the interests of the Society in all matters in which the Society may have an interest. The object, of course, is not to display a blind and stubborn hostility to essential improvements; rather it is to make it clear that there are other important considerations besides those of immediate practical convenience, and to urge reasonable compromises which will make it possible to provide these improvements and still retain a few natural areas to preserve the recreational values increasingly needed today. The writer would be glad to hear from members of the Society who wish to express their views in the matter, or who desire further information on any of these subjects. Also, of course, any who are interested might assist by writing their Congressmen or Senators to express their views on particular proposals.

-- 3228 Fifth Street
Arlington, Virginia

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DISTRICT OF COLUMBIA AUDUBON TRIP TO THE EASTERN SHORE

By C. C. Steirly

The District of Columbia Audubon Society field trip to Wachapreague and Chincoteague, Virginia, on August 20 to 22 was attended by several VSO members, including the writer, who went along to observe the trip plans of that organization as well as to enjoy the fellowship of kindred spirits. This organization offers a great number of trips and events of interest to the naturalist throughout the year and included in its offerings are several two-and-one-quarter day trips to different points of ornithological interest that are quite distant from Washington.

The trips are announced in the Society's excellent organ, The Atlantic Naturalist. For each trip a definite reservation date is set and persons desiring to attend the trip must make a reservation by that date with the trip committee. As the time of the trips approaches the committee mails out cards to those who have made reservations advising them as to where to make hotel reservations. In this instance the writer was advised to make reservations at Whispering Pines and to meet the members there on the night of August 20. In this way the trip committee as well as the trip leader know how many persons to expect - very important knowledge where boat trip arrangements are to be made.

On the night of August 20 everyone was told to be up by 5:30 A.M. the following morning and to meet at Wachapreague in time to take a boat at 7:00 A.M.

Upon arriving at Wachapreague at the appointed hour following a hearty breakfast the group of 23 assembled on the dock and had to put up with a considerable delay as the boat intended for the party had developed engine trouble. The time was not wasted for it was low tide and there were many things to be seen. Across the creek there were several clapper rails. Immediately below the dock two or three laughing gulls fought over a bit of fish offal. From time to time herons of various species flew by and a few Hudsonian curlews were seen.

At last the boat was ready and everyone climbed aboard for an all day trip to Paramore and Cedar Islands. The route to Paramore led out through miles of salt marsh in which were seen green herons, American egrets, snowy egrets, Louisiana herons, great blue herons, dowitchers, willets, Hudsonian Curlews, semi-palmated plover and boat-tailed grackles. Overhead passed occasional black skimmers, laughing gulls, common, least and royal terns. On one marshy flat just before reaching Paramore Island several oystercatchers were seen.

The boat landed at the Paramore Coast Guard Station dock and the leader informed the group that the boat would leave at 1:00 p.m. for Cedar Island. This made it possible for small groups to disperse and explore the habitats in which they were most interested, which included open beach and dunes, salt marsh, low woods (pine, cedar and scrub oak) and brushy areas dominated by the wax myrtle and groundsel. The lesser yellowlegs, black tern, ruddy turnstone and sanderling were added to the list here. Lunches were eaten near the Coast Guard Station, as that was the only source for drinking water.

At the appointed hour the boat took the group over to Cedar Island which has a magnificent, unspoiled beach and the usual salt marsh on the landward side. Here everyone had an excellent opportunity to see a lone brant at close range. On the open beach four oyster-catchers paraded around in perfect view. Four o'clock came entirely too soon and the group once again boarded the boat and headed for Wachapreague.

In nearby Onancock the group of 23 were seated around a huge table and partook of a really outstanding dinner. The fellowship around the festive table was equally as enjoyable as the meal. Plans were announced for the following morning.

After an early breakfast the group travelled somewhat independently to the Chincoteague Marshes and there the remainder of the trip became a matter of small independent group observations of the marsh bird life. It takes an enthusiast several hours to negotiate the few miles of causeway that cross the marsh. Through rare foresight in planning, the builders of this causeway allowed ample parking space on the shoulders of the road. Here, in the marshes, were seen clapper rails, short-billed marsh wrens, yellowlegs, curlews, ospreys, most of the herons, with the snowy egret being the most abundant, the various terns, boat-tailed grackles and cormorants. A stilt sandpiper was seen by one party. One excellent sand bar was watched, through a telescope, until it melted before the incoming tide. It contained black-bellied plover, semipalmated plover, yellowlegs, terns (royal, black, common, Forster's and least), ruddy turnstones, western sandpipers, semipalmated sandpipers, dowitchers and black skimmers. As the waters of the incoming tide finally submerged the bar the last birds to leave were the thirty or more black-bellied plovers. It was time also for the party to move on, leaving the area as reluctantly as did the plover.

This was a most pleasant trip, the chief advantage of it being the two days afield which made it more justifiable to those who had to drive a considerable distance. The two evenings of fellowship also tended to increase the enjoyment. On the first there was the anticipation of the birds and areas to be seen on the morrow and on the second there was the joy of discussing the day's findings and comparing them with the findings of past trips.

-- Waverly, Virginia

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NATURE COUNSELLING

By D. Ralph Hostetter

Nature counselling is both a Science and an Art. It is a Science, in that one is dealing with all areas and phases of Nature in all its aspects; thus one must have a knowledge of Nature, this is Science. The Art comes into the picture when we are teaching children, trying to stimulate a wholesome interest in Nature, an appreciation of Nature as God's creation, and in all the various expressions of Nature see the handiwork of God and hear the voices through which God speaks to us. To do this successfully is an Art, an Art in Nature instruction.

Mrs. Hostetter and I had the opportunity during the past summer to express ourselves in nature lore. We were serving as staff members at the Rocky Mountain Mennonite Camp, Divide, Colorado. This camp is situated in Pike National Forest, at an elevation of 9,300 feet, within the shadow of Pikes Peak. I was serving as Nature Counsellor. Interpreted this means that the person who bears this title is expected to identify all nature specimens and to answer all questions pertaining to any rock or mineral, mammal and bird, tree and wild flower. This presents a most stimulating and inspiring challenge. Each week brought to the camp a new crop of campers ranging in age from nine years (the youngest group) to sixty plus (the oldest group, which is composed of parents and grandparents, during what is known as Family Week).

There were three class periods during the morning; the afternoons were devoted to various forms of recreation and to hiking. Besides teaching several periods I had charge of the hiking program which was very strongly emphasized. Hikes ranged in length from several hours to eight or more hours, the latter including a midday packed lunch. For the older campers the hikes extended to an elevation of 12,500 feet. These strenuous hikes were not taken with the younger campers.

It was my privilege to climb to the top of Long's Peak in Rocky Mountain National Park, elevation 14,255 feet. The distance is eight miles each way. This is a strenuous hike; and is to be recommended to every hiking member of the V.S.O.

Mrs. Hostetter and I also enjoyed a hike to the top of Pikes Peak, distance from camp to top is sixteen miles. This is an easier hike than the one to the top of Long's Peak. These hikes bring the Nature Counselor into contact with many forms of life, sub-alpine and alpine.

The camp was located among the Engelmann Spruce and Trembling Aspen, with a sprinkling of Limber Pine, Bristle-cone Pine and Douglas Fir. The common sub-alpine flowers included the Colorado Blue Columbine, White Marsh Marigold, Little Elephant, Bistort, Dasyphora, Gilia, Twin Flower, Bluebell, Wyethia, Monkshood, Larkspur and Sieversia. In the alpine area, 12,000 feet and above are such species as Alpine Pink, Alpine Saxifrage, Dryas, Rydbergia, and Yellow Paintbrush.

The Western Tanager, Pine Siskin, Mountain Chickadee, Red-shafted Flicker, Mountain Bluebird, Red-naped Sapsucker, and Rocky Mountain Jay were familiar birds of the camp. In the higher elevations we found the Southern White-tailed Ptarmigan, American Pipit, and Rosy Finch; Among the mammals the Spruce and Golden-mantled Squirrels, Least and Colorado Chipmunks, Porkupine and Beaver were the most common. The Pika was always heard and seen above timberline. Mule Deer and Elk were occasionally seen.

Nature counselling is both a Science and an Art. I enjoy it very much, especially in the Rockies. It provides a good tonic for every one and is so different from the formal class-room instruction. We need more nature counsellors; are there not any in the ranks of the V.S.O.?

-- Harrisonburg, Virginia

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A PELAGIC BIRD TRIP

By C. C. Steirly

On September 25 a slightly different type of bird trip was undertaken by F.R. Scott, Paul Sykes, Frank Richardson, J.E. Ames, Jim Mike, Ray Stevens, John Kundt, John Grey, C.J. Middick, W.O. Lewis, W.P. Smith, M.E. Hacker, M.E. Hathaway and C.C. Steirly.

The purpose of the venture was to get into the open ocean ten or more miles off shore and study the typical sea birds, or pelagic birds. At the town of Oyster, on the Eastern Shore, a deep sea fishing boat, the "Sook", was chartered and the voyage began at 9:30 A.M. during a high tide which precluded any concentration of birds on the mud flats and marshes along the route from Oyster to Wreck Island. Along this leg of the journey observations included in addition to many laughing, herring and ring-billed gulls, great blue heron (8), green heron (1), snowy egret (4), black-bellied plover (3) and double-crested cormorant (26).

As the boat approached the passage leading to the open ocean between Cobb and Wreck Islands the shore of the latter island was hugged in order to permit closer observation of its birdlife. On the shore there were a number of herring gulls with one great black-backed gull, a flock of eight sandorlings at the water's edge, and a lone duck hawk. Further up the island a solitary marsh hawk could be seen slowly circling the marshy portion.

The open sea was soon reached and the waters became progressively rougher until at last all that could be seen of the land was the Cobb Island Coast Guard Station. The sky was carefully scanned for birdlife as hopes ran high for the sight of petrels, shearwaters and jaegers. Three shore birds passed overhead. These were identified as pectoral sandpipers, everyone having had an excellent view of them. A distant, darkish bird, upon reaching the boat was written off as an immature herring gull. An osprey hovered in the distance and sailed landward. As the boat made steady into the sea three white specks above the water in the distance were watched with eagerness until they materialized into common terns. A Caspian tern followed in a moment by three royal tern passed over the heads of the observers.

The boatman advised that the craft was about ten miles off from the islands. The sea became choppy, while now and then a particularly large wave, breaking over the open boat, drenched some of the party. Thus far nothing had been observed that couldn't have been seen with much greater comfort on an anchored ferry at Little Crook.

To the sudden shout of "there's a bird" everyone gathered on one side of the boat and all were treated to an excellent view of a parasitic jaeger in the light phase. This for many was a life list item. Bread, having been brought from Oyster as a possible bird lure, was tossed upon the sea. Another herring gull was attracted to this and was soon followed by a second jaeger which disappeared almost as soon as it had partially circled the boat. This one was believed to have been the dark phase of the parasitic jaeger.

By this time, as lunches were being eaten and no birds were in sight, members of the party, began, one by one, to realize that the boat was bobbing around like a cork, and one by one the observers began to succumb to seasickness. Enthusiasm for sea birds, on the part of many of the group, began to wane. Most lunches were repacked in the knapsacks and gradually the bird guide books began to be closed. Binoculars hung limply around several necks. One of the most eager of the observers slid down from his perch atop the boat's cabin. Several of the group slumped over the benches and probably would not have looked up had a California condor flown over. Many faces were quite pallid and studied efforts were being made to keep from being seasick.

A minority of the group, being indefatigable ornithologists, were all for moving ever onward into the rough seas in quest of shearwater and petrels. Consultations of the VSO Check-list indicated several gaps in our knowledge could be filled if only a few more miles of open sea could be covered. The co-leaders of the trip observed the misery about them and decided that the course of wisdom would be to turn about and land on Cobb Island, switching as it were from pelagic birding to the comparatively milder study of shorebirds. The helmsman turned around just as a long wave crashed over the side of the boat unnoticed by some of the sufferers. With the prow of the boat facing Cobb Island, all that the more intrepid observers could do was to speculate on what might have been seen further out, and repeat to themselves, "sic transit gloria maro".

On the landward side of Wreck Island a landing was effected after several attempts and most of the party went ashore to observe the island bird life, none of the group ever having been on it at that time of the year. Somehow appetites were revived and lunches that had been packed in anticipation of being eaten at sea were consumed in the calm waters in lee of Wreck Island.

An exploration of the upper end of Wreck Island revealed several interesting things; more interesting perhaps in negative results. No oyster-catchers, willets or curlews could be found. A lone black skimmer brought back memories of summer VSO trips to this place. A great black-backed gull flew away as the group landed. The duck hawk was observed again and a lone snowy egret was flushed from the marshes. On the beach a few sanderlings and a semipalmated sandpiper were seen. In the grassy portions of the island a number of passerine birds were noted. These included seaside, savannah and song sparrows, a bobolink, two meadowlarks, five palm warblers, a black-poll warbler, short-billed marsh wren and two yellow-throats. A yellow-billed cuckoo was seen by several observers.

On the return to Oyster semipalmated plover (3), pied-billed grebe (1) and a flock of black skimmer (26) were added to the list, in addition to gulls and snowy egrets.

In making the Little Creek to Kiptopeke ferry run in the morning a sparrow hawk flying southward and three dowitchers were the only noteworthy observations in addition to the herring gulls, ring-billed gulls, laughing gulls, cormorants, royal terns and Forster's terns.

-- Waverly, Virginia

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EXPERIMENTS WITH TIN CANS AS BIRD HOUSES

By John V. Dennis

The idea of using tin cans as bird houses came with watching the successful nesting of Crested Flycatchers in a tin mailbox near Melrose, Florida. Despite the fact that mail often filled the entrance and the temperature inside was at least 20 degrees higher than that in the shade outside, the adults persisted in their endeavor and succeeded in bringing off five young.

After witnessing this achievement, I decided we are apt to pamper birds unnecessarily with our fancy wooden houses. Why could not cavity nesting birds accommodate themselves just as well to tin can houses, and thus save the bird attractor considerable time and expense?

With this thought in mind, during the summer of 1950, I set about erecting houses made of one gallon paint cans on my farm near Leesburg, Virginia. By burning I was able to remove most of the paint remaining inside the cans. The tin lid I fastened in place by tying it down with a wire looped through holes drilled near the top of the can. Later I substituted wooden lids for the tin ones. These were sturdier and improved the appearance of the house. Holes

were drilled in the bottom of the can to allow for drainage. After experimenting with several colors, I settled upon green and now paint all my houses this color. Finally the house is nailed to an upright and this is usually nailed to a fence post.

The houses were situated, for the most part, along fence rows between pastures or between pastures and gardens. Established along the fence rows are red cedar, sassafras, and other small trees. A few houses were placed near barns or dwellings. These compete for occupants with conventional wooden bird houses.

A five year record of usage is as follows:

| | | | |
|------|-----------|---|----|
| 1950 | 12 houses | Number occupied by House Wren | 5 |
| | | Number with dummy Wren nests | 4 |
| | | Number occupied by Bluebirds | 2 |
| 1951 | 12 houses | Number occupied by House Wren | 5 |
| | | Number occupied by Bluebird | 2 |
| 1952 | 10 houses | Number occupied by House Wren | 4 |
| | | Number occupied by Bluebird | 2 |
| | | Number occupied by English Sparrow .. | 3 |
| | | Number occupied by Crested Flycatcher.. | 1 |
| 1953 | 16 houses | Number occupied by House Wren | 5 |
| | | Number occupied by dummy Wren nests.. | 1 |
| | | Number occupied by Bluebird | 6 |
| | | Number occupied by English Sparrow .. | 3 |
| 1954 | 30 houses | Number occupied by House Wren | 10 |
| | | Number occupied by dummy Wren nests.. | 2 |
| | | Number occupied by Bluebird | 5 |
| | | Number occupied by English Sparrow .. | 6 |

My figures on nesting success are incomplete. In 1950 and 1953 fairly good coverage was obtained. A nest is considered successful if at least one young is fledged. Nesting success for the House Wren in 1950 was 67%; and in 1953 it was 100%. Nesting success for the Eastern Bluebird in 1950 was 100%; in 1953 it was 33%. In no case was mortality traced to high temperature. In two instances Bluebird nests were broken up by House Wrens. In one instance an adult Bluebird, evidently killed by a predator, was found dead outside a house. An unusual case was that of an adult male Bluebird found dead within a house. Its tail feathers had become entangled in nesting material and the bird had been unable to extricate itself. The young were being successfully cared for by the female. Blacksnakes are common in this region, but only one nest, that of a House Wren, was suspected of having been robbed by this predator. A house cat may have been responsible for the loss of another Wren nest.

In 1953, when a nesting success of 100% was recorded for the House Wren, thirty-one nestlings were banded. The largest number in any nest was seven. It is to be noted that doubling the number of houses in 1954 doubled the number of nesting Wrens.

Efforts were made sporadically to control the English Sparrow. However, in 1954, with no interference, they succeeded in taking over 23% of the houses. In a number of cases they were found nesting in houses in which Bluebirds or House Wrens had begun their nesting activities. It might be mentioned in passing that many nests of the English Sparrow were found to contain fresh sprigs of yarrow (*Achillea Millefolium*). This weed is said to be an insect repellent.

The houses were completely ignored by the Common Starling. This is a common breeding bird in the region. A pair always nests in my martin house. One pair nested successfully in the metal ventilator at the top of the milk house where I recorded a temperature of 107 degrees. Others nest in barns and sheds.

In 1954 I hung half of my houses on the lower limbs of trees situated in the open. For comparative study another house was always placed nearby but on a pole in the open. Interestingly enough all five Bluebird nests for the season were in the hanging houses. This was just the opposite from what I would expect as most authorities recommend placing Bluebird houses in the open and about five feet from the ground. (My hanging houses in cedar, sassafras, peach, osage orange, apple and maple were from five to seven feet from the ground). Of the ten wren nests, four were in hanging houses and six on houses placed on poles in the open. Four of the six English Sparrow nests were in hanging houses.

My chief disappointment with the tin can bird house is in its lack of sturdiness. All too frequently storms have either blown the houses down or have blown the tops off. Rust previously made for a rather heavy yearly loss, but this may now have been overcome by the use of an under-coating of rust-resistant paint. By using heavier wire to hold the roof in place I hope to lessen the hazard of roofs blowing off. Another hazard, experienced for the first time this year, is that of small boys with rocks or guns who find the houses an interesting target.

I know of two other experimenters who have used tin can houses with success. Mr. Chandler S. Robbins, biologist at the Patuxent Research Refuge, has used empty fruit juice cans as houses. He makes the entrance in the bottom or top of the can and then places the house in a horizontal position on a post or tree trunk. Mr. Clark Byers, who lives in the northeastern corner of Georgia, uses gallon paint cans as martin houses. He suspends the houses, in the same manner as gourds are made available for martins, from the cross-arm of a tall pole.

Despite defects I think the tin can bird house is here to stay. They are easy to make and can be quite attractive in appearance. They are easily opened for inspection. And they are readily taken by such birds as House Wrens, Bluebirds and Purple Martins. And what a feeling of satisfaction to transform an unsightly object into something of beauty and value!

-- Route 1, Box 376
Leesburg, Virginia

1954 SUMMER FIELD TRIP

By C. C. Steirly

The annual summer field trip of the VSO was made this year to Pea Island Refuge, below Oregon Inlet, North Carolina, on August 14. Twenty-four members assembled that morning near Nags Head and travelled to Oregon Inlet Ferry. From the ferry numerous laughing gulls were observed along with herring gulls, ring-billed gulls, royal terns, common terns and black skimmers.

Upon landing on the Hatteras side the group was met by the Fish and Wildlife Service truck that was to take us around the accessible parts of the refuge. After a couple of stops to view a red-shouldered hawk the party arrived at the main impoundment. Here the group split up into two parties, the larger of which strolled out on an extensive mud flat to view the hundreds of shorebirds feeding there. The smaller group went around the impoundment in a four wheel drive truck and had the opportunity of observing not only the shorebirds but the several hundred gadwalls that have been brooding there. Other waterfowl present in the ponds included black ducks, blue-winged teal, red-breasted mergansers, a whistling swan and a Canada goose. Pied-billed grebes, little blue herons, Louisiana herons and green herons were to be seen in abundance. By way of diversion the smaller party observed numerous muskrats and an otter at very close range.

At a second pond many members of this party saw an avocet which was feeding on an extensive mud flat along with a number of herons. The black and white pattern exhibited when it flew up immediately set it apart from the many immature little blue herons with which it was associated. A large colony of black-crowned night herons was put up from a long dense thicket of myrtle (Myrica) along a canal. A hundred or more adults and young flew up and circled the area, drawing attention from the millions of mosquitoes that were tormenting the observers.

Among the birds observed by both parties were the following: pied-billed grebe, double-crested cormorant, lesser yellowlegs, willet, pectoral sandpiper, snowy egret, Louisiana heron, black-crowned night heron, yellow-crowned night heron, Canada goose, whistling swan, black duck, blue-winged teal, gadwall, red-breasted merganser, bald eagle, marsh hawk, clapper rail, semi-palmated plover, ruddy turnstone, solitary sandpiper, western sandpiper, dowitcher, marbled godwit, sanderling, avocet, gull-billed tern, black tern, spotted sandpiper, barred owl, blue-gray gnatcatcher, and cowbird.

-- Waverly, Virginia



The Raven

BULLETIN OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

J. J. MURRAY, EDITOR
LEXINGTON, VA.

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TRANSIENT WARBLERS ATTRACTED BY DISCARDED FARM PRODUCE

By F. R. Scott

About a mile south of Cape Charles, Northampton County, the writer found on September 26, 1954, a small clearing on the edge of a loblolly pine grove, about 100 feet from the Chesapeake Bay beach where some 100 bushels of tomatoes had been dumped several weeks before, as evidenced by the many bushel baskets and the mat of partially dried tomato skins.

The pine grove around the clearing contained a very heavy undergrowth, offering excellent cover to the many birds attracted by the insect-infested tomato dump. This undergrowth was an almost impenetrable thicket of small oaks, sweetgum, sumac, pokeberry, honeysuckle, poison ivy, and similar vegetation.

Not 50 feet from this dump and also on the edge of the pine grove was a rain pool in the middle of a farm road. The combination of this pool and the tomato dump seemed an irresistible attraction to transient warblers, and the writer spent a considerable period of time trying to estimate the birds present, as follows: Carolina Wren, 2; Magnolia Warbler, 1; Black-throated Blue Warbler, 2; Black-throated Green Warbler, 2; Small-billed Waterthrush, 1; Louisiana Waterthrush, 1; Yellowthroat, 1; Hooded Warbler, 1; American Redstart, 31.

The habitat was certainly a typical for all of these birds with the exception of the Carolina Wrens and the Yellowthroat, and the presence of such a mixed flock here was an excellent example of the lack of habitat preferences exhibited by many birds in migration. The Carolina Wrens and the Yellowthroat, incidentally, were the only species in the flock which might be considered as breeding in the area. (Field work in this area during June has failed to indicate the presence of Louisiana Waterthrushes, Hooded Warblers, or Redstarts, probably because of the lack of suitable habitat. See the writer's paper on the Eastern Shore, RAVEN 25: 70-77, 1954.) Too little field work has been done in this area in the fall to enable one to comment on the abundance or rarity of any of the species, but the presence of the Magnolia Warbler seems quite interesting for a coastal area.

The flocking together of different species of birds, particularly in the fall and winter, is always an interesting subject of study. This flock seemed especially interesting because of the absence of Carolina Chickadees, Tufted Titmice, or Brown-headed Nuthatches. The first two of these almost always appear to be the nucleus of fall and winter woodland flocks. The absence of Pine Warblers seemed somewhat odd also. The Carolina Wrens were probably not an active part of the flock, for they are resident in the area and probably would not have followed the flock if it had left that particular pine grove.

-- Richmond, Virginia

NOTES FROM HIGHLAND COUNTY, VIRGINIA

By J. J. Murray

Mrs. Murray and the writer visited the western part of Highland County on June 28 and 29, 1954. The afternoon of June 28 was spent on and near Route 250 between Monterey and the West Virginia line, with a visit to Gaudineer Knob on the Cheat plateau in West Virginia at twilight to hear the evening chorus of Hermit Thrushes. At Hightown, at the watershed between the James and Potomac River systems, we found the colony of Cliff Swallows smaller but still active. There were seven fresh nests and about that many pairs of birds in the air. The most interesting bird of the day was a Tree Swallow, first pointed out by Mrs. Murray, which was coursing over a pasture along a road turning south from Route 250 and not far from the West Virginia line. We got a glimpse of two other swallows at another place that may have been of this species, but were just as likely Barn Swallows. Maurice Brooks, in "Some Notes on the Birds of Highland County, Virginia" (THE RAVEN, vol. 6, 1935, November-December, pages 1-3), stated that this bird is a "fairly common summer resident at the higher elevations at least", but it has not been reported by any V.S.O. visitors since that time.

I was interested in finding the Wood Thrush at several high elevations: near Route 250 just east of the West Virginia line; on Middle Mountain; on the Alleghany Backbone, west of Middle Mountain; and at Locust Spring, where Veeries were abundant. We also heard one high up on Gaudineer Knob, while a Hermit Thrush was singing. Golden-crowned Kinglets were rather common in a dark patch of spruce near the state line.

The morning of June 29 I spent alone at Locust Spring, a high area in the extreme northwestern corner of Highland County. We have had no previous reports from this spot, which is well worth visiting, both because of its beauty and because of the abundance of birds. To reach Locust Spring it is necessary to drive over Middle Mountain and across Laurel Fork to the Alleghany backbone, to turn north on a Forest Service road and drive eight or nine miles, then to turn east and down the mountain for a short distance, and then south for about a mile. The Forest Service rangers have cleared a lovely grade and built an attractive open shack for picnics and camping out. The elevation at the shack is about 3750 feet. There are small scattered stands of old red spruce and recent plantings of young spruce and other conifers. Flame azalea grows everywhere, a few bushes being still in bloom at this late date.

Birds were singing on all sides, I have never been in a place where Veeries were more common. Wood Thrushes were also present. None of the more northern thrushes were seen or heard, but at twilight some might possibly show themselves. Nothing rare was found, the most interesting bird being a single Red-breasted Nuthatch in an old spruce. A Mountain Solitary Vireo was seen, but the Red-eyed Vireo was more common. Warblers of the high altitude species were abundant, particularly Magnolia, Black-throated Green, Cairn's, Chestnut-sided (the most abundant birds except for Veeries, Towhees, and Carolina Juncos), Canada and Northern Yellow-throat. The Black-throated green Warblers, both here and in the area visited on the preceding day, had none of the 'zee' quality of the songs of the birds in the Blue Ridge.

The song was a sibilant 'see, see, see, su, see'. Only one Scarlet Tanager was seen, and not a single Rose-breasted Grosbeak. A dead weasel was found on the Alleghany Backbone; and a large red fox came running down the road toward the car, until he saw me and dashed down the mountain side.

-- Lexington, Virginia

THE 1953 FALL MIGRATION IN VIRGINIA

By F. R. Scott

There continues to be a dearth of seasonal data from the western part of the state, and I would be happy to see regular reports from places where there are known to be active observers, o.g., Danville, Bristol, Roanoke, Lynchburg, Sweet Briar, Hamden-Sydney, Harrisonburg, and Leesburg. If you have not sent reports to Dr. Murray, I urge you to send them to me direct, I can still use the information as early as the 1954 spring migration period. Readers will have to excuse the lack of observer citations, principally from the Arlington-Alexandria area. These records are taken mostly from seasonal data published in *THE ATLANTIC NATURALIST*, and observers' names are often omitted here, although I understand they are on file with the Statistical Records Committee of the Audubon Society of the District of Columbia.

The weather during the fall season was in general warm and dry, particularly during August and September, but a cold spell and snow in early November were unusual.

Grebes, Herons. A Horned Grebe in full breeding plumage was seen near Wachapreague on August 15 (P.A. DuMont and others), obviously a summering, nonbreeding bird; several of these have turned up in recent years. A good count of Pied-billed Grebes was 80 at Wakefield (near Falls Church) on November 11. A Snowy Egret appeared in Hampton on November 3 and stayed through the period, the third year this has happened (Mrs. L. Machon). Louisiana Herons remained late at Chincoteague, the last record being 6 on October 25 (E.O. Mollinger). A Green Heron at Henley's Lake, Albemarle County, on November 14 was very late (C.E. Stevens).

Geese, Ducks. Canada Geese arrived early throughout eastern Virginia, with a number of records in late September. An amazing occurrence was a flock of 6 immature Lesser Snow Geese that arrived at Lexington on September 23 and remained throughout the period. Two were killed by predators, and a band from one of these had been placed on the bird July 31 on Southampton Island, Hudson Bay, by F. Graham Cooch, 54 days before and 1800 miles away (J.J. Murray). A Pintail at Roaches Run, Arlington, on September 7 was early. A flock of 70 Blue-winged Teal at Pocahontas State Park, near Richmond, on September 26 was considered an exceptionally large flock for the area (F.R. Scott). A female European Widgeon was studied at Roaches Run on October 25 by E.G. Davis, P.A. DuMont, and others; a male stayed at Assateague throughout November (EOM). W.F. Rountrey found 2 very early Shovellers at Stumpy Lake on August 27, and Scott saw Ruddy Ducks at Richmond as early as September 30. John DeLime reported a spectacular concentration of Wood Ducks in the Curles Neck and Prosquille swamps which reached a maximum of 450 on November 21.

Hawks. Once again a number of observers stationed themselves on various ridges in western Virginia to watch for migrating hawks. Reports from mid and northern Virginia (as well as nearby West Virginia) were almost uniformly poor as a result of bad weather. As an example, C.E. Stevens made 7 trips to Big Flat Mountain, Albemarle County, during the fall and considered all to be unsuccessful for hawks. Several northern Virginia counts are reported in J.E. Beach's review in *THE REDSTART*, 21: 23-28, 1954. In southwest Virginia 6 localities were covered by the Tennessee Ornithological Society with fair results. These are reported in detail by Fred W. Behrend in *THE MIGRANT*, 24: 69-73, 1953.

Although no spectacular concentrations of hawks were reported, there were a number of interesting records from many sections. Mrs. F.R. Scott found 3 Black Vultures at Wachapreague on November 28, one of the few records from the Eastern Shore. A Rough-legged Hawk (dark phase) was seen at Dyke (near Alexandria) on the early date of October 25 and another in Shenandoah National Park on October 31 (C. Kenneth Dale and others). Also in Shenandoah Park Golden Eagles were reported on October 11 at Stony Man (L. Berry) and November 28 at Big Flat (CRS). Mellinger found 8 Peregrine Falcons on Chincoteague Refuge on September 30. There was a surprising number of Pigeon Hawk reports: northern Blue Ridge at Virginia Route 7, September 19 (W. Tawzer, Jr.); Big Meadows, October 4; Blacksburg, October 3 and 4 (E. Willis); Wachapreague, November 28 (FRS).

Game Birds, Rails. Murray reported high populations of Ruffed Grouse and Turkeys in Rockbridge County, and the Turkey kill during the hunting season there was the highest ever. R.O. Paxton saw a Virginia Rail and a Sora at Glasgow, Rockbridge County, on November 17, the first rare here and both very late.

Shorebirds. On the whole the shorebird migration was far above average, with several inland localities reporting good flights. Edwin Willis found a Golden Plover at Blacksburg on September 26; this bird is always considered rare away from the coast. Murray saw 2 Black-bellied Plovers at Lexington September 7. There were many late records, including 2 Ringed Plovers at Quinby, Accomack County, on November 28 (FRS); a Spotted Sandpiper on the Yorktown Peninsula on October 24 (R.J. Beasley); 3 Solitary Sandpipers at Stumpy Lake, Norfolk, on November 27, much the latest state record (WFR, P. Sykes); and Pectoral Sandpipers, last seen at Harpersville on November 25 (RJB). Upland Sandpipers were rather common at Lexington, much more so than in recent years (JBI). Flocks of up to 8 birds were seen in late August and early September, with one very late bird on October 18 (J. Womeldorf). E.K. Sloane took photographs of a Purple Sandpiper on October 26 near Back Bay while it fed along pound poles lying on the edge of the beach (*vide* WFR). A flock of 16 was seen November 29 on the Little Creek breakwater, where this species has been found several times before (FRS). Pectoral Sandpipers, occasionally in sizable flocks, were reported from Alexandria and Richmond eastward; it seemed an unusually good year for them. In northern Virginia White-rumped Sandpipers were seen at Alexandria on August 30 (C.L. Clagott, J.K. Wright) and on October 9 (4 birds), 13 (3 birds), and November 7 (2 birds). A single Baird's Sandpiper was found at Alexandria on October 11 and 12 (JKW, J.M. Abbott), and Red-backed Sandpipers were seen there on October 11 (6 birds) and November 4 (21 birds). Probably the most unusual record of the fall was two Buff-breasted Sandpipers seen separately and some distance apart at Back Bay on September 26 (WFR, F.C. Richardson, J.E. Perkins, C.C. Stairly).

This record is discussed in more detail in *THE RAVEN*, 24: 78, September-October, 1953. The Hudsonian Godwit, a bird nearly as rare as the preceding species, was reported twice: 2 in Cobb Bay, August 24 (B. McCartney), and one at Chincoteague, August 30 (F. McLaughlin).

Terns. The last Forster's Tern was seen at Preqquile, between Richmond and Hopewell, on November 2, a new late date for the area (JD). Scott saw a Common Tern with some Forster's at Little Creek on November 27, by far the latest state record. He also found a Roseate Tern at Sandbridge on August 18, following the passage of a hurricane. Apparently, the Royal Tern can now be considered an abundant summer and fall visitor to Chesapeake Bay and especially the lower tidal rivers. Grey and Scott reported a total of 84 on August 22 in Mathews County and near Yorktown. Four Caspian Terns at Alexandria on August 23 and another there September 7 were the only inland reports. The maximum count of Black Terns at Chincoteague Refuge this year was 300 on August 22 (EOM).

Hummingbirds to Swallows. There were several records of the Ruby-throated Hummingbird in northern Virginia, the last one being October 10 at Belle Haven, just south of Alexandria. A Western Kingbird was seen near Mapleton, Princess Anne County, from November 11 to 14 (WFR, FCR), and single Alder Flycatchers were reported at Alexandria on September 11 and 13 (JMA, JKW). A Barn Swallow at Sandbridge on November 27 is by far the latest record for Virginia (WFR, PS). Beasley found a flock of 25 Cliff Swallows at Seaford on August 16, a first record for the Yorktown Peninsula.

Ravens to Kinglets. Two flocks of 20 Ravens each were reported from Shenandoah National Park, one on September 19 (J.H. Criswell, K. Keeley, C.K. Shoenbauer) and the other on October 31 (CKD and others). Two birds were also seen at Harrisonburg, well out in the Valley, on August 22 (E. Griffin). A locally odd record was a lone Mockingbird on the Skyline Drive near Big Flat Mountain on October 25 (CES). Griffin reported an excellent flight of thrushes over Falls Church the night of September 21 and 22. He estimated 400 Olive-backed and 250 Gray-cheeked Thrushes per hour. Stevens recorded a good flight of land birds on Big Flat on October 12 which included 64 Ruby-crowned Kinglets.

Warblers. There was an unusually good warbler migration in eastern Virginia, with especially good reports from Richmond and Norfolk. McCartney found 2 Worm-eating Warblers at Kiptopeke (near Cape Charles) on August 10, and Rountrey found a Blue-winged Warbler at Stumpy Lake on September 9. There were the usual Tennessee Warbler reports from the Alexandria area and the mountains; elsewhere, Scott had one at Sabot on August 23 and 2 at Hopewell October 11, McCartney found several at Kiptopeke on September 22, and Rountrey had 2 at Stumpy Lake on September 7. Orange-crowned Warblers were seen near Alexandria on October 10 (JMA), Blacksburg on November 1 (EW), and Stumpy Lake (2) on November 21 (FCR, WFR). Other interesting warbler records were Nashvilles on September 11 and 24 at Stumpy Lake (WFR) and one at Sabot September 13 (FRS); late Yellow Warblers at Lexington October 3 (JJM) and Stumpy Lake October 31 (WFR, PS); Bay-breasted Warblers for the first time at Norfolk, with a maximum of 25 at the Azalea Gardens September 30 (WFR); a Connecticut Warbler at Norfolk September 27 (Mrs. Floy Burford); a Mourning at Hunting Creek (near Alexandria) on October 10, apparently the latest state record; and a male and female Wilson's at Lexington on September 25 (JJM).

Grackles to Sparrows. A flock of 100 Boat-tailed Grackles was seen feeding in a field just south of Cape Charles near the Bay shore on September 22 (BM), and an unusually high count at Chincoteague was 580 on November 29 (FRS). Late Summer Tanagers were found at Warwick October 11 (RJB) and Stumpy Lake October 25 (WFR). A dead Savannah Sparrow was picked up at Barnesville, Charlotte County, on October 17 by Mrs. Cecil Robinson and sent to Murray. It was later identified by Alexander Wetmore as the Labrador race, Passerculus sandwichensis labradorius Howo.

-- Richmond, Virginia

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A 2085% RETURN INVESTMENT

By Paul Bartsch

In these days when our papers, radio and television shriek with the investigation of gigantic windfall profits obtained by shady deals in Federal Housing, it will be a relief to learn that huge returns can be legitimately obtained as demonstrated by an investment we have made at "Lebanon".

Two years ago we purchased 8 sacks (100 lbs each) of sunflower seeds from Belgiano which were largely devoured by the hoard of Evening Grosbeaks visiting our feeding station. Last year we raised an even larger crop which was largely consumed by several flocks of Purple Finches that spent the cold season with us and enjoyed our board. In this they were joined by the rest of the seed eaters.

This year we have more than doubled our planting, and I was greatly pleased with the splendid stand obtained in spite of the drought. Being curious, I counted the seeds in one of the larger heads and was surprised that they numbered 2,085 -- 2085% returns from a single seed planted. I know of nothing that excels this investment!

This note is published in the hope that it may encourage all my readers who ^{have} a city lot to plant some sunflower seeds along their fence which will give them lovely, long-lasting flowers and finally food for their avian visitors.

-- "Lebanon"
Lorton, Virginia

OBSERVATIONS ON THE FLOCKING BEHAVIOR OF SOME PELAGIC BIRDS

By F. R. Scott

On April 4, 1954, the writer was observing birds from the Chesapeake Bay ferry between Kiptopeke Beach and Little Creek. Approaching Little Creek the ferry was followed by only a few (about 25) Herring Gulls. About three miles offshore, however, a number of additional gulls, both Herring and Ring-billed with a few Laughing, flew up from the direction of shore and increased the size of the flock following the ferry. Abruptly, the flock began to grow with amazing rapidity until it reached an estimated 3500 gulls in about five minutes time. The very size of the flock seemed to attract even more birds, and it was joined by at least 30 Gannets, a species not often seen in such mixed flocks.

There was no concentration of food here; the Gannets did not dive and only a few of the gulls approached the water. For fifteen minutes the birds merely wheeled noisily in the flock that extended a mile behind the ferry.

Ahead of the ship a flock consisting of an estimated 500 Red-breasted Mergansers was resting on the water with about 5 Gannets and 5 Herring Gulls. These birds took off when disturbed by the ferry and flew, all together still, through the flock of gulls behind the ship. The mergansers continued on undisturbed, but the additional Gannets and Herring Gulls joined the original flock.

This flock of Gannets and gulls remained together until the ferry approached within 1000 yards of the entrance to Little Creek harbor. Then the Gannets and some of the gulls turned back into the bay, while most of the gulls spread out over the harbor and the bay beaches, disappearing as strangely as they had originally appeared.

-- Richmond, Virginia

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VIRGINIA SOCIETY OF ORNITHOLOGY CHAPTER
IN NORTHERN VIRGINIA

The first organizational meeting of the proposed VSO chapter for the Washington-Northern Virginia region was held on Friday, November 26, 1954, at the residence of Mr. & Mrs. James W. Eike in Falls Church. The following were present: Mr. & Mrs. Eike, Susan Eike, Mr. & Mrs. Lawrence Gibson, Raymond Stevens, Mr. & Mrs. Mangum Weeks, Dr. & Mrs. Alexander Wetmore and Dr. H.J. Watson.

At this meeting the chapter was formally organized and it was decided to apply for affiliation with the VSO. For the time being, at least, the group will be known as the NORTHERN VIRGINIA CHAPTER of the VIRGINIA SOCIETY OF ORNITHOLOGY. This decision will, of course be subject to the approval of the

VSO Executive Committee. Application for this approval is being submitted at the earliest possible moment.

Two applications for affiliation by local groups have already been approved by the Executive Committee, effective January 1, 1955. These groups are the Cape Henry Bird Club and the Hampton Roads Bird Club. Their applications were approved at the October meeting of the Executive Committee and these groups thus became the first local chapters of the VSO under the new by-laws. The NORTHERN VIRGINIA CHAPTER, if and when its application is approved, will thus increase to three the number of chapters formally affiliated with the Society.

-- James W. Eike
R.J. Watson

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LYNCHBURG NOTES

By Ruskin S. Freer

After some years of scarcity, red-headed woodpeckers seem to be several times as abundant this late summer. Where I used to see one or two occasionally, I now see five or six regularly, in two places. I see them much more frequently over a wider area also.

On July 15 two men students in our summer school were much surprised when a female wood duck and eight young came tumbling down out of an oak tree at the rear of our main building on the campus. I saw and identified one of the young ducks.

In July I found a small colony of Henslow sparrows in Bedford County, where Little Otter River crosses State Route 43, the road from Bedford to the Peaks of Otter.

It has been surprising how many people are finding pileated woodpeckers around the outskirts of the city. Several have them in their yards occasionally. They have been reporting them for the past two years.

-- Lynchburg College
Lynchburg, Virginia

ADDITION TO VIRGINIA LIST

AUK 71: 311, 1954: Limnodromus griseus hendersoni Rowan is admitted to A.O.U. Check-List.

Frank A. Pitelka, in a paper entitled, GEOGRAPHIC VARIATION AND THE SPECIES PROBLEM IN THE SHORE-BIRD GENUS LIMNODROMUS (University of California Publ. Zool., vol. 50 (1), pp.1-108, 1950) lists 9 specimens of this race from Virginia's Eastern Shore, July 14 to September 6, and one May 12. No year is given. Presumably, careful review of museum collections would reveal that many other specimens are extant. Pitelka estimates that L.g. griseus outnumbers hendersoni "roughly 2 or 3 to 1 on the central and southeast Atlantic Coast and that from Chesapeake Bay northward this ratio increases rapidly" (page 48).

-- F. R. Scott

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VIRGINIA NOTES

Sight Report of Sutton's Warbler. Lena Artz, of Waterlick, Virginia, and Elizabeth M. Gilman of Washington, D.C., report seeing a warbler in the Hone Quarry National Forest Camp, Rockingham County, Virginia, which they felt certain was a Sutton's Warbler. Miss Gilman was using field glasses, while Miss Artz was checking with a Peterson's Guide. To quote their letter: "The greenish back was the first feature that caught the eye. The bird was accomodating enough to stay in the area long enough for us to check well on other feathres, such as eye stripe, wing bars, etc. ... A further check was made with the Ornithology Division, National Museum, in Washington, D.C. The museum has no specimens of Sutton's Warbler. Specimens of Parula and Yellow-throated were available for comparison, but neither of these matched the characteristics of the bird seen at Hone Quarry".

Snowy Owl. According to all reports from states farther north, this promises to be a great winter for northern birds. This is already the case in Pennsylvania and West Virginia. We do not yet have many reports of northern species in Virginia, but observers should watch for Siskins, Red-breasted Nuthatches, Black-capped Chickadees, Evening Grosbeaks, and Pine Grosbeaks (in the mountsins). Our most interesting report is that of a Snowy Owl, shot on November 16 at Bridgewater by a Mr. Ruff, and brought to Max Carpenter for mounting.

Other Northern Birds. There have been many reports of Black-capped Chickadees from the Washington area; also a few reports of Evening Grosbeaks. Max Carpenter saw 3 Evening Grosbeaks in Hone Quarry Hollow, Rockingham County, on November 27; and Mrs. H.C.M. Jopson had 20 at a feeding tray on December 1.

R.R. Kerr saw 16 White-winged Crossbills at Arlington on November 30. Red-breasted Nuthatches and Pine Siskins have been abundant at Chincoteague Refuge this fall.

Albino Mockingbird. H.H. Smith of Ashland reported to the National Audubon Society that an albino Mockingbird had been seen around town in the early autumn.

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-- C.C. Steirly, Treasurer
Waverly, Virginia



The Raven

BULLETIN OF THE VIRGINIA SOCIETY OF ORNITHOLOGY

J. J. MURRAY, EDITOR
LEXINGTON, VA.

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SOUTHERN APPALACHIA AS A PLACE FOR BIRD STUDY

By Maurice Brooks

An anniversary can be a most pleasant event, since it allows us to do two things gracefully; we may look backward to past accomplishments, and we may plan for the future with an insight gained through experience. It is, therefore, a happy circumstance that allows us all to join in commemorating the first twenty-five years of the Virginia Society of Ornithology. Its achievements have been substantial, and its continued progress seems assured. I should be remiss to my own feelings did I not say a special word concerning Dr. J.J. Murray who has piloted THE RAVEN through twenty-five successful years. Few state societies may claim so fine an allegiance.

My congenial task is to direct special attention to things close home, the physical and biological region in which we are meeting, the unglaciated Appalachian highland. Dr. M. Graham Netting, Director of Carnegie Museum, has often remarked that if Southern Appalachia were in the heart of Africa, or in some other remote part of the earth's surface, all the great museums of the world would send expeditions to explore its wonders. Yet, since it is nearby and familiar to many of us, we take its charms and its challenges for granted. A closer look at our home territory may be rewarding for all of us.

If one may paraphrase Mallory to some extent, the most remarkable thing about the Appalachian System is that it is there. Down the long vistas of geologic time the precursors of our present mountains have been folded and elevated, base-leveled, and refolded; yet for hundreds of millions of years a substantial part of Appalachia has been continuously above the sea. Only yesterday, geologically speaking, when glacial ice invaded vast areas of this continent, the southern Appalachian highland served as a wedge to split and divert the flow of the glaciers. Our area, therefore, stands as one of the most ancient parts of the earth's surface to be continuously above ocean level, and without a covering of glacial ice.

The biological significance of these circumstances, together with that of two other sets of factors - the effects of elevation, and the extraordinary variety of ecological sites and niches - will be discussed in some detail below. It is proper, however, that we should think briefly of the geographic, historic, and sociologic influences which these mountains have exerted.

The Appalachian System has its northerly beginning in the Gaspé Peninsula of Quebec, where the rugged Shickshocks rise to 4,000 feet, well above tree-line in that sub-arctic region. From this beginning the system extends in a generally southwesterly direction some three thousand miles to northern Georgia and Alabama. There are no high peaks, as alpinists know such things, but the system does have two climactic areas - the White Mountains of New Hampshire, and the Blue Ridge-Great Smokies country of western North Carolina and East Tennessee. In this latter climax Virginia shares through the Mt. Rogers-Whitetop peaks.

Through about half of its extent the Appalachian System serves as a secondary continental divide, separating those waters which flow directly to the Atlantic from those destined for the Gulf of Mexico. Here and there are water-cut mountain gaps, such as Harper's Ferry and the Narrows of the New River, of very great significance to migrating plants and animals, as well as to man's communications. Until recent times there were few highways or railroads which crossed the mountains - most were built parallel to the ridges.

To any extraordinary extent, the Appalachians limited English exploration and settlement of the interior portions of North America. In French-held regions northward the St. Lawrence and the Great Lakes provided a ready gateway around the mountains, but English settlers along the Atlantic Seaboard found themselves blocked from the Ohio country for almost 150 years by the Appalachian ridges and their vast forests.

In our Revolutionary War, Virginia mountaineers under Daniel Morgan were the shock-troops of Arnold's Quebec campaign. Men from the Carolina highlands stopped the British at King's Mountain and Cowpens. In the War Between the States, Jackson's Valley Campaign took advantage of Appalachian ridges, and much of Lee's strategy was determined by mountain topography. Perhaps we should all remember those dark days in 1941-42, when it looked as though Hitler might not be stopped in Europe, and when American engineers were feverishly locating gun-emplacements and preparing the Appalachians as a line of defense against invasion.

Partly because of poor communications, and also because the plantation system had little chance to develop in a mountain country, Virginia found the interests of its citizens west of the mountains diverging, and the state eventually split. Here we have a very clear example of the influence of topography on economics and sociology.

From these introductory remarks it should be evident that all of us have been profoundly influenced by our mountains. Now we shall look particularly at those factors which have affected biology, especially those relating to bird life.

We return to the age of this area as being above sea water and without glacial ice. During the Palaeozoic period, when the Appalachian revolution took place, the vertebrate animal groups and many of the major plant groups were appearing on the earth. These adopted to a life on land must have been frequently and profoundly disturbed in their development as land areas alternately rose and subsided. Here in the Appalachians, however, was a place of sanctuary, an island of refuge during the aeons when surrounding areas were covered by the sea. Much later, during Pleistocene glaciation, when many species as we now know them were appearing, Appalachia was again a sanctuary. One may think of it as a nursery which has protected land plants, insects, snails, spiders, fresh-water fishes, amphibians, reptiles, birds, and mammals during many crises.

As land receded, or as ice advanced, air-breathing or fresh-water forms were crowded together in new situations and vastly altered environments. This must have influenced profoundly the processes of evolution. One important vertebrate group, the salamanders of the Family Platodontidae, seems to have

had its origin in unglaciated Appalachia; at least these animals do not occur in such numbers as species and as individuals in any other part of the world. One can imagine that the separation of such closely related wood warbler species as Golden-winged and Blue-winged and Blackpoll and Bay-breasted may have been due, in part at least, to conditions in the Appalachians.

The crowding of previously separated species into comparatively small areas must also have affected the plasticity of species, making them more adaptable. It is certainly true that many wood warblers, and some other bird species, nest in the Appalachians in situations that are very different from those chosen in other parts of their ranges. Following the death of American chestnut trees, rootsprouts of this species often became quite dense, and in these growths a number of "northern" warblers built their nests, although they more generally inhabit coniferous growth. Whatever the causes may have been, Appalachia holds the richest, and most varied, wood warbler fauna to be found in any mid-latitude region.

The second set of circumstances contributing to a highly interesting biology in the Appalachians arises from the altitudinal range within the region. At Harpers Ferry, for example, where the Potomac breaks through the Blue Ridge, the elevation is below 250 feet. Comparatively nearby are peaks that reach 4,000 feet or more. While this range may not seem to be great, it does have profound effects on biota.

Murray has written extensively of the "life zones" of this region which he (and I) find most useful in explaining distribution of living things. It is not my purpose here to repeat data which he has so ably presented. It may, however, be helpful to summarize one broad aspect of the "zonation" situation.

In the warmer, less-elevated Appalachian valleys there are communities of living things, plants and animals, whose centers of abundance are to be found southward. These have been called "Carolinian", and they include such trees as redbud, magnolias of several species, persimmon, sweet gum, and Spanish oak. Typical birds include Kentucky, Worm-eating, and Hooded Warblers, Tufted Titmouse, Carolina Chickadee, Blue-gray Gnatcatcher, Orchard Oriole, and Blue Grosbeak. There are relatively few living things whose centers of abundance are northward. In these situations, dominant forest types were oak-hickory westward, and oak-chestnut and oak-pine eastward. Food and shelter for wildlife were abundant, and of many kinds.

Higher up the slopes there began to be intrusions of more "northern" plants and animals, species whose centers of abundance were northward of this region. Areas such as these have been called "Transition", and with good reason. They represent a meeting and mingling of northern and southern forms, each with its own habitat limitations. Obviously this is an ecological "tension zone", with many species advancing and retreating as climate fluctuates and other factors become operative.

Originally, of course, the forest of this "transition" zone pretty largely determined the bird life to be found. This forest deserves our special attention, since it cannot, perhaps, be duplicated in any other mid-latitude region of the world. According to Dr. Lucy Braun, who has devoted her life to a study of it, this forest represents a remnant (fortunately a large one) from the Tertiary period of geology, before the time of the glaciers. In post-glacial hardwood forests, there is a strong tendency for two or three species of trees to dominate. Thus we speak of oak-hickory, oak-chestnut, or birch-beech-maple forests.

South of the line of glaciation, however, there remained a more ancient forest in which 25 or 30 hardwood trees are common, and in which an additional 20 or 30 are to be found. This forest centers, and reaches its best development, in the Cumberland and Allegheny Plateaus. It is rich in species that bear nuts and fruits; hence many species of birds find its shelter congenial. The ecologists have called it mixed-mesophytic forest; foresters have referred to it as "cove-type"; botanists have often called it simply "Appalachian" forest. By whatever name, it is a wonderfully rich and rewarding habitat.

Another feature of this forest is to be found in the number of woody species producing showy blossoms. Northern hardwoods, including birches, aspens, willows, and even maples, have nothing comparable to the magnolias, basswoods, redbud, flowering dogwood, locusts, sourwood, silver-bells, fringe-trees, laurels, and rhododendrons so characteristic of southern mountain slopes. When autumn coloration arrives, the wealth of pigment is limited only by the number of species present. Each species assumes its own shades, and the effect is kaleidoscopic. When fruits ripen migrating birds make an abundant harvest. Bright berries of the hollies are carried into the winter. There will always be a variety of food and shelter for the wild things.

Next above the Appalachian forest (on moister, richer slopes at least) is a zone of northern hardwoods, predominantly birch-beech-maple, with some basswood and cherry. This area may still be termed "transition", although its component of southern species is becoming much smaller. Most living things would be more abundant northward. There are, perhaps, fewer resident birds in this forest than in any other type on the mountains. Autumn coloration is brilliant, but the number of hues in the pattern is smaller. Save for the serviceberries, and some of the shrubs, there are few woody plants with showy blossoms or brightly-colored fruits.

One of the richest places, both for animal and plant life, is an area of mixed hardwood-conifer just above the birch-beech-maple forest. Principal tree species are Canada hemlock and red spruce, along with yellow birch, red maple, and aspen. Broad-leaved evergreen shrubs are abundant, and several species of deciduous hollies, viburnums, red-fruited elder, mountain ash, and other woody plants bear colorful fruits, to the advantage of wildlife.

This mixed coniferous-deciduous forest has nearly all the boreal bird species to be found nesting this far south, but there is also a small, but significant, southern element. Such species as Yellow-breasted Chat, Tufted Titmouse, Blue-gray Gnatcatcher, and Cardinal sometimes occur. Along

the same stream may be found nesting Louisiana and Northern Water-thrushes. I have heard Golden-crowned Kinglets and White-eyed Vireos calling from the same tangle. At any season, this is a fascinating region in which to study.

On the higher summits there is found a true Canadian forest type - spruce-balsam. Northern balsam fir reaches southward only to West Virginia and northern Virginia, but from southern Virginia southward its place is taken by the very similar Fraser's balsam, fulfilling the same purposes as does its northern relative. In this coniferous forest there are practically no hardwood intrusions, at least until the lumberman has brought his disturbances.

Most resident species - plants and animals alike - have their centers of abundance northward. Dr. John Aldrich once made a comparative study of the bird life in a West Virginia spruce forest and in one in the Nipigon district of Ontario. There was a species correlation of almost 75 percent in the two areas. A year or so ago I visited our southern spruce belt just before I spent some time in the Canadian forest above North Bay, Ontario. Identities and similarities of plants and animals were striking.

In the unglaciated Appalachians, such bird species as Saw-whet Owl, Olive-sided Flycatcher, Black-capped Chickadee, Winter Wren, Red-breasted Nuthatch, Golden-crowned Kinglet, Brown Creeper, Hermit and Olive-backed Thrushes, Veery, Nashville, Magnolia, Black-throated Blue, Canada, Chestnut-sided, and Mourning Warblers, Blue-headed Vireo, Rose-breasted Grosbeak, Purple Finch, Slate-colored Junco, and White-throated Sparrow, among others, reach their southeastern breeding limits. Lists of mammals, insects, plants and other living things also reaching their southern limits here would be impressive. It is a thrilling thing that we are able to go to "Canada" in the latitude of Richmond.

Third of the factors which contribute to the extraordinary varied birdlife of the Southern Highlands is the rich assortment of ecological niches and habitats to be found there. These mountains, modest as their elevations may be, exert a surprising influence on climatic, topographic, and edaphic factors which affect living things.

We live in a region where the prevailing winds are southwesterly, and where the bulk of our moisture is borne northeastward from the Gulf of Mexico. These moisture-laden winds encounter the first Appalachian ridges, are deflected upward and undergo sudden cooling, with attendant condensation. The result is a very heavy precipitation, as rain and snow, on the western slopes of the ridges. Total annual precipitation may run above 80 inches, and falls above 60 inches are common. Such an abundance of moisture leads to the development of a "layered" forest - one in which there is a heavy herbaceous ground cover, a definite layer of low-growing shrubs, an understory of forest seedlings and taller shrubs, and the forest crown itself.

Each of these vegetative layers has its characteristic assemblage of breeding birds. Since there is so wide a variety of plants, there can also be a wide variety of birds. This is, perhaps, the closest counterpart of a tropical rain forest which the mid-latitude region affords.

Winds which cross the ridges and descend the eastern slopes have been relieved of much of their moisture, and precipitation decreases rapidly. Thus our eastern slopes often lie within an area which the physical geographer would call a "rain-shadow". Forest trees become somewhat stunted, new species appear, shrubs are fewer and less varied, herbaceous species are scarcer, and smaller numbers of birds can find congenial homes.

How striking this precipitation differential may be is shown by two points in my own state of West Virginia. On the western slope of the first high Allegheny ridge, in Randolph County, is the village of Fickens. Over the last 50 years Fickens has had an annual average rainfall of over 68 inches. During the driest year on record, 1930, it struggled along with only 39 inches. In the contiguous county of Pendleton, some 60 miles eastward, is the village of Upper Tract, its elevation similar to that of Fickens, but its position on an eastward slope of the Alleghenies. During the same 50-year period, Upper Tract has had an annual precipitation of 29 inches, and in 1930 it had only 9 inches. Obviously, there is a reason why plants and animals of the two areas are widely variant.

Forests of rather scrubby oak-pine cover many of these eastern slopes. Pine and Prairie Warblers, and (southward) Yellow-throated Warblers are characteristic species. Some shale slopes are covered with xerophytic vegetation, including prickly pear cactus, and these support almost no ground-nesting birds. Insects, reptiles, and amphibians all react strongly to the changed habitat. This comes close to being a desert, and the biota reflect it.

Of great biological interest are the sphagnum bogs which occur southward in the Appalachians to such favored localities as Giles County, Virginia. These bogs are natural refrigerators, and in them are to be found an astonishing number of boreal plants and animals. Characteristically, they consist of deep mats of Sphagnum and Polytrichum mosses occupying poorly drained areas. Cranberries of two species, trailing dewberries, cotton-grass sedges, and other herbaceous and vining vegetation often overlies the mossy cover. Several species of bog orchids occur, and sundews, bladderworts, and other insect-catching plants grow in suitable localities.

There are often low, shrubby growths, principally of shrubby saint-johns' wort, chokeberry, and bog rosemary. Such trees as occur are stunted and deformed. Around the margins are dense thickets of alder, with hemlock, rhododendron, and mountain laurel tangles in slightly drier sites.

These bogs afford a variety of food and cover, and so are attractive to many species of birds. Swamp Sparrows, Song Sparrows, and sometimes Savannah Sparrows nest in open areas. Yellow-throats are abundant, and Short-billed Marsh Wrens are locally common. In shrubby areas an occasional pair of Marsh Hawks nest. Alder thickets attract Alder Flycatchers, and occasional Veeries and Nashville Warblers. In the denser margins, Hermit and Olive-backed Thrushes, warblers of many species, Juncos, and occasional Pine Siskins and Red Crossbills are found. One of the confusing, yet fascinating, characteristics of such areas is their curious mixture of northern and southern forms.

Along many Appalachian mountain-sides, particularly east of the Allegheny Backbone, are thousands of miles of outcropping cliffs, some of them several hundred feet in height. These attract a small, but highly interesting, group of breeding birds. Ravens are found in wild country, and in recent years have spread much nearer towns and cities. On favored ledges Duck Hawks sometimes make their homes. We suspect, although positive proof is lacking, that an occasional pair of Golden Eagles nests. On the Devil's Backbone, in Highland County, Virginia, I once found four nests of Chimney Swifts under the lip of an overhanging ledge.

On western slopes, where hemlock, rhododendron, mountain laurel, and American holly combine to form dense thickets, the Appalachian population of Swainson's Warbler finds its home. The discovery, only a few years ago, that this supposed resident of southern cane-brakes was also a mountain-dweller is one of the most interesting chapters in our present-day ornithology.

No consideration of the Southern Highlands would be complete without a mention of the "grass balds" which occur from Virginia southward. These open areas on or near mountain summits have challenged the thinking of ecologists, and no simple, and entirely satisfactory, explanation of their occurrence has ever been found. They appear as mountain meadows, often completely surrounded by dense spruce-fir forest.

On these "balds" Wild Turkeys like to feed. Sometimes in migration there are great numbers of passing grasslands birds - Meadowlarks, Vesper and Grasshopper Sparrows, and even Bachman's Sparrows. Recent studies by F.W. Behrend, in Tennessee, (concerning which I trust that he will write in detail) have shown that the "balds" attract a surprising number of "boreal" winter birds.

All of this is but a poor attempt to suggest the endless variety of the Appalachian region. Vegetation changes constantly with topography and elevation. Each change affects birds and other wildlife. The swing of the seasons brings varying aspects that are never the same from day to day or from year to year. There is no routine to mountain weather.

One final aspect of the region is worthy of our attention - the vast areas which are still, biologically speaking, comparatively unknown. Scarcely a season passes that some new species of salamander or fresh-water fish is not described from the unglaciated Appalachians. For over 150 years the botanists have found this a happy hunting ground, and the good things have not all been discovered or described. I know where there is a small colony of rhododendron, strikingly different in appearance from any other known to science. I have never seen it in bloom, but when I do I am confident that it will prove to be a new species. The bird student cannot hope for many startling new finds, although only a short time ago the Sutton's Warbler specimens were collected in the region.

The very names of some of these little-known southern ranges are a challenge. Who could resist the Snowbirds, the Nantahalas, the Unicois, and the Balsams? All are vast wild areas whose biology has scarcely been touched upon. Separated by deep valleys, they have been isolated for millions of years, an abundance of time for Nature to work its alchemy.

I sometimes think that we who are privileged to live and work in this Appalachian area are too little mindful of our blessings. At our doorstep is one of Nature's mightiest and most ancient laboratories. Here are broken horizons for the eye and for the mind, endlessly changing and always new.

-- Division of Forestry
West Virginia University
Morgantown, West Virginia

Both those who heard Dr. Brooks' charming talk at the Twenty-fifth Anniversary Meeting of the V.S.O. and those who could not be there, will be glad to have his address preserved in THE RAVEN. It makes a fitting climax to the issues of this anniversary year. -- Editor,

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