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Cover: Red Phalarope at Hughes Hollow, Sept. 13, 1980. See page 139. Photo by Paul Nistico.

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# MARYLAND BIRDLIFE

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## APPLICATION OF MINIROUTES TO BIRD POPULATION STUDIES

Danny Bystrak

The U. S. Fish and Wildlife Service's Breeding Bird Survey (BBS) has, since 1966, proven to be a valuable source of information on populations of North American birds (Bystrak 1979). The BBS technique of 50 3-minute point counts at half-mile intervals along secondary roads is also adaptable to other bird population studies. Its adaptability to Breeding Bird Atlas Projects was tested in Howard County, Maryland, in 1973 and 1974 and in Prince Georges and Baltimore Counties in ensuing years.

Maps showing both breeding range and relative density have long been a part of the BBS, and are particularly informative on the scale of North America (Bystrak 1979). The distribution of BBS routes however, even at Maryland's high density (16 per degree block of latitude and longitude), is too coarse to produce precise distribution and abundance maps for a State of this size. In addition, owing to the random selection procedure, routes tend to be concentrated in some sections and missing from others. On the smaller scale of a typical county in the eastern United States, it would be even more difficult to construct maps showing relative abundance from BBS data. A saturated series of routes of shorter duration seemed more likely to produce a clear picture of bird distribution and relative abundance at the county level.

Howard County was chosen as an area in which to experiment with such routes because, starting in 1973, an Atlas project (Klimkiewicz and Solem 1978) was being initiated. These routes would not only add the important feature of relative abundance to the project, but also would help the project by surveying many areas that otherwise might receive little coverage.

### METHODS

The technique of shorter BBS routes used in Howard County was briefly described by Klimkiewicz and Solem (1978) in their paper summarizing the Howard and Montgomery County Atlases. The design differed from the BBS in that shorter routes (25 stops) were used and an attempt was made to cover the secondary roads in Howard County as thoroughly as available help and the secondary road system would allow. In order to compensate for the change in bird activity after the dawn chorus, and to increase the number of individuals and species counted, each route was run twice, once forward and once in reverse, on different days.

Atlas projects are grid-based inventories of specific groups in which (for breeding birds), three categories of certainty are used, based on observed evidence of breeding activity (Klimkiewicz and Solem 1978). These categories are known as "possible", "probable" and "confirmed." It was anticipated that intensive route coverage in Howard County would greatly enhance the Atlas, because almost all Atlas blocks (in this county, a grid approximately 2.5 km on a side) would receive some coverage and the time and effort involved would be minimal. Although few confirmed records would result, any singing male recorded at the same stop on both runs would be upgraded from a "possible" to a "probable" breeding record. It seems to be a perfect complement to the efforts of the traditional atlasers.



Figure 1. Locations of Howard County miniroutes. Grid shows Atlas blocks and dotted lines indicate soil-type boundaries.

Twenty-three routes (hereafter "miniroutes") were drawn, 22 in Howard County (Fig. 1) and one in portions of blocks that extended into adjacent Anne Arundel County. Each route was restricted to one of the three major soil types (U.S.D.A. 1968) delineated in Figure 1. Soil type tends to be an excellent indicator of physiographic and land use differences, and hence, differences in bird populations. Soil is the result of such factors as climate, slope, substrate, exposure, vegetation cover, elevation and other factors, and is the ultimate determiner of human land use. All these factors influence bird distribution and abundance.

Ten observers covered the miniroutes during June and early July. Only persons thoroughly familiar with the songs and calls of all birds in the county participated. This was a vital requirement for this project in order to insure results that were comparable. As with the 50-stop BBS routes, the 25 stops were located at 1/2-mile intervals, so even though the starting points were not chosen at random, there was no bias in selecting the individual stops. Each route was started at 1/2 hour before sunrise and each stop was surveyed for 3 minutes on both the forward and reverse runs.

### RESULTS

Relative Density Mapping

Data from the routes were combined into 115 5-stop intervals, five from each route. The locations of the 110 center points of each 5-stop group in Howard County were used as mapping points (Fig. 2). The numbers



Figure 2. Mapping points for constructing relative density maps. Each point represents the center of a 5-stop interval of 22 miniroutes.

plotted at each point were the sums of individuals recorded at those 5 stops on both runs. Once the numbers were plotted, the points were grouped by lines of similar abundance (isolines). Three of the resulting maps (Figs. 3-5) show a surprising picture of relative abundance across a very small geographic area. Although most species breeding in an area as small as Howard County, which averages  $12 \ 1/2 \ x \ 20 \ miles$ , tend to be found throughout the county, these maps indicate considerable differences in relative density even for abundant species. Most of these differences appear to be correlated with the soil type boundaries in Figure 1.

### Contribution to the Atlas Project

Although there is no substitute for the detailed fieldwork required in an Atlas Project, the miniroute technique provided useful supplementary data in Howard County. In Figure 6, the results of the 23 miniroutes for three species (American Robin, Blue Grosbeak and Grasshopper Sparrow) are compared to the Atlas results. In all, 122 of the 136 2.5 km blocks had at least one miniroute stop in them. In all three examples, and several others examined, the miniroutes actually detected each species in a larger percentage of blocks than did the traditional Atlas effort. This is especially surprising, considering that only about 100 hours were spent on the miniroutes. The miniroutes added or upgraded the status of American Robin in 40 blocks, Blue Grosbeak in 18 and Grasshopper Sparrow in 37.



Figure 3. Distribution and relative abundance of Ring-necked Pheasant in Howard County, Md. Density increases with darkness of shading.

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Although the miniroutes were inadequate for recording birds in the "confirmed" category, their contribution to this Atlas project was substantial. They offered a guarantee of minimal coverage in all blocks, and of a large number of "probable" breeding records with very little effort. The importance of the "confirmed" category for most species has been heavily emphasized in Atlas projects. The time spent confirming common species, however, could be better spent seeking rarer habitats and their associated species in a block, thus building a better picture of the breeding bird community of that block. Because observers are forced by the 1/2-mile intervals to stop in areas that might otherwise by overlooked, miniroutes often reveal rare or unexpected species. They also offer an observer a quick overview of the available habitats in a block, which further aids in building a good species list.

### Other Uses of Miniroute Data

Any large bank of systematically gathered data lends itself to uses other than those originally intended. Because the Howard County miniroute data were obtained by uniform procedures and by highly qualified observers of comparable ability, they offer quantitative bird data that can be used in many other studies. Because specific sites are known, correlations between species occurrence and many physical parameters can be made. They also offer a quantitative measure of regional abundance. Robert Whitcomb (pers. comm.) et al. are incorporating all of these factors of



Figure 4. Distribution and relative abundance of Wood Thrush in Howard County, Md. Density increases with darkness of shading.

miniroute data from Howard and Prince Georges Counties into a chapter in an upcoming book on Forest Island Dynamics in Man-Dominated Landscapes, to be published by Springer-Verlag.

### DISCUSSION

Although the method used in Howard County proved adequate, it has some disadvantages. Because the routes saturate the county, there was some difficulty in setting up the routes. Each had to be drawn with regard to the others, which often meant redrawing several routes to achieve the best coverage of the roads in an area. This would become a serious and time-consuming problem over a larger geographic area. Running the routes in both directions also has a major disadvantage because it doubles the total number of mornings needed, and few medium-to-large geographic areas have the manpower needed for the extra runs. Also, the routes were drawn without regard to Atlas block boundaries, making the data difficult to transfer to Atlas sheets. It appears that a variation of these methods would be more desirable.

Perhaps a better approach to miniroutes would be to restrict each route to a single Atlas block. With a block-by-block arrangement, data manipulation would be facilitated because each route would maintain a dis-



Figure 5. Distribution and relative abundance of Grasshopper Sparrow in Howard County, Md. Density increases with darkness of shading.

AMERICAN ROBIN





BLUE GROSBEAK









Figure 6. Atlas data generated by miniroutes (left) versus traditional Atlas effort (right). Dots indicate blocks not sampled by miniroutes. The three shades indicate Possible, Probable, and Confirmed records.

tinctive geographic identity and each block would contain the same number of stops. A systematic layout would lend itself more readily to correlations such as similarity indices among routes as well as correlations between bird data and the many physical parameters of the atlas block. Mapping of relative abundance also would be simplified by the systematic technique. Because each route would be identifiable by the coordinates of its block, the data would be easier to store and access.

### CONCLUSIONS AND RECOMMENDATIONS

The miniroute is a valuable tool in avian research in small to medium-sized geographic areas. It is recommended that the routes be conducted only by highly trained individuals, familiar with all bird songs and call notes. Map-reading and interpretation also are required. It cannot be overstressed how disastrous a serious loss of hearing or limited knowledge of vocalizations can be to an effort of this nature because both generate false negative as well as positive data. In a systematic sampling scheme, it is required that positive data be accurate, and valid negative data are as meaningful as positive data.

In conjunction with an Atlas project, miniroutes offer an opportunity to add a dimension of relative abundance not otherwise easily obtained. They also guarantee minimal coverage throughout. When relying on volunteers for coverage of blocks, some observers fail to complete their coverage, leaving unnecessary gaps. Another important advantage of miniroute coverage is that it offers a data set generated from an identical effort at each stop. If each route were confined to one Atlas block there would be the additional advantage of uniform coverage among blocks, compared to traditional Atlas coverage which can vary from hundreds of hours in some blocks to as little as a half hour of effort in others. When planning to incorporate miniroutes into an Atlas, the data should be incorporated immediately and distributed to the assigned observers, so they can proceed to upgrade breeding categories during the same field season.

If a miniroute effort were accomplished throughout Maryland or any state, a very informative and useful set of maps of relative abundance could be prepared for the state. These maps would be an invaluable addition to any state bird book, and of infinite use to biogeographers, planners and many others.

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> U. S. Fish & Wildlife Service Patuxent Wildlife Research Center, Laurel, Md. 20708

### RED PHALAROPE IN THE MARYLAND PIEDMONT AT HUGHES HOLLOW

Paul Nistico

On September 13, 1980, I was leading a field trip for the Southern Maryland Audubon Society to the C & O Canal in Montgomery County. At Hughes Hollow we encountered another group of birders who led us to a shorebird that they had identified as a Northern Phalarope. The bird, which was in winter plumage, was clearly a phalarope and definitely not a Wilson's Phalarope. Because inland sightings of Northern Phalaropes are not particularly rare during fall migration, and because the Red Phalarope is almost exclusively pelagic by nature, the identification was accepted.

It was not until photographs I had taken at the time were developed that field guides were consulted and the bird was correctly identified as a Red Phalarope (Phalaropus fulicarius). Compared to the Northern Phalarope, the photographs clearly show a bird with a thicker bill, a white crown bordered laterally with black, and an unstreaked, pale gray back that contrasts markedly with a darker rump and tail.



Red Phalarope at Hughes Hollow, Sept. 13, 1980. Photo by the author.

The observation is noteworthy because the Red Phalarope rarely occurs on inland waters outside of its arctic nesting grounds. In fact, only three previous Maryland sightings west of Chesapeake Bay have been documented: October 4, 1897 at Whites Ferry, Montgomery County, and July 10, 1947 at Solomons, Calvert County (Stewart and Robbins 1958), and October 29-30, 1965 at Lily Pons, Frederick County (Carlson 1965). Additionally, specimens were collected in the District of Columbia on October 17, 1885 and October 3, 1912 (Stewart and Robbins 1958).

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# THE SEASON

## BREEDING SEASON, JUNE 1 - JULY 31, 1980

Robert F. Ringler

The summer of 1980 began with cool dry weather in June, punctuated with occasional storms that brought more wind than rain. Nests of species susceptible to wind damage, herons and Ospreys being notable, may have suffered significant losses. The dryness continued into July as a severe heatwave that began on June 27 produced daily high temperatures over 90° most days. Water levels in reservoirs began dropping, and the lack of water in impoundments at coastal refuges may have produced the impressive flight of post-breeding herons throughout the State. Overall, temperatures averaged 2.25° below normal in June and 1.4° above normal in July. Precipitation was 1/2 inch below normal in June and near normal in July, but most of July's rain fell on the 22nd and 23rd, producing widespread flooding. This had been preceded by six days of intense heat with temperatures in the upper 90s and over 100° at many reporting stations. The severity of these conditions probably contributed to some mortality in late-nesting birds.

Contributors - Harry Armistead, Dave Bates, Rick Blom, Larry Bonham, Ethel and Wilber Engle, A. J. and Roberta Fletcher, Bill and Floyd Hayes, Mark Hoffman, Wayne Klockner, Alicia Knotts, Jim Paulus, Carl Perry, Jan Reese, Chan Robbins, Jim Stasz, David Wallace, Hal Wierenga, Erika Wilson, and Paul Woodward.

Loons, Grebes. Hoffman saw a late-migrating Common Loon at Sandy Pt. on June 9 and found an extremely weak and heavily oiled bird on the beach at Assateague on June 17. Other summering Common Loons were near Bellevue on July 4 (Armistead, Perry) and 3 near Neavitt on July 7 (Reese). Two summering Horned Grebes were spotted this year, one at St. Marys City on June 29 (Ringler, Blom) and the other at Ocean City on July 20 (Doug Santoni). This seemed to be one of the better years for nesting Pied-billed Grebes. Mark Wallace found one at the Waterford Farm in Howard County on June 17-18, indicating a possible nesting attempt. At Fairmount Wildlife Management Area Hoffman found an adult with 3 young on June 18 and Armistead saw an adult with 5 young there on July 2. Armistead also counted 103 Pied-billed Grebes, including an adult with 3 young, at Deal Island Wildlife Management Area on July 3.

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<u>Pelagics</u>, <u>Pelican</u>. A boat trip out of Ocean City on June 14 produced 60 Cory's Shearwaters, 100 Greater Shearwaters, 20 Sooty Shearwaters, 2 Manx Shearwaters, 1 Leach's Storm Petrel, and 2,500 Wilson's Storm Petrels. In addition several observers believe a Black-capped Petrel was also seen on the trip. Hoffman's extensive description of the bird is being studied by the Maryland Records Committee as this would be the first State record. A White Pelican was seen at Cedar Island Wildlife Management Area on July 11-18 (R. W. Maldeis, et al.).

<u>Cormorants</u>. Summering Double-crested Cormorants are becoming more common on the bay and on the coast as shown by the many sightings this year. One was at Neavitt on June 1 (Reese), 93 at Bloodsworth Island on June 7 (Armistead, Wilson), 2 flocks flying north at Ocean City on June 15 (Ringler, Bates), 3 at Nelson's Island on the same day (Armistead), 2 on Assateague on June 17 (Hoffman), 1 at Bellevue on June 17 (Liz Armistead) and the 23rd (Reese), 1 at Sandy Pt. on July 3 (Wierenga) and the 10th (Hoffman), 1 at Grasonville on July 11 and 2 at Poplar Island on July 12 (Reese). All of the above birds were certainly non-breeders in subadult plumage.

Herons and Tbises. Once again Henry Armistead made an extensive survey of the colonial waterbirds nesting in the lower Chesapeake Bay. The results of his forays are summarized in Table 1. In addition he made some other interesting counts of herons at some of these locations. At Deal Island Wildlife Management Area (WMA) on July 3 were 38 Green Herons, 47 Great Egrets, 6 Least Bitterns, and 78 Glossy Ibis. In sight at one time at Frances Gut, Smith Island on June 29 were 87 Snowy Egrets, 125 Louisiana Herons, 94 Black-crowned Night Herons, and 26 Glossy Ibis. Also on Smith Island he made single sightings of 110 Black-crowns at Hog Neck and 60 Black-crowns at Round Hammock, both on June 30. In general, Armistead noted that all heron species except Louisiana Heron and Glossy This declined from his 1978 survey. Some of his comments were: "The reasons for these declines I do not know. The most spectacular decline was at Holland Island, where the total plummeted from 594 pairs of all ten heron species to 132 pairs of only 5 species. The fact that the 1980 survey was done rather late in the breeding season can only partially explain these declines. As may be seen, 6 of the heronries were bigger than in 1978 and 7 were smaller, emphasizing once again the very fluid nature of heronries here."

The post-breeding dispersal of herons and egrets this summer was the largest in many years. Great Blue Herons were first noted at Hughes Hollow on July 2 (Woodward), at Lilypons on July 13 (D. Wallace), and at Laurel on the latter date (Robbins). Dennis Brezina reported about 100 Cattle Egrets near Lothian in southern Anne Arundel County on June 28. They may be nesting in the vicinity. Blom found 2 Cattle Egrets near Liberty Lake in Carroll County on July 24. David Wallace saw a Great Egret flying over New Design Rd. in southern Frederick County on the unusual date of June 11, perhaps an early dispersant from the south. Others began appearing later that month with 3 at Leonardtown on June 29 and 2 at Patuxent Wildlife Research Center on June 30 (Ringler, Blom). In Baltimore, Peter Knight saw 11 flying over the Johns Hopkins campus

in mid-July and 7 flew over the Patapsco River near Liberty Dam with one Snowy Egret on July 26 (Ringler). At Upper Marlboro there were 12 on July 27 (Bob Patterson) and on July 31 the flock at Lilvoons had grown to 32 (Blom, Ringler). There were 18 Snowy Egrets at Masonville in Baltimore City on July 29 (Ringler), along with a Louisiana Heron. Six Louisianas were at Pt. Lookout on Aug. 1 (Blom). Ellis saw 3 adult Yellowcrowned Night Herons along Snowden's Run in Carroll County on June 22, a date indicating a potential breeding location. Immature Yellow-crowns were seen at Sandy Pt. on July 10 (Wierenga) and on Assateague on July 16 (Hoffman) where they probably are not breeding. Reese found a Least Bittern at Kent Narrows on July 11. Hoffman reported 3 American Bitterns at Fairmount WMA and 1 at Deal Island WMA on June 18, indicating that this species breeds sparingly in Somerset County. A Glossy Ibis was on Poplar Island on July 12 (Reese) and 2 were at Lilypons from July 16 into August (D. Wallace). White Ibis made their first appearance in the state in 3 years beginning with 4 at Silver Spring on July 13 (Steve Whitcomb). Two showed up at Lilypons on July 25 and stayed into August (D. Wallace). The first one seen in the Hughes Hollow-Seneca area was on July 26 (Anna Urciolo): 3 were at Hughes Hollow on the 31st (Blom, Ringler) and at least 1 through Aug. 9 (Woodward). Another White Ibis was at Patuxent WRC on July 31 (Blom, Ringler) and the next day (Woody Martin). All of these birds were immatures.

> Table 1. Estimated Number of Breeding Pairs of Herons and Ibis in Lower Chesapeake Bay in 1980

Ref.: "Summer Birds of Lower Chesapeake Bay in Maryland" by Armistead in Maryland Birdlife 34: 99-151, Sept. 1978.

Location	GBH	<u>GH</u>	LBH	CE	<u>GE</u>	<u>SE</u>	LH	BCN	YCN	GI	Total
Barren Island	65				20						85
Bloodsworth Is.	125	5				5		3	2		140
Adam Island	10	3	5	5		5	5	35	1	5	74
Holland Island	30	2			30			40	30		132
Deal Island WMA	18										18
Cherry Island	20	5	10	45	35	30	50	70	15	35	315
Wop Island								5	5		10
Barnes Landing	4	1	2			6		17	8	1	39
Frances Gut		5	15	10	5	60	85	100	20	45	345
Round Hammock		2	5			10	5	70	15	5	112
Pines		8	25	25	5	15	45	20	30	40	213
Ireland					3	1	l	7	4		16
Hog Neck	5	3	15	45	15		15	110	5	35	248
Total	277	34	77	130	113	132	206	477	135	166	1,747

Column headings are abbreviations for the species: Great Blue Heron, Green Heron, Little Blue Heron, Cattle Egret, Great Egret, Snowy Egret, Louisiana Heron, Black-crowned Night Heron, Yellow-crowned Night Heron, and Glossy Ibis.

Waterfowl. Refuge personnel estimated 160 Mute Swans at Eastern Neck NWR. A summering Whistling Swan was in the Wye River on July 9 (Reese). The Black Swan seen by many observers at Triadelphia Reservoir on June 13 was certainly an escape. There were 16 Canada Geese at the north end of Liberty Reservoir on July 19 (Ringler) and 6 at Laurel on July 21 (Robbins), probably evidence of local breeding. Armistead's counts of nesting ducks and their broods in Somerset County are listed in Table 2. Except for the Green-winged Teal, which are irregular breeders in the state, all of the totals are normal. In addition he found the following nests in his summer surveys: a Mallard nest with 8 eggs on Nelson's Island on June 15, a Black Duck nest with 9 eggs on Adam Island on June 7, another with 7 eggs on Holland Island the same day, and another Black Duck nest with 8 eggs at Pines on Smith Island on June 28. At Swan Island (a part of Smith Island) he counted 26 Black Ducks on June 29 along with 14 Gadwalls. Armistead saw a female Gadwall with 4 young at Frances Gut on Smith Island on June 29 also. Hoffman found Gadwall in Worcester County at two locations: 1 on Assateague on June 17 and 2 at South Pt. on July 16, both potential breeding areas. Hoffman also found a pair of Green-winged Teal on Assateague on June 17 and 2 at Deal Island WMA on July 18 (see also Table 2). A Blue-winged Teal at the rouge lagoon in North Branch, Allegany Co. on June 4 (Paulus), was out of place. Two pairs at Frances Gut, Smith Island on June 29 (Armistead) were probably nesting. However, 1 at Lilypons on July 25-27 (D. Wallace) and 3 at Mason's Beach near Deale in Anne Arundel County on July 28 (Klockner) are best classed as early fall migrants. An early brood of 10 young Wood Ducks was with a female at Noland's Ferry on the C&O Canal on May 22 (D. Wallace). Hoffman found several families of Wood Ducks this year including a female with 3 downy young in Wolf Swamp on June 2, 2 females each with 6 downy young at Mountain Lake Park on June 4, and one with a single downy young at Finzel Swamp on June 6. The best count of Wood Ducks came from Lilypons on June 11 with 54, including 48 young birds (D. Wallace). Two adults and 3 young Wood Ducks were seen at Tanyard on July 23 (E. Engle). Among the summering diving ducks were 2 drake Canvasbacks and 4 Ruddy Ducks at Masonville in Baltimore City on June 13, dwindling to 1 Canvasback and 4 Ruddies on June 22, and just 2 Ruddies on June 28 (Ringler). A drake Common Goldeneye was at the Piscataway sewage plant on June 1 (Nistico). Reese found an Oldsquaw and 2 Red-breasted Mergansers at Neavitt on June 1. There were 2 drake Oldsquaws at Sandy Pt. on June 10 (Hoffman) and Armistead saw 2 more Oldsquaws with 2 Red-breasted Mergansers at Nelson's Island on June 15. Other Red-breasted Mergansers were

Table 2. Nesting Ducks in Somerset County (brood totals in parentheses)

Species	Fairmount WMA on July 2	Deal Island WMA on July 3
Mallard	2	65
Black Duck	27 (1,7,7,8)	135 (2,3,6,6,8,9)
Gadwall	9 (5)	130 (4,6,7,8)
Green-winged Teal	1	6
Blue-winged Teal	17 (4,6)	95 (4,5,6,6,7,8,9)

singles at Assateague on June 17 (Hoffman) and on Barren Island on July 5 (Armistead, Perry). A White-winged Scoter was at Hood Pt., Prospect Bay, Queen Annes Co. on July 11 (Reese). A female-plumaged Common Merganser at Masonville on Aug. 3 (Stasz, Ringler) rounds out the list of non-breeders.

Diurnal Raptors. David Wallace counted 60 Black Vultures in the Lilypons area this summer, one of the larger concentrations during the breeding season. On June 7 Reese saw a Red-shouldered Hawk at Royal Oak in Talbot County where they are rare in summer. Two immature Bald Eagles were at Tanyard on July 13-14 (E. Engle) and one was seen over Laurel on July 16 (Robbins). Sam Dyke found a nest of the Northern Harrier containing 3 young and 2 eggs at Deal Island WMA in late May. The following harrier reports all probably refer to locally breeding birds: 1 at Bloodsworth Island on June 7 (Armistead, Wilson), a pair at E. A. Vaughn Wildlife Management Area on June 15 (Hoffman), 1 at Swan Island of Smith Island on June 29 and July 1 (Armistead, et al.), 1 at Hog Neck on Smith Island on June 30 (Armistead), 1 at Wop Island of Smith Island on July 1, 1 at Fairmount WMA on July 2, and 4 at Deal Island WMA on July 3 (all by Armistead). None were reported from the historical breeding range in Garrett County. Steve Cardano reported that 14 young Ospreys from 37 nests on the lower Patuxent River were lost because of storms this summer. The Peregrine Falcon seen at Sandy Pt. on June 9 (Wierenga) is probably related to the release program of Cornell birds. Nancy Linton noted a pair of American Kestrels nesting at the Hilton Hotel on Connecticut Ave. in Washington. One at Blackwater on July 5 (Armistead, Perry) was an early sign of post-breeding dispersal, as they do not nest in the area. Bob Patterson conducted studies of 25 kestrel nests in Anne Arundel and Prince Georges Counties. In the course of the study he discovered a record late egg date for the state, July 16, when a pair renested after an earlier failure. He found two trends. Kestrels appear to be attracted to the pens at Patuxent WRC where many birds are caged for studies; and in Anne Arundel County the kestrels are capturing Bank Swallows, both adults in the air and young from the ground. At one Bank Swallow colony the estimated mortality was perhaps as much as ten per cent.

<u>Gallinaceous Birds</u>. Woodward saw half-grown young Wild Turkeys at McKee-Beshers Wildlife Management Area in Montgomery County this summer. Sam Ake reported seeing 6 adult and 18 young turkeys in late June and early July on his farm near New Germany in Garrett County. A Chukar in College Park on June 30 (Dorothy Brockett) was certainly an escape.

<u>Rails, Gallinules, and Coots.</u> There were 30 Virginia Rails heard in the Elliott Island marshes on June 21 (Reese, et al.) and 2 at Tanyard on July 23 (E. Engle). The Sora is a very rare breeder in the state but one was at Deal Island WMA on June 18 (Hoffman), 1 at Sandy Pt. on June 21 (Wierenga), and 2 were seen at Lilypons on July 6 with at least one through July 20 (D. Wallace). Hoffman saw 2 adult Common Gallinules with 2 downy young at Fairmount WMA on June 18 and Armistead saw an adult with 2 young there on July 2 plus another 24 birds at Deal Island WMA on July 3. Blom found 1 adult with 2 young at Sparrows Pt. in Baltimore County on July 17. The American Coot at the rouge Lagoon in North Branch from June 4-17 (Paulus) was probably a summer vagrant. Similarly 1 at Sparrows Pt. on July 17 (Blom) and 2 there on Aug. 3 (Ringler) were not known to breed. However, at Deal Island WMA they apparently nested successfully as Armistead found  $1^4$  birds there on July 2, 2 nearly fullgrown young were seen there on July 13 (Ringler, Blom), and Hoffman estimated 60 coots there on July 18.

<u>Shorebirds</u>. Hoffman recorded the numbers of shorebirds he found on 3 expeditions to the northern portion of Assateague Island this summer. The totals are in Table 3, which gives a good account of which species are typically late northbound and early southbound migrants. He made similar counts at Deal Island WMA and Blackwater NWR on July 18. At Deal he found 2 Killdeer, 4 Greater Yellowlegs, 90 Lesser Yellowlegs, 25 Willets, 35 Short-billed Dowitchers, 50 Least Sandpipers, and 5 Pectoral Sandpipers. At Blackwater he saw 7 Killdeer, 4 Greater Yellowlegs, 35 Lesser Yellowlegs, 1 Spotted Sandpiper, 8 Short-billed Dowitchers, 5 Semipalmated Sandpipers, 35 Western Sandpipers, 100 Least Sandpipers, 1 Pectoral Sandpiper, and 2 Stilt Sandpipers. The distribution of these birds seems to indicate a preference by the larger shorebirds for the impoundments at Deal Island and by the smaller species for Blackwater. Such a generalization is risky because of the extreme variability in water levels that is possible.

Table 3. Shorebirds on northern Assateague Island, Summer 1980

Species	June 17	July 16	July 24
American Oystercatcher	15	25	20
Semipalmated Plover	9	20	23
Wilson's Plover	7	3	1
Killdeer	2	2	1
Piping Plover	22	30	15
Black-bellied Plover	10	12	1
Marbled Godwit	-	l	-
Whimbrel	-	135	42
Greater Yellowlegs	-	2	10
Lesser Yellowlegs	-	20	45
Willet	160	450	250
Spotted Sandpiper	-	50	35
Ruddy Turnstone	22	9	20
Short-billed Dowitcher	-	65	70
. Red Knot	1	15	-
Sanderling	-	220	750
Semipalmated Sandpiper	30		25
Western Sandpiper	-	5	l
Least Sandpiper	-	150	130
White-rumped Sandpiper	l	-	-
Pectoral Sandpiper	-	1	40
Dunlin	1	-	-
Stilt Sandpiper	-	-	1

Armistead and Perry found a pair of American Oystercatchers with 3 downy young at Tar Bay near Barren Island on July 5. Sam Dyke noted that oystercatchers on Assateague were feeding on mole crabs at the surf line. A Black-necked Stilt was seen at Smith Island on June 17 (Michael Harrison) and 2 were at Deal Island WMA on July 2 (Armistead) and July 13 (Ringler, Blom). The 6 Semipalmated Plovers at Neavitt on June 1 (Reese) were late spring migrants. Czaplak reported a Marbled Godwit on Assateague on July 30. Early Whimbrels were 5 at Assateague on July 5 (Dyke) and 1 at Sandy Pt. on July 25 (Wierenga). Sightings of Upland Sandpipers in their breeding areas included 3 near Gortner in Garrett County and 1 still near Buckeystown in Frederick County on July 27 (Ringler, Blom). In Caroline County signs of their migration began on July 6 with 5 at Greensboro (A. J. Fletcher), 4 of which remained through July 27. Two Greater Yellowlegs at the GE plant in Howard County on June 9 (Earl Strain) were extraordinary while 2 at Fairmount WMA on July 2 (Armistead) were early migrants heading south. Hoffman found a Willet nest with 3 eggs on Assateague on June 17. Late spring Ruddy Turnstones were singles on Holland Island on June 7 (Armistead, Wilson), at Sandy Pt. June 13 (Wierenga), and at Ocean City on June 15 (Ringler, Bates). A Wilson's Phalarope at Sandy Pt. on July 3 (Wierenga) was during a period for which there are no previous records for the state. A Common Snipe at Lilypons on July 27 (D. Wallace) was extraordinarily early for that species. Among the records of summering Short-billed Dowitchers that are difficult to place in either migration period are 10 at Ocean City on June 15 (Ringler, Bates), 2 at Frances Gut, Smith Island on June 29 (Armistead, et al.), and 1 at Barren Island on July 5 (Armistead, Perry). Also at Ocean City on June 15 were 9 Red Knots and 4 Semipalmated Sandpipers (Ringler, Bates). Interesting Western Sandpipers were 1 at Masonville in Baltimore on July 15-17 (Ringler, Blom) and 1 at Lilypons (Ringler). A Least Sandpiper at the rouge lagoon in North Branch on June 28 (Paulus) shows how early that species migrates southward. Paulus found a White-rumped Sandpiper there on June 4-5 which is a late spring migrant. There were 55 Pectoral Sandpipers in Northeast Creek, Baltimore Co. on July 24 (Blom). Finally a Dunlin on Holland Island on June 7 (Armistead) was another late spring bird.

Jaeger, Gulls. One Parasitic Jaeger was seen on the June 14 pelagic trip out of Ocean City. The first breeding record in Dorchester County for the Greater Black-backed Gull was established by Armistead when he found a nest with one egg on Holland Island on June 7. A subadult Lesser Black-backed Gull was at Sandy Pt. on July 16 and a different sub-adult was there on July 24 (Hoffman, Wierenga). An immature Herring Gull at the rouge lagoon on June 20 (Paulus) was out of place. Wierenga reported that the last Ring-billed Gull of the spring at the Rockville landfill was seen on June 5. Summering Ring-bills included approximately 2,000 in the Baltimore area (Ringler, et al.), 700 at Sandy Pt. on June 12 (Hoffman), and 350 in Queen Annes County on July 11 (Reese). It is possible that many of these birds were duplicated in the estimates owing to the transient nature of gulls and the proximity of the locations. Most, if not all, of these birds are in less than adult plumage and tend to stay in the northern part of the bay as they are

rarely seen farther south in the summer. Counts of Laughing Gulls in Anne Arundel County were 650 at Sandy Pt. on July 9 (Hoffman) and 600 at Mason's Beach on July 28 (Klockner). Hoffman and Wierenga found Franklin's Gulls at Sandy Pt. again this summer with an immature on June 10, a rosy-breasted adult on July 9, and a different immature on July 10.

Terns, Skimmers. Two Gull-billed Terns were seen on Assateague on June 15 (Ringler, Bates) and one at Deal Island WMA on July 3 (Armistead). a first for Somerset County. The post-breeding dispersal of Forster's Terns was noted early with 2 at Cook's Pt., Dorchester Co. on June 25 (Reese), 7 at Ramona's Beach, Baltimore Co. on June 28 (Ringler), 2 at Pt. Lookout on June 29 (Ringler, Blom), 2 at Franklin Manor, Anne Arundel Co. on June 27 (Klockner), and 1 at Greenwood Creek, Queen Annes Co. on July 9 (Reese). On July 24 Blom counted 103 in Back River. Armistead found 15 Common Terns plus 3 nests with 2 eggs each on Nelson's Island on June 15. He reports that this may be the last year they nest on the island as it continues to erode. Reese saw 8 Common Terns at Tilghman Island on July 7 where they do not nest. Wierenga reported that the colony of Little Terns at Sandy Pt. was unsuccessful. At Back River a new colony produced at least 20 young, which were banded by Stasz. Ernie Willoughby reported 30 pairs of Little Terns at Piney Pt., St. Marys Co. on June 7, Hoffman estimated 150 birds on Assateague on June 17, Reese saw 10 at Whitehall Creek, Dorchester Co. on June 25 and 1 was near Rock Hall, Kent Co. on July 21 (Ringler, Blom). The following reports of Royal Terns in the bay were received: 15 at Adam Island on June 7 (Armistead, Wilson), 3 at Tilghman Island on June 26 (Reese), 1 at Pt. Lookout on June 29 (Blom, Ringler), 1 at Romancoke on July 11 (Reese), and 1 at Ramona's Beach on July 17 (Blom). The report of a Sandwich Tern was one on Assateague on July 30 (Czaplak). Caspian Terns remained throughout the summer in Baltimore harbor with 4 on June 13, 2 on June 22, and 9 on June 28 (Ringler). Wierenga noted 2 adults with 2 dependent young at Sandy Pt. on July 3. Others were seen at Barren Island with 5 on July 5 (Armistead, Perry), 3 at Sandy Pt. on July 10 (Hoffman), 4 at Ramona's Beach on July 17 (Blom), and 1 at Mason's Beach on July 28 (Klockner). The source of young Caspian Terns in the summer is still a mystery as there are no known nestings of this species in the state. The only Black Terns reported were singles at Assateague on July 19 (Hayes') and July 24 (Hoffman). There were 4 Black Skimmers at Swan Island of Smith Island on June 29 (Armistead, et al.).

Barn Owl. Czaplak found a family of Barn Owls near the Brookland Metro Station. Wierenga found two Barn Owl nests in the cupolas of two large barns in northeastern Montgomery County, each about 3 miles from Leytonsville. The nests fledged 6 young apiece. He also noted that the farmyard which hosted one of the pairs also supported a pair of Screech Owls that fledged 3 young and a pair of American Kestrels that fledged 4 young in the shade trees around the old farmhouse.

Caprimulgid, Kingfisher, Woodpeckers. Pete Webb heard a Chuckwill's-widow at Soldiers Delight on May 3, 5, 25, and June 28. This is another unusual Piedmont occurrence of the species with no other evidence of breeding indicated. Armistead and party unexpectedly found a Belted Kingfisher at Ewell on Smith Island on June 29, far from any nesting location. Perhaps this represents post-breeding dispersal by the species. Pileated Woodpecker sightings in Talbot County are still rare but Reese noted one at Royal Oak on June 1 and one near Easton on July 7. He also saw a Red-headed Woodpecker in his yard at St. Michaels which indicates nearby nesting. Perry was surprised to find one on Barren Island on July 5.

<u>Flycatchers</u>. Woodward found 17 territorial male Willow Flycatchers at Hughes Hollow this summer, probably a record for any one location in the state. Peggy Bohanan found an Eastern Pewee in her Tyson Street yard in the center of Baltimore on June 8 indicating that this species was still migrating on that date. David Wallace found a singing Olivesided Flycatcher on the west edge of Frederick on June 1 and Hoffman found one on Snaggy Mountain Road in western Garrett County on June 4, both typically late migrants.

Swallows. A fledgling Tree Swallow was found at a martin box in Montgomery County about a mile from the Capitol Beltway near Potomac. Woodward estimated that 29 pairs of Tree Swallows at McKee-Beshers WMA produced 95 young this summer. Early southbound migrants were 1 at Masonville on July 8 (Blom), 25 at Sandy Pt. on July 10 (Hoffman), and 1 along New Design Road in Frederick County on July 20 (D. Wallace). Post-breeding Bank Swallows were noted in many locations this summer with 1 at Frances Gut, Smith Island on June 29 (Armistead), 3 at Cedarhurst, Anne Arundel Co. on July 2 (Klockner), 4 at Sandy Pt. on July 9 (Hoffman), 5 at Blackwater on July 18 (Hoffman), on July 24 others at Lilypons (D. Wallace), Piney Run (Blom), and Assateague (Hoffman), and at Hughes Hollow on the 26th (Bonham). Bill Murray noticed Cliff Swallows nesting under the Rt. 29 bridge over Rocky Gorge. In Crofton Bob Patterson found a pair of Cliff Swallows nesting in a Bank Swallow burrow on June 21, only the second coastal plain record for the state. An early post-breeding Cliff Swallow was at Piney Run on July 24 (Blom).

<u>Corvids</u>, <u>Nuthatches</u>, <u>Creepers</u>. Hoffman noted 17 Blue Jays migrating northward past Sandy Pt. on June 9. At Ewell on Smith Island Armistead found 1 Blue Jay on June 29 and 2 on July 1. This is an area where they are not known to nest. He also counted 51 Fish Crows at Pines on Smith Island on June 28. Hoffman found 2 Brown-headed Nuthatches near Whitesburg on June 17. This is an area of Worcester County where they have not been found before. David Wallace found 2 fledgling Brown Creepers behind the loose bark of a dead tree near Noland's Ferry on May 26, and he saw one bird on June 13 about 1 mile east of the earlier location. Mieke Mehlman found creepers nesting in a dead elm tree near Pennyfield on the C&O Canal on June 14. Armistead noted creepers near Bellevue on 4 days from June 7-14. Brown Creepers are becoming increasingly common as breeders in the state.

<u>Wrens</u>. Czaplak found a Winter Wren at Roth Rock in Garrett County on June 25. This species may be an occasional breeder in the state. Hoffman saw 2 adult and 2 immature Bewick's Wrens at a well-known nest site on Dan's Rock on June 6. Carolina Wrens appear to be making a

modest recovery from the severe losses sustained over the past several years.

<u>Kinglet</u>, <u>Waxwings</u>, <u>Shrike</u>. Written descriptions of a Ruby-crowned Kinglet along Athol Road in Wicomico County on July 13 (Ringler, Blom) were received. The species is not known in Maryland during the summer. Two adult Cedar Waxwings near Bellevue on June 13 (Armistead) may have been nesting nearby. The only Loggerhead Shrike to be reported was at the Claggett Diocesan Center near Buckeystown in Frederick County on July 12 (Lee Blom).

Warblers. Knotts reports seeing Black-and-white Warblers at Denton on June 14, 23, July 12, and 29. They may be nesting locally in the area though this is outside their recognized range in the state. On June 15 Hoffman found a Prothonotary Warbler feeding a fledgling Brownheaded Cowbird at Shad Landing. On the same day on Hickory Point in Worcester County he found another Prothonotary singing an unusual song. It consisted of a jumble of different repeated notes, each repeated 2-3 times, then changing to a new note. Other notes were more slurred, all similar in quality, as in normal song, bright and loud. Hoffman found a Golden-winged Warbler nest with 3 eggs along Wallman Road in Potomac State Forest, Garrett County on June 6. It was on the ground in a thick clump of grasses and weeds, woven into the ground litter (dead vegetation) and surrounded by vegetation about 2 feet tall growing up around it. He also heard a Nashville Warbler singing in the Glades of Garrett County on June 3. David Wallace observed a Yellow-throated Warbler feeding a fledgling cowbird at Noland's Ferry on June 13. Paul Bystrak found a Canada Warbler in Anne Arundel County on the extraordinary date of July 12. This may have been an exceptionally early migrant or a nonbreeding summer vagrant. An American Redstart singing near Bellevue on June 8 (Armistead, Wilson) was probably a late migrant.

Icterids. Hoffman found a blackbird roost on Assateague Island on July 24 that contained 1,500 European Starlings, 600 Red-winged Blackbirds, and 2,000 Common Grackles. Late spring Bobolinks were 1 near Taylors Island, Dorchester Co. on June 1 (Armistead), a pair through June 4 in the Belfast Valley of northern Baltimore County (Kaestner), and 1 male at the Waterford Farm in western Howard County from May 31 to June 10 (M. Wallace). Early fall Bobolinks were one male at Sandy Pt. on July 10 (Hoffman) and 6 flying over northern Baltimore County on July 19 (Ringler). Two female Boat-tailed Grackles were at Pt. Lookout on June 29 (Blom, Ringler). The high count of Boat-tails at Deal Island WMA was 40 on July 3 (Armistead).

<u>Finches</u>, <u>Sparrows</u>. Pete Webb found a singing male Rose-breasted Grosbeak at Soldiers Delight on June 15 when the species may still be migrating. Bob Dixon found another singing male in northern Baltimore County through June 29 which is slightly more suggestive of breeding. Jim Orgain found a singing male Dickcissel on a Breeding Bird Survey route on Longnecker Road in Baltimore County in June. Danny Bystrak found a pair on a BBS in northern Carroll County that was still present on June 21. Blom found another pair in Montgomery County. At the colony near Buckeystown David Wallace found at least 5 males beginning July 9. Kaestner saw a fledgling Savannah Sparrow in the Belfast Valley, an area where they have not been known to nest. Reese counted 6 Henslow's Sparrows in the Elliott Island marshes on June 21. Notes of Sharptailed Sparrows were 3 at Adam Island and 1 at Holland Island on June 7 (Armistead, Wilson), and 13 at E. A. Vaughn WMA on June 15 (Hoffman). Klockner found 4 singing male Seaside Sparrows at Franklin Manor, Anne Arundel Co. on June 27, while Armistead counted 120 at Deal Island WMA on July 3. Bob Jarboe banded a White-throated Sparrow at McDonogh School on June 13. This species is occasionally reported as a summer vagrant. Swamp Sparrows are being found more frequently in coastal marshes along the bay. Included this year were birds at Sandy Pt. (Danny Bystrak), Cedarhurst on July 2 (Klockner), and single birds heard singing in southern Wicomico County on July 13 and at Eastern Neck on July 21 (Ringler, Blom).

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## WILSON'S PHALAROPES AT HUGHES HOLLOW

### Floyd Hayes

My brother Bill and I visited Hughes Hollow on the Potomac River floodplain above Seneca in Montgomery County on the hot and muggy afternoon of August 9, 1980, hoping to see the White Ibises recently reported. While walking out on the dikes we immediately noticed the unusually low water level with exposed mudflats. I scanned the Northwest Impoundment from the dike parallel to the parking lot while Bill scanned the Southeast Impoundment from the perpendicular dike. I saw several Killdeer, Pectoral Sandpipers, yellowlegs, Great Egret, immature Little Blue Heron and three spinning shorebirds. Then Bill yelled "White Ibis!" and I joined him as we watched an immature for five minutes in the Southwest Impoundment.

We then returned to the parking lot and walked out on the sun-baked mudflats toward the shorebirds. We approached the three spinning shorebirds cautiously, and through binoculars noted the yellow legs, thin long black bill, black stripe through the eye, and very white underparts, and identified them as Wilson's Phalaropes (*Steganopus tricolor*). Then a fourth bird appeared and briefly hassled a Pectoral Sandpiper while giving low grunts. A bit nervous at our close approach (30 feet), the birds flew around a little, but not far, and we noted the white tail. Then they started feeding and spinning again, oblivious to our presence. We approached within 20 feet this time, and watched about 30 minutes as they put on a marvelous show.

The presence of four Wilson's Phalaropes constitutes a new high count for Maryland and the birds were subsequently observed by several other birders over the next few days.

### HOUSE FINCH NESTING OBSERVATIONS--A REVIEW

### Fred G. Evenden

Maryland birders invariably show interest in the continued rapid expansion of the House Finch (Carpodacus mexicanus) in the Northeast and Mid-Atlantic United States. Actual 1980 nesting in my Bethesda neighborhood prompts me to provide a picture of House Finch nesting data. A study of 48 nesting attempts in Sacramento, California, 1950-54, was published in The Condor (59:112-117). As this 1957 reference is not readily available to many fellow Marylanders, and since no additional House Finch life history studies have been published in the intervening years, the following summary of my study is offered.

### NEST SITES AND MATERIALS

Variegated ivy trained under a porch overhang was used for 36 of the 48 nest sites. Ten others were in wisteria and climbing roses. Nests were placed 6 to 9 feet above ground level.

Both adults joined in nest construction, which could take 2 or 3 weeks early in the season. A July nest was built in two days. Nest bases and cup sides were made of dry grass stems, roots, hemp string, ash samarae and "fresh" prunings from shrubs. Cups were lined with finer grasses, rootlets, cotton string, wool, down, lint, or hair.

### EGG LAYING

Egg laying began from one to four days after the nest was completed, with the longest delay earliest in the season, probably because of temperature differences over the four-month period. Laying took place in the early morning hours, one egg per day. Of the 48 nests started, 30 proceeded into egg-laying stage, and clutches were completed in 25 nests. The average clutch was 4.4 eggs (16 nests, 4 eggs; 8, 5 eggs; and 1, 6 eggs).

### INCUBATION AND HATCHING

The female was at the nest only early and late in the day, early in the laying period, but stayed longer as the clutch approached completion. She sometimes began incubation the day before the last egg was laid. The male was in the vicinity, but stayed away from the nest until the young hatched, usually flying with other males each evening to a common roost over a mile away.

Although some eggs hatched in 20 of the nests, <u>all</u> eggs hatched in only 11 nests. In those 11 nests, the average incubation period was 13.27 days (12 days in 2 nests, 13 days in 6, 14 days in 2, and 16 days in 1 nest). The 12-day nests were in mid to late June, and the 16-day nest was in late April to early May. Hatching occurred during both day and night hours, ranging from 1 or 2 young per day for 3 days to 5 young hatched in 1 day.

### NESTLING PERIOD

The female stayed on the nest most of the first few days, with little other parental activity. The period ranged from 13.2 to 17 days, with the average, 15.1 days. Both parents fed young in the nest. Fecal sacs were carried away for the first week or so. Thereafter, nest rims became very messy. Feather growth rate varied widely between nests and times of nesting. Young were quiet at feedings the first 7-8 days, but became very noisy the last 3-5 days of nest residence. Cats observed this fact, too. The maximum length of fledglings' initial flight was 125 feet, with a height gain of 9 feet. Averages were 49.3 feet distance and 1.6 feet gain.

### DOUBLE NESTING

A new term, "double nesting" had to be coined by then *Condor* Editor, Alden Miller, to describe the caring for two nests by one pair of House Finches at the same time. Note that this nesting process is quite different from "second nesting" or "renesting." On two different occasions a pair was feeding young in one nest and incubating eggs in another. Both experiences were so timed that the young left the first nest a day or so after hatching of the eggs in the second nest. The female would feed the young, and fly to the egg nest to incubate the eggs for short periods. The male did much of the feeding of young, while the female incubated. Such extra activity did not prevent the male from making evening flights to a distant roost. I have also observed "double nesting" by Brewer's Blackbird (*Euphaque cyanocephalus*) in California.

### NESTING SUCCESS

One nest was abandoned because of inclement weather, 14 because of House Sparow pressure, and 8 because of cats, for a started-nest failure rate of 48 percent. There were 110 eggs in 25 productive nests that produced 80 young and fledged 57 young for a fledging success of 52 percent.

Dr. and Mrs. Evenden were drowned in a tragic accident on Feb. 20, 1982 when a mud slide swept their car from a highway in Oregon, were they had recently moved for retirement. Sympathies are extended to their family.

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MARYLAND BIRDLIFE

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