

WHAT'S HATCHING?

Official Newsletter of the Maryland & DC Breeding Bird Atlas 3
ISSUE NO 23 | APR 2022



Wood Duck by Adele Clagett/Macaulay Library

BIRD OF THE MONTH

North America's only dabbling duck to nest in cavities.

TIPS AND TRICKS

It's hard to overuse comments on your checklists.

OUT OF THE ARCHIVE

In 1978, Therres, Weske, and Byrd reported on the nesting status of Royal Tern, Gull-billed Tern, and Black Skimmer.

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Have a story or a picture for the newsletter? We'd love to hear about it!

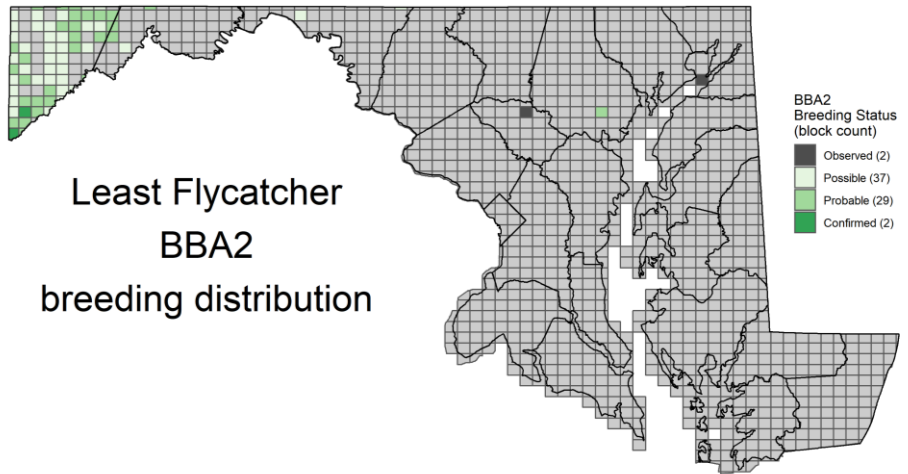
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Have you wanted to look at species distribution maps from the first and second atlases, but don't have the books from those projects? We recently re-created these maps and made them available online. Each species reported to each atlas has a map that looks similar to the Least Flycatcher map pictured here. The highest breeding category reported for each block is shown and the total number of blocks each category was reported to is tallied as well.

Click the appropriate hyperlink to find maps from [BBA1](#) and [BBA2](#).



“What a beautiful creature is this Beau Brummel among birds and what an exquisite touch of color he adds to the scene among the water hyacinths of Florida or among the pond lilies of New England!”

--Arthur Cleveland Bent, discussing the Wood Duck



Wood Duck by [Karl Krueger/Macaulay Library](#)

UPCOMING EVENTS

Wednesday, April 20, 2022
7:00–8:00 PM
Dorchester County Public Library
303 Gay St, Cambridge

George Radcliffe, Dorchester County Coordinator, and Wayne Bell will be leading an in-person meeting on the status of birds in Dorchester County and the Eastern Shore. They will talk about how volunteers can help out with the Atlas, particularly in Dorchester County. If you've wanted to contribute to some of the under-atlased portions of the state, this is a great opportunity to learn how!

From the Coordinator

Round one of data review is here!



In the first two years of data collection, atlasers submitted a staggering 2.1 million observations through the MD-DC Atlas portal. Roughly a quarter of these observations had breeding codes associated with them. Like every other atlas project, these observations had to undergo a review process to ensure they matched our definition of local breeding—that the observed bird was nesting in that block.

To review the data, we used a combination of automated and manual review. First, we created a computer program that uses the breeding code, the date, and the location from each observation and compares it against a set of expected values for that species. If any of those three things are unexpected, the observation gets flagged for

review. If the observation has comments or media, it will be manually reviewed by a person. But if there's no additional support then there's nothing to review, so those observations are reinterpreted to an outcome that is pre-set for each species-code combination.

One of the biggest strengths of this system is its reproducibility. Every reinterpretation is tracked, along with the reason why it was reinterpreted. There will always be some variability involved when manual review is included in a process, but by providing clear guidelines for reviewers variation is minimized.

One of the current downsides is that you won't be notified of specific codes on your checklists that were reinterpreted. The biggest problem with this is that if you had more

details for an observation, you won't receive a direct request for those details. In this way, our review is similar to past projects where follow-up was limited. This isn't ideal and we'd like to improve it, but you can help by commenting liberally. This reduces our workload and helps ensure that details are not forgotten.

Review will happen once a year, in a bulk format. Right now, all observations from 2020 and 2021 have been reviewed; reinterpretations should be visible on eBird this month.

Our review system is entirely novel—no other atlas projects have used a system like this. Julie Hart, New York's Atlas Coordinator, was instrumental in the design, and we are making the computer code available for other atlases to use. The County Coordinators are all eager to evaluate this review, and I'm sure they'll give me a solid list of improvements to make to the process.

So, what happens if you notice one of your breeding codes has been reinterpreted, but you think your original interpretation was correct? Just change your breeding code to what you think is correct, and add more details; this will trigger a re-review. But adding more details is critical—if you don't, the result of any subsequent review will be the same.

--Gabriel



This map shows reviewed observations of breeding Yellow-bellied Sapsuckers. Green fill indicates a block with at least one breeding observation; gray fill indicates no breeding observations.

bird of the month:

WOOD DUCK

Wood Duck by [Scott Young/Macaulay Library](#)

Wood Ducks are one of the few waterfowl in Maryland to nest in cavities, along with our two nesting mergansers, and the only duck here to regularly double-brood. The males are exquisitely patterned, assembling an array of rich browns, blues, and maroons into what is inarguably one of the most striking duck plumages. Females are more subtle than males, but a distinctive white ocular teardrop, pale throat, and light brown crest combine into understated elegance. Their square tails and broad wings make them maneuverable fliers, and they can be found in Maryland and DC wherever suitable habitat exists.

Habitat

Wood Ducks need shallow freshwater with plenty of cover to raise their broods. They will travel a substantial

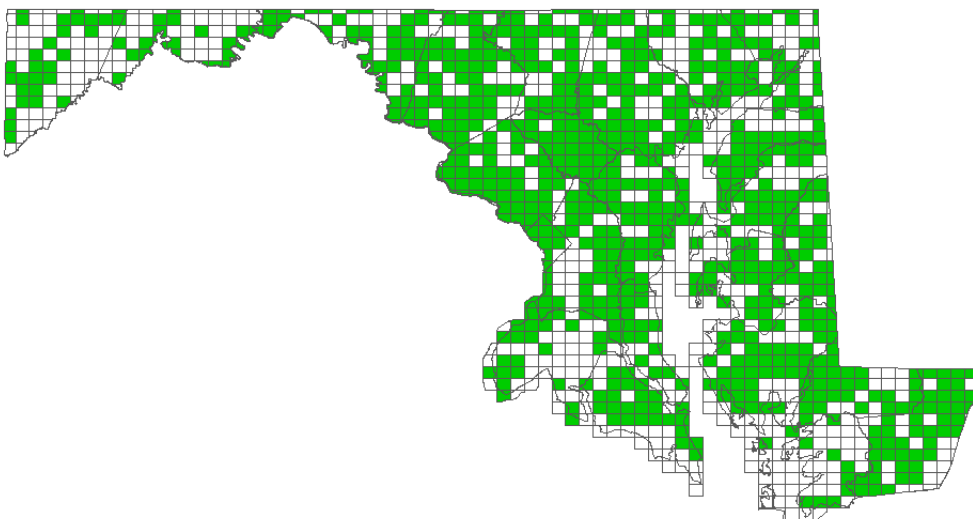
distance overland to reach a suitable site if necessary, but the closer a nest site is to their selected brooding grounds the less risk the ducklings will be exposed to. Preferred nest sites tend to be cavities that have been formed through rot, rather than holes chiseled out by woodpeckers. This means that larger, more mature trees are used more often. The nest tree's trunk averages about two feet in diameter; the cavity depth is usually about the same and has an opening around 3.5 to 5 inches. Wood Ducks aren't restricted to natural cavities though and will readily use artificial nest boxes. Swamps and marshes, creeks and rivers, small ponds and overflow areas are all suitable wetlands for Wood Ducks, as long as there are sufficient shrubs and downed timber

COURTSHIP

Reading species accounts from the 1800s, like Audubon's description of Wood Duck courtship, is rarely dull.

"Here they are, a whole flock of beautiful birds, the males chasing their rivals, the females coquetting with their chosen beaux. Observe that fine drake, how gracefully he raises his head and curves his neck! As he bows before the object of his love, he raises for a moment his silken crest. His throat is swelled, and from it there issues a guttural sound, which to his beloved is as sweet as the song of the wood thrush to its gentle mate. The female, as if not unwilling to manifest the desire to please which she really feels, swims close by his side, now and then caresses him by touching his feathers with her bill, and shows displeasure toward any other of her sex that may come near. Soon the happy pair separate from the rest, repeat every now and then their caresses, and at length, having sealed the conjugal compact, fly off to the woods to search for a large woodpecker's hole."

Audubon, J.J. 1843. The Birds of America, from Drawings Made in the United States and Their Territories. The Wood Duck. p. 275.



Wood Duck breeding distribution map from the Maryland & DC Breeding Bird Atlas 2. Green fill indicates a Wood Duck breeding observation in that block.

to provide cover. Meanwhile, herbaceous emergent growth provides both the invertebrate and vegetative food necessary for the young brood. For the first two weeks, ducklings almost exclusively eat invertebrates, but the diet of adults is high in vegetative content, particularly tree seeds. Nonetheless, the nutritional needs of laying females require large numbers of invertebrates; a completed clutch will be the equivalent of 80% of the female's weight.

Behavior and Phenology

Like many other ducks, pairs are formed throughout the fall and winter. These pair bonds are maintained through courtship displays until the clutch has been completed in mid-March or so, when the male abandons the female. He joins other bachelors for their annual molt; during this period, males' appearances resemble that of females. In Maryland, Wood Duck egg dates range from March 1 to July 25, which is probably an accurate indication of their nesting window since Wood Duck nest boxes are well-monitored. Early in the spring, the male accompanies the female in search of a good nest site, but she is the only decision-maker. Once a site is selected and she is mid-way through her daily routine of laying a creamy white egg, she begins pulling down from her breast and layering the bottom of the cavity. Other female Wood Ducks may attempt to parasitize her nest (sometimes doubling the clutch size), and occasionally Hooded Mergansers will try to lay eggs in her clutch. The female begins incubating the eggs at night four days before the clutch of 10–12 eggs is completed, then spends about 80% of each day incubating for the next month.

The eggs must all hatch within the same 24-hour period so the ducklings can all leave the nest site together. To



accommodate this, the chicks may communicate with each other while still inside their eggs to synchronize their hatching. The day after hatching, the female perches in the cavity entrance and checks for potential threats. If things appear safe, she flies to the ground and calls to her brood. The ducklings scramble up to the cavity's hole and leap to the ground below. The hen and her brood will stick together for about five weeks before the ducklings are largely independent. At eight weeks, most of their down has been replaced by feathers and some will even be capable of flight. By ten weeks, the ducklings' juvenile plumage is complete and they will disperse from their natal grounds to group up with other juveniles.

Breeding Codes

In the last atlas, over 90% of observations used one of three breeding codes: codes FL (recently fledged young;



Wood Duck by George Jett

38%), H (habitat; 33%), or P (pair; 20%). Like other waterfowl, there aren't many opportunities to use code NY (nest with young) since the chicks leave the nest so quickly. The young aren't fed by their parents, so whenever you see downy young, they should have code FL (recently fledged young) applied. And, it's good practice to include a brief comment describing why you used code FL (*e.g.*, "downy young with female").

Migrant Wood Duck pairs may be in Maryland and DC until mid-April, so conservative use of early codes P, C (courtship or copulation), and H is warranted. Both males and females will engage aggressively with other Wood Ducks (code T)—males defend their females from other males, and females defend their nest sites from other females. Wood Ducks do not build nests or carry nesting material, but pairs investigating cavities can be coded



Wood Duck chicks by Max Wilson/Macaulay Library

with code N (visiting probable nest site). Meanwhile if a female enters a cavity and remains there then code ON (occupied nest) can be used. Distraction displays (code DD) or agitated behavior (code A) are not unusual to see; however, the ducklings are usually visible, and code FL supersedes either of these breeding codes.

Author: Gabriel Foley

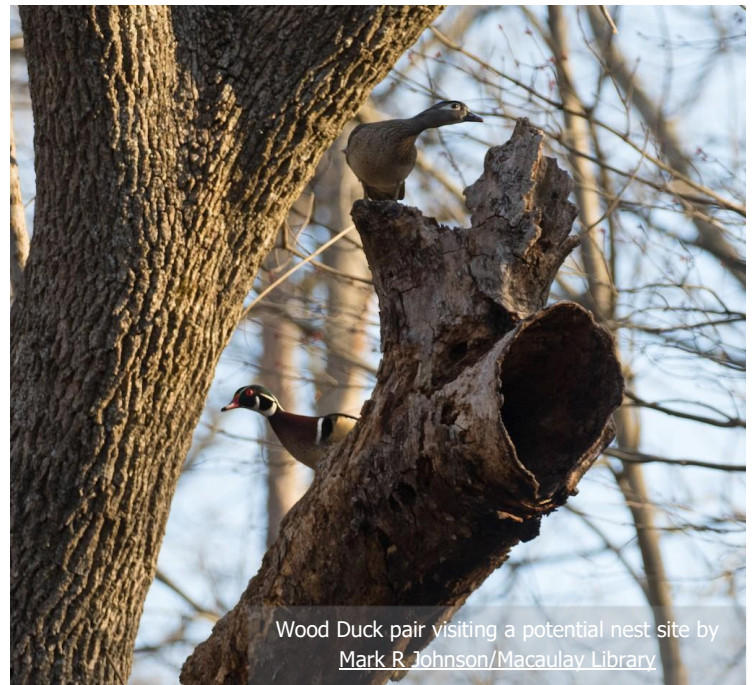


Wood Duck by Andy Wilson/Macaulay Library

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Wood Duck pair visiting a potential nest site by Mark R. Johnson/Macaulay Library

ATLASER SPOTLIGHT

Cheryl Saylor, from Hagerstown, Washington County, is an avid birder, nature enthusiast, wife, and mother.



What bird do you particularly like?

I like the Ruby-crowned Kinglet; they are so little and cute, especially when they show their rosy-red crown.

What's our biggest conservation issue?

Climate change. Consume less, repair and reuse items, walk or bike more, reduce plastic use, eat less meat, turn off lights, and vote on environmental issues.

You can take binoculars, a field guide, and what other item?

A bottle of water.

What is the best thing about atlasing?

It makes you slow down a bit and look a little closer to witness and better understand a bird's behavior.

Where is your favorite place to atlas?

Fort Frederick State Park.

What bird best reflects your personality?

A chickadee, because I am energetic and friendly.

Have you been involved with other atlases?

No, this is my first BBA.



Who would you go atlasing with?

My wonderful husband and birding partner.

What made you interested in birds?

Good friends introduced me to birding.



Brown Thrasher by [Michael Saylor/Macaulay Library](#)

TIPS AND TRICKS

Breeding code reinterpretations

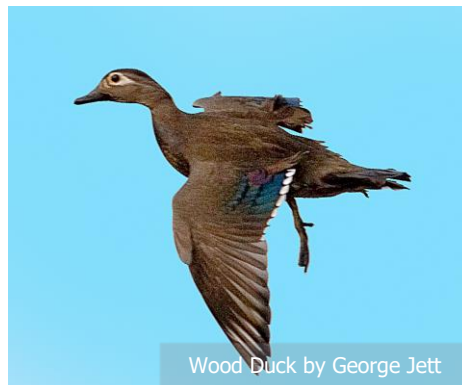
In our review process, most breeding code reinterpretations that occur are because the behavior that was observed doesn't fit our definition of local breeding. In other words, using the breeding code was not wrong; the code just didn't actually indicate that the bird was breeding in that block. For example, if you see a male Wood Duck displaying to a female in December, you would be correct to call it a courtship display. However, because that pair may migrate and nest elsewhere, that behavior does not actually mean local breeding.

Observations might be reviewed because they are a bit early or late, or because the breeding code is one that can be more easily misused. For example, crows are abundant breeders across the state and form pairs while nesting. Code P (pair) is a perfectly reasonable breeding code to use, but since crows are social birds and the sexes look alike, code P also has potential to be misused. Atlasers can help by only using breeding codes when they are confident the behavior reflects local breeding, and by including comments that describe why it reflects local breeding (especially for early or late observations).

Within the reinterpreted breeding codes, there is also a smaller subset of breeding codes that don't accurately reflect the observed behavior. Sometimes this mismatch can be inferred due to the species biology (for example, herons don't sing) and sometimes it can be seen through the

comments. The error may have come from a typo, or it may simply be an imperfect understanding of when that breeding code applies.

One of the more common misunderstandings is how codes A (agitated), T (territorial), and DD (distraction display) are different. All three of these codes involve a bird that is visibly upset, so the observer needs to determine *why* it's upset to use the right code. If the bird is interacting aggressively with another bird of the same species, then code T should be used. Codes A and DD have more overlap because both involve a bird that is upset at a perceived threat. An agitated bird is usually trying to drive the threat away, while a distraction display usually involves a bird trying to lure the threat away. Agitated behavior can occur year-round (so only use code A during the breeding season), but distraction displays only occur in the context of eggs or chicks. This means that if you are unsure whether a bird is agitated or performing a distraction display, be conservative and use code A.



Wood Duck by George Jett

Another code that can be easily misused is code FL (recently fledged). The most important key with this code is to use it on birds that look like baby birds. They must still be dependent on their parents. This is not a breeding code for juvenile birds; it is a breeding code for recently fledged or downy young. If it is a bit early or late in the season, include a comment describing why you are using that code (*e.g.*, fleshy gape and short tail).

Code FY (feeding young) should only be used on chicks that have left the nest. It should not be used when adults are feeding chicks that are still in the nest. Any time chicks are in the nest, they always get code NY (nest with young), regardless of what the adults are doing. It should also only be used when adults are feeding their chicks, not when the chicks are feeding themselves.

The basics of atlasing are straightforward: watch a bird, record its behavior, and submit the observation. But we are also dealing with over 200 species, each with their own take on how to behave while breeding. This can feel daunting and even overwhelming. Fortunately, atlasing is inherently slow-paced and provides an extraordinary opportunity to become more familiar with local birds and their behaviors. Breeding codes help categorize those behaviors regardless of the species, while including comments helps provide context and background for the code.

Author: Gabriel Foley

FROM THE FIELD

Owling Evening by Heather McSharry and Mark Abdy

While reviewing atlas data for Washington County at the start of this third MD-DC BBA3 year, we (County Coordinators Mark and Heather) were pleased to see major progress on diurnal work for many blocks, but found that relatively little nocturnal work has been done. Brainstorming about how to kick start some of that nocturnal work, we decided to organize an "Owling Evening" to both provide some training for birders new to this kind of atlasing, and a gentle nudge to some of our experienced folks. Needing to plan ahead, we chose the evening of Sunday, March 20th knowing it would be close to the full moon, a good time of year for owls and woodcocks, and hoping that the weather would cooperate.

We wrote up a brief announcement with basic nocturnal atlasing info, links to [the BBA3 newsletter article on nocturnal tips](#), and giving potential participants two choices: 1) head out on your own to a good spot in a block of interest, or 2) join Mark and Heather at an easy public access and parking spot with good habitat to see a demonstration and ask questions. This was distributed to the membership of our Washington County Bird Club and to most active Atlasers in the area who are not part of the club.



Nocturnal atlasing by Mark Abdy

March 20th turned out to be rather cold and windy during the day, so some participants chose to work the next night, Monday the 21st instead. However, five hardy birders still joined us at the meeting location, including three folks new to our bird club and to atlasing. Others did some owling at home in their yards.

Luckily, the wind calmed down at nightfall and we had good conditions. Three Barred Owls responded to playback at the group meeting area and put on a great show, flying to several easily viewable perches around the parking area and giving a wide variety of vocalizations, including an extended duet, allowing us to use code C (courtship). Two screech-owls were also heard counter-calling in the distance, so could be coded as territorial (code T), despite not yet being in safe dates. At least one of the participants had never seen an owl in the wild before and everyone was thrilled and considered it more than worth the time and bundling-up to be there. After an hour or so, a few of us continued to another likely spot in a neighboring block and put in a short observation session to finish off the nocturnal hour total in that block too.

Several additional birders went out to their own spots the next night with perfect conditions. Over the two nights, nine Barred Owls, four Eastern Screech-Owls and two Great Horned Owls were observed and coded. Our efforts included reaching the minimum one-hour of nocturnal observation in eight blocks, with progress toward that goal in two others! Best of all, two of the brand-new folks who joined us the first night also attended our next Washington County Bird Club meeting and have expressed interest in both joining the club and learning more about how to contribute to the Atlas.

Authors: Heather McSharry and Mark Abdy, Washington County Coordinators

OUT OF THE ARCHIVE

Breeding Status of Royal Tern, Gull-billed Tern, and Black Skimmer in Maryland

Therres, G.D., J.S. Wekse, and M.A. Byrd. 1978. Breeding Status of Royal Tern, Gull-billed Tern, and Black Skimmer in Maryland. *Maryland Birdlife*. 34(2):75-77.

The Royal Tern (*Sterna [Thalasseus] maxima*), Gull-billed Tern (*Gelochelidon nilotica*) and Black Skimmer (*Rynchops niger*) occur locally as breeding birds in the state of Maryland (Stewart and Robbins 1958). The Royal Tern reaches the northern limit of its breeding range here, the Gull-billed nests regularly as far north as southern New Jersey, and the Black Skimmer breeds north to southern New England (American Ornithologists' Union 1957, Savell 1972).

In Maryland, the breeding range of these birds is restricted to Chincoteague and Sinepuxent Bays and a few smaller bays, all in coastal Worcester County. This region experiences heavy human recreational use at the time of year that these species are nesting, and there has been major alteration of the natural environment from building and other development. For this reason, the breeding status of these and other beach-nesting species should be considered vulnerable.

In areas of their range where human impact is low, Royal Terns, Gull-billed Terns, and Black Skimmers typically nest on sandy barrier islands, especially near ocean inlets. Colonies are most frequently located in sites above the normal high-tide line but low enough to be washed over and stripped of vegetation by surf from occasional winter storms. Nesting also occurs on bay islands that have sparsely vegetated sandy or shelly areas.

In Maryland, the barrier beaches of Assateague Island and Ocean City are so

heavily disturbed that skimmers and terns, except perhaps for an occasional pair of Little [Least] Terns (*Sterna albifrons [Sternula antillarum]*), can no longer nest there successfully. Thus, potential colony sites are limited to natural islands in coastal bays and to [human]-made islands, the incidental by-product of spoil deposition from channel dredging. There are five islands that have been used by Royals, Gull-bills, or skimmers as nesting localities during the past four years. Two of these are dredge spoil islands in Sinepuxent Bay, and the remaining three are natural islands in Chincoteague Bay, each a salt marsh "tump"—as they are known locally—on which the dominant vegetation is



the grass *Spartina alterniflora*. A small, shelly beach occupies a portion of one of these islands.

Royal Terns, in recent years, have nested on one of the spoil islands and also on the natural island with the beach. The species

was first recorded as breeding in Maryland in 1950 when two nests were found on an island in Chincoteague Bay (Stewart and Robbins 1958). This site was abandoned in the early 1960s when it gradually became overgrown with *Phragmites* and bushes; it now supports a colony of herons, egrets, and ibis. The Royal Terns continued in most years to nest elsewhere in the coastal region, reaching a peak of 1,160 pairs in 1976. Table 1 shows the estimated breeding population from 1974 through 1977. Broad fluctuations are not surprising, for the birds move readily between Virginia and Maryland from one year to the next (Weske, unpublished data). Nesting success was high from 1974 through 1976, but the 1977 season was almost a complete failure. The reason



Black Skimmer by Mike Hudson/Macaulay Library

for this situation is uncertain but is very likely related to habitat deterioration. In 1977, the spoil island used by Royals in preceding years had diminished in size because of erosion, and most of the part that remained had become thickly vegetated. Only a handful of Royals attempted nesting, and none were successful. Similarly, on the natural island the bare area of beach that served as a colony site for a thousand pairs or more in the two previous years was reduced in size by vegetational growth, doubtless fostered in part by heavy fertilization from the birds themselves. A clear area sufficient for at least a small colony remained, but the birds laid their eggs nearby on mats of dried, dead eelgrass



Gull-billed Tern in New Jersey by George Armistead/Macaulay Library

that had washed up on the marsh during the winter. We know of no previous instance of Royal Terns nesting on wrack in a salt marsh. Most of the colony was abandoned at about the time of hatching, and only about four young fledged.

Table 1. Breeding pairs of Royal Terns, Gull-billed Terns, and Black Skimmers in Maryland, 1974-1977 (estimates compiled from survey data from M. Byrd and J. Weske).

<u>Species</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Royal Tern	225	1000	1160	134
Gull-billed Tern	1	1	1	0
Black Skimmer	35	150	136	182



Royal Tern in California by Melissa James/Macaulay Library



Royal Tern by [Nathan Tea/Macaulay Library](#)

The Gull-billed Tern in Maryland is near its northern limit for breeding; it nests uncommonly but regularly in southern New Jersey (Savell 1972) and in 1975 bred on Long Island (Buckley et al. 1975). Stewart and Robbins (1958) described the breeding status in Maryland as fairly common locally in the coastal bay area. They reported a high breeding population of 25 pairs in Chincoteague Bay in 1951. The population has now declined to no more than a single breeding pair in any one year (Table 1). Nesting success is unknown. During the past four years, Gull-bills were found only on the dredge spoil islands. It appears that they are less flexible than Royal Terns or skimmers in adapting to nesting habitat other than sparsely vegetated expanses of sand.



Gull-billed Tern chick in Mississippi by [Bryan White/Macaulay Library](#)

At some time during the past four years, Black Skimmers have nested on all five of the islands mentioned. As in Virginia (Erwin 1977) and North Carolina (Soots and Parnell 1975), they frequently formed mixed-species colonies, particularly in association with Common Terns (*Sterna hirundo*). On spoil islands the nesting substrate was sand, but on natural islands the nests were located on eelgrass wrack in the salt marsh. Frohling (1965) first reported salt marsh nesting by skimmers in New Jersey and pointed out the survival value for the species if it can successfully use this habitat, which attracts much less human disturbance than beaches.



Black Skimmer by [Kim Abplanalp/Macaulay Library](#)

Stewart and Robbins (1958) reported a high breeding population of about 250 pairs of Black Skimmers in 1951 and considered the species common in the Worcester County coastal area. Its numbers have declined moderately since then but have been rather stable for the past three years, averaging 150-160 pairs (Table 1). The low figure of 35 pairs in 1974 probably is not an accurate estimate, because of incomplete censusing of the area. However, the 1974 population was likely below average, for no colonies were reported from Chincoteague Bay, an area that was censused.

Although the sizes of the Maryland breeding population for these three species differ considerably, their nesting habitat requirements are quite similar. Because of

the limited number of available nesting sites and because of ever greater human use of the coastal area, these birds are likely to become increasingly scarce as breeding species. Moreover, habitat degradation occurs even in the absence of direct human influence. Because spoil islands, in particular, are subject to rapid alteration from erosion and vegetational succession, they supply sand-nesting species with optimum habitat for only a few years (Soots and Parnell 1975). On the other hand, these birds readily take advantage of suitable new sites. Management that enhances nesting habitat—protecting it from intrusion, controlling growth of vegetation, and periodically creating or renewing dredge spoil islands—will increase the likelihood that the Royal Tern, Gull-billed Tern, and Black Skimmer prosper as breeding species in Maryland.

ACKNOWLEDGMENTS

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Royal Tern in Virginia by [Matthew Addicks/Macaulay Library](#)