WHAT'S HATCHING?

Official Newsletter of the Maryland & DC Breeding Bird Atlas 3 ISSUE NO 15 | APR 2021





Photo credit: <u>Magicicada sp. Brood X straggler. Posing on an old tuliptree flower stalk. Rock Creek Park,</u> <u>Washington, DC, USA by Katja Schulz</u>. Licensed under <u>CC BY 2.0</u>

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

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BIRD OF THE MONTH

It's a bird, it's a plane, it's a... cicada? We're skipping the usual avian fare this month to feature the ecological relationship between birds and bugs.

TIPS & TRICKS

Dave Wilson tells us about Maryland's coastal islands and offers some tips for coding colonial species.

OUT OF THE ARCHIVE

During the 1987 emergence of Brood X, Lynn Davidson watched a Loggerhead Shrike pair provisioning fledglings, and we have reprinted her account of that nesting effort.

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Last spring, the early egg date for Doublecrested Cormorant was pushed back two days, from May 10 to May 8. <u>Evan Buck</u> <u>reported over 1,300 cormorants</u> on Talbot County's Poplar Island, including nests with eggs. Cormorants were not recorded nesting in Maryland until 1990 (after the first MD-DC atlas), also on Poplar Island.



"...all the month of May, there was such a quantity of a great sort of flies like for bigness to wasps or bumblebees, which came out of holes in the ground and replenished all the woods, and ate the green things, and made such a constant yelling noise as made all the woods ring of them, and ready to deaf the hearers."

-- William Bradford in Of Plymouth Plantation 1620–1647



Although Indigenous peoples in eastern North America were certainly familiar with them, the first recorded mention of periodical cicadas was by Plymouth Colony's second governor, William Bradford, in 1634.

UPCOMING EVENTS

Maryland Ornithological Society Annual Convention June 11–13 2021

The virtual 2021 MOS convention will feature chat rooms, friendly contests, poster sessions and seminars, a tally rally, and even a wine and cheese social! The seminar topics range from the process of illustrating a book to making yards more bird-friendly to the economics of birding, and there will be Q&A sessions with each speaker. Keynote speakers will be eBird's Ian Davies, who will be talking about atlasing and birding in the 21st century, and Maryland DNR's Dave Brinker, who will talk about how Maryland's breeding bird communities have changed over the last 300 years. And best of all, the convention's theme is the breeding birds of Maryland! Registration is free to active MOS members, or \$20 for non-MOS members (this includes a one-year MOS membership). You can register or find more information at mosconvention.org.

From the Coordinator

Cicadapalooza is just around the corner!

Earlier this month, I was finally able to see one of my "most-wanted" birds. I went to Calvert County with my partner, Jordan, to see the Eared Grebe that was just offshore of North Beach. After seeing the grebe and chatting with a couple of other birders, Jordan and I walked over to the North Beach marsh. I was busy restarting our eBird checklist when Jordan yanked my attention towards a warbler fussing about low in a pine.

"It's a Yellow-throated Warbler!" she exclaimed.

I excitedly put binoculars onto the bird. The cloudless sky and midmorning sun lit up his namesake throat and slate-gray back. As we watched him, he sang his rolling, slightly liquid trill. He foraged along the ends of the pine's branches, hopping more than flying between perches. He wasn't exceptionally active for a warbler, but he did have a knack for quickly disappearing into the nearest clump of pine needles.

It was certainly a wonderful experience—there's nothing quite like seeing a bird species for the first time—but now I have to talk about something more directly related to the Atlas. Cicadas! Normally, the annual event I most look forward to is spring migration, but that might just be eclipsed this year by my anticipation of Brood X (and if you haven't yet heard of the upcoming cicada emergence, read on!).

In many ways, it's difficult to imagine a creature that tunnels in total darkness, subsisting off the sap in tree roots, simply counting down the years to an emphatically ephemeral emergence. I suppose we humans feel like existence should comprise more than that, and yet the dullness of a cicada's life cycle effectively fulfills its biological motivation to replicate its genes. Armed with no predator defense but overwhelming numbers, cicadas effectively cross their fingers and hope that it will be their neighbor who is eaten, and not them. It's a fascinating reproductive strategy, and their exceedingly long subterranean existence seems to provide each emerged individual with a little extra significance.

Of course, birds don't see it that way. There is no romanticizing their life cycle or thoughtful consideration of the cicadas' long-suffering patience. There is only the realization of a new food source and a superbly satisfied appetite. And, as you'll read about further on in this issue, birds eat more cicadas than any other predator, yet surprisingly, only a handful of birds have actually been documented foraging on cicadas. To address this, Eugene Scarpulla suggested that I pull together observations of birds eating cicadas from across the Brood X range and report them to Maryland Birdlife, so I've put together a form that you can report your observations to.

The cicadas' dime-sized emergence holes have begun to appear, a physical reminder of just how close we are to one of the most extraordinary natural phenomenons in the world.

#Cicadapalooza!

--Gabriel



bird of the month: PERIODICAL CICADA Photo credit: Magicicada (periodical cicada) brood II by Toni Genberg, Licensed under CC BY-NC-SA 2.0

Periodical cicadas are fascinating creatures with an unequalled life history. Every seventeen years (or thirteen years, in some southern locales), the most numerous North American herbivore emerges from its subterranean existence when soil temperatures reach approximately 64 °F. Over the course of a few weeks, billions of nymphs emerge, sing, mate, and die, leaving behind only the eggs containing the next generation.

Cicadas are a group of hemipteran insects, a taxonomic order that is characterized by piercing/sucking mouthparts and includes true bugs, aphids, and leafhoppers. There are 3,400 species of cicadas worldwide, and four species of thirteen-year periodical cicadas, but we'll use the term "cicada" to refer to the three seventeen-year periodical cicada species, *Magicicada septendecim*, *Magicicada cassini*, and *Magicicada septendecula*. These three species emerge simultaneously in Maryland and DC, and they shouldn't be confused with the "dog-day cicada", a group of cicada species that emerge every year in mid-summer.

Most years, periodical cicadas emerge somewhere in the eastern US, and each emergence restarts that population's seventeen- or thirteenyear life cycle. The year that cicadas emerge determines which geographic brood they are part of. "Broods" are numbered I–XVII using Roman numerals. Brood X (pronounced Brood Ten) is the primary brood in Maryland and DC (as well in southern Pennsylvania, Long Island, and in the central Ohio Valley of the Midwest). Nicknamed the Great Eastern Brood,



BIRDS VS MAGICICADA

If you see birds eating periodical cicadas this spring, report them to this <u>form</u>.

Birds may be cicada's greatest predators, but the birds that eat them are not well documented. Under Eugene Scarpulla's direction, I created a short form where you can report observations of birds munching cicadas. We are looking for the date, location, bird species, and whether the bird fed the cicada to chicks or not. The window for collecting these data is short, but it's easy to watch for bird-cicada interactions while atlasing. While atlasing, simply type "eating cicada" or "feeding cicada to chicks" in the species comment box on your eBird checklist. Once you have some spare time, you can download your observations from eBird and search the spreadsheet for "cicada"—the search will return every observation where you noted cicadas, and you can upload those to the Google form (alternatively, if you have a lot observations, you could just email me the spreadsheet). Happy searching!

Brood X is the largest of all cicada broods. It last emerged in 2004 at the end of BBA2 and is predicted to emerge again in May 2021.

The astounding abundance of emerging Brood X adults has been estimated to be as low as 130,000 per acre in upland forest to as high as 1.5 million per acre in floodplain forest. Nymphs dig emergence holes up through the soil, sometimes as densely as a few hundred per square yard. The number of emergence holes is equivalent to the number of emerged nymphs, so this can be a useful estimate of total adult abundance.

Emerging nymphs display an astonishing level of synchronicity. Over just a few nights, the majority of a population's nymphs crawl out of their holes and up a nearby surface. There they will transform from nymph to adult. The nymph's exoskeleton splits, and a soft, white adult emerges from the shell. After waiting for its wings to unfold and its exoskeleton to harden, the cicada travels up and into the canopy.

Although the total proportion of male and female cicadas tends to be equal, female emergence tends to be more drawn out. Males emerge earlier, faster. Males, which won't travel much more than 150 feet, begin grouping together in singing choruses. Only male cicadas sing. They have paired organs called tymbals on the sides of their abdomens just beneath their wings that they vibrate similar to a drumhead and their empty abdomens act as resonators. These choruses attract females, who the males then approach. If she is unimpressed by his courtship attempt, she will walk away. But if she is interested, she will flick her wings and make a clicking



sound. If she remains motionless, the male will mate with her.

Each female mates just once, but the males continue to sing and will mate with multiple females if possible. The female will deposit about 500 eggs inside a thin twig using a serrated ovipositor. The metal-reinforced ovipositor must be hard enough to perform this task, and researchers have hypothesized that females delay mating by several days following emergence because they are waiting for their ovipositor to harden sufficiently.



The emergence of so many large insects at once provides an incredible food source for any insectivore, but the emergence is so synchronized and short-lived that local predators are overwhelmed by the sheer mass of insects. It is estimated that birds, the cicadas' primary predator, eat about 15% of the total cicada population, and midsized birds have been reported to eat a maximum of 20-54 cicadas per day. Birds quickly become satiated and few non-local predators are able to respond quickly enough to the emergence to make any significant impact on the cicada population. One exception relevant to our Atlas appears to be cuckoos-both Yellow- and Black-billed Cuckoos appear to respond significantly to cicada emergences. We should expect to see more cuckoos nesting this year than average. Interestingly, however, there do not seem to be any reports of predator diets shifting to 100% cicada; instead diets of 50% cicada seem to be normal. In fact, the surplus of easily available cicada prey does not appear to make a difference for the abundance of other arthropods, leading researchers to hypothesize that existing bird populations may not have a significant impact on overall insect populations.

A massive surge in available prey provides an opportunity



for increased reproductive success for predators. Locally, the cicada emergence begins near the start of the peak nesting season. There is conflicting evidence for whether birds are capable of increasing their clutch size to take advantage of the increased food availability, but regardless, nest success increases, more young are fledged, and those young are larger than in nonemergence years. The surplus of easily available food also means that adults have more time available for nest guarding, which reduces nest parasitism. And of course, nest predators also have access to this abundant food source, which further decreases the likelihood of nest failure—although this effect does not hold true for groundnesting species. It also seems probable that adults who begin nesting after the emergence begins would have more time available for mate guarding and there would be a concomitant reduction in extra-pair fertilizations, but that hypothesis remains untested.

Birds quickly learn how to efficiently capture and handle cicadas. They will almost exclusively select female cicadas, which are significantly higher in fat and protein. Redwinged Blackbirds were observed eating the entire cicada (except the wings) early in the emergence before shifting to only eating the gut contents later in the emergence.

Surprisingly, there haven't been a large number of species actually documented in the literature feeding on cicadas.



A list of documented species includes American Kestrel, Black- and Yellow-billed Cuckoos, Red-headed Woodpecker, Red-eyed Vireo, Blue Jay, American Crow, Tufted Titmouse, Wood Thrush, American Robin, European Starling, Red-winged Blackbird, Common Grackle, Brown-headed Cowbird, and House Sparrow. Other species explicitly identified in the literature as likely to forage on cicadas include Red-bellied Woodpecker, Carolina Chickadee, White-breasted Nuthatch, Gray Catbird, Northern Mockingbird, Brown Thrasher, Eastern Towhee, Northern Cardinal, and Baltimore Oriole.

The song produced by cicadas can be overwhelmingly loud, but their chorusing is temperature dependent and typically begins mid-morning. This allows some time for atlasing early in the morning without the interference of cicada chorusing, and some research has indicated this is the peak period of cicada consumption by birds as well.

The long time periods between cicada emergences means that we should take full advantage of this opportunity and

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document any bird-cicada interactions we come across. If you are so inclined, specific things to note might include the rate of foraging or how long a cicada is handled after it is captured. However, as noted in the sidebar, we are especially interested in what species are eating cicadas and whether the cicadas are fed to the chicks, and we have created a form to allow sightings from across the Brood X emergence range to be compiled. Notes about your observations can be included in the species' comments box on your eBird checklist. Additionally, there is an app called Cicada Safari that allows you to take location-linked photos of cicadas and upload them. Using this app to combine your sightings with thousands of other users' sightings will help better understand the present range of Brood X, something that might be useful with later emergences in the decades to follow. And, who knows, you might just contribute completely new natural history information! The adult cicadas will all be dead before the end of June, having spent less than six weeks as adults after seventeen years as nymphs sucking on tree roots.

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ATLASER SPOTLIGHT

Mary Prowell is from Mount Airy, Howard County, and is a retired small animal veterinarian.



You can take binoculars, a field guide, and what other item? I would bring my camera.

What bird do you particularly like?

That's a hard one. I suppose one of my favorites is the Winter Wren because it's a perky little energetic bird not all that hard to see and approach and I always enjoy finding them.

What's our biggest conservation issue? Climate change. I think we are trying moving to alternative energy sources, making efforts to clean up polluting industries and vehicles, encouraging eco-friendly farming and ranching practices—we just aren't committed enough to do all this in a timely fashion.

What bird best reflects your personality?

Maybe a Yellow-billed Cuckoo. They are usually quiet and not very conspicuous. They see you, you don't see them.

Where is your favorite place to atlas? I like to walk along the Upper Patuxent River from Long Corner Rd or Mullinex Mill Rd.

What is the best thing about atlasing? It encourages me to go out and walk whenever I can to see what's going on with the birds around me. It's also made me a better observer of bird activities in general instead of just taking a look and moving on.



What made you interested in birds?

It was a long time ago in the 70s, but I suppose it was because my sister Dorothy Prowell and her husband David Pashley were avid birders at the time and took me on some local trips along the Texas Gulf Coast. That was the beginning of my more serious birding interests.

Who would you go atlasing with? I met Dave Ziolkowski on the Triadelphia Bird Count and think I'd see and learn a lot if I went birding with him.

Have you been involved with any atlases prior to this one? No, this is my first atlas.





TIPS AND TRICKS

Colonial waterbirds in Maryland's coastal bays—by Dave Wilson

The Maryland Coastal Bays is recognized as an <u>Important Bird Area</u> by Audubon due to its statewide importance for seabirds, shorebirds, and waterfowl. However, terns, skimmers, and other colonial waterbirds have been declining for the past three decades on Maryland's Atlantic coast as their nesting islands have been lost to climate-driven sea level rise and erosion.

Audubon Maryland-DC's 2019 Maryland Coastal Bays Colonial Waterbird and Islands Report

chronicles the plight of these birds. Nearly 300 pairs of Black Skimmers used to breed in the Coastal Bays, but none has successfully nested in the past couple of years, and the species is on the verge of being extirpated in Maryland. Common Terns have fared slightly better but have decreased some 80 percent. Both of these species are now listed as state-endangered in Maryland. To remedy this, a host of local, state, and federal partners are working together to find ways to rebuild and re-create colonial nesting islands. Efforts are being ramped up to reverse the dire situation for Black Skimmers, Royal and Common terns, and a host of colonial nesting birds in the coastal bays behind Ocean City and Assateague.

The formula has included much trial and error. In 2010, the State of Maryland, the Coastal Bays Program, and the US Army Corps of Engineers began discussing the possibility of using dredge spoil from channel maintenance and other dredging projects to restore nesting islands in the coastal bays lost to erosion. Restoration of the state-owned Skimmer Island behind Ocean City and near the US 50 bridge had already begun using dredge spoil from a nearby marina. Corps work on



Audubon Mid-Atlantic works with Assateague Coastal Trust's Coast Kids to make educational signs about colonial nesting birds in the coastal bays. Photo credit: Dave Wilson

four new coastal bays islands began in 2014 with most islands completed by the end of 2015.

However, by 2017 three of the four islands had completely eroded into the bay. The remaining island, Mark 12 just south of the Verrazano Bridge to Assateague will likely be gone this year and Skimmer Island is now underwater at high tide.

Thanks to Audubon Mid-Atlantic, the Maryland Coastal Bays Program, the state, Assateague Coastal Trust and generous local builders, a highly anticipated floating island restoration project is in the works to remedy this. Details on these shell-covered rafts will be unveiled at a joint press event soon.

Black Skimmers, Royal Terns, and Common Terns can be saved in Maryland, but it will take energy, money, sand, and shell to save these avian icons of the coast.

Monitoring Colonial Waterbirds

Led by the Maryland Department of Natural Resources with assistance from the Maryland Coastal Bays Program and Assateague Coastal Trust, most regular monitoring of colonial nesting waterbirds is done by volunteers. The DNR Colonial Waterbird Survey coordinates a complete statewide census of breeding terns, gulls, skimmers, pelicans, cormorants, herons, egrets and ibises every five years. In each intervening year between censuses a partial census is carried out to keep track of rare, threatened and endangered species. Given this intermittent monitoring and the transient nature of these species, atlasers can help...but it's not easy. With some exceptions, like the US 50 bridge to Ocean City, most atlasing for skimmers and terns must be done by boat. And without multiple trips, coding can be tricky.

Skimmers, terns, and other colonial nesting birds can exhibit breeding behavior far from where they're nesting. As such, their behavior should be interpreted conservatively. Breeding codes like codes H (habitat), P (pair), T (territorial), or C



A Black Skimmer chick seeks shade on Skimmer Island, now eroded. Photo credit: Dave Wilson

(courtship), FY (feeding young), CN (carrying nest material), or CF (carrying food) should not be used unless the bird is at the colony site. Similarly, code FL (recently fledged young) should not be used once juveniles can fly.

The most appropriate breeding codes for colonial nesters are codes ON (occupied nest), NE (nest with eggs), and NY (nest with young). When you report a colony, you should also provide the precise location of the colony and the number of nests.

As <u>safe dates</u> for these species approach, we hope you'll add some time on the water to enjoy these icons of Maryland's coast.

Author: Dave Wilson, Worcester County Coordinator



The four acre Corps-constructed Tern Island in Isle of Wight Bay near Ocean Pines eroded away in 2016 after only two years. Photo credit: Dave Wilson

FROM THE FIELD



Eastern Bluebird at a feeder in Bethesda, Montgomery County. Photo credit: Katherine Pauer



Tree Swallow at Patuxent Wildlife Refuge. Photo credit: Katherine Pauer



Eastern Bluebird chicks in a nest box in Howard County. Photo credit: <u>Ken Clark/Macaulay Library</u>



Two Tree Swallows at Patuxent Wildlife Refuge. Photo credit: Katherine Pauer

OUT OF THE ARCHIVE

Loggerhead Shrike Nest in Washington County, MD

Davidson, L.M. 1988. Loggerhead Shrike Nest in Washington County, MD. Maryland Birdlife. 44(1):3-5.

The Loggerhead Shrike (*Lanius ludovicianus*) steadily declined as a breeding species throughout its range from 1965 to 1979 (Robbins, Bystrak, and Geissler, 1986). Reported to be declining everywhere east of the Mississippi River, the Loggerhead Shrike has been included on the *American Birds'* "Blue List" every year since its inception in 1972 (Tate 1986). The northeastern subspecies *L. l. migrans*, or Migrant Loggerhead Shrike, is currently a candidate for federal listing by the U.S. Fish and Wildlife Service (Smith 1985).

Formerly an uncommon breeder in and around the District of Columbia (Stewart and Robbins, 1958), Loggerhead Shrikes are now confined to the rural areas of Montgomery, Frederick, and Washington counties. Biologists conducting a symposium in 1981 on the threatened and endangered species of Maryland realized the need to protect this species and recommended its inclusion on the State's endangered species list (Robbins and Boone, 1984). Owing to the marked population decline within the State as well as throughout the region, the



Recently fledged Loggerhead Shrike. Photo credit: Gabriel Foley

Maryland Department of Natural Resources officially designated the Loggerhead Shrike an endangered species in June, 1987 (Brown 1987).

The recently completed Maryland/DC Breeding Bird Atlas Project has only three confirmed and four possible or probable nesting records over the five-year period between 1983-1987. During the final year of the atlas, I undertook to locate nesting Loggerhead Shrikes for the Maryland Natural Heritage Program, the section within the Department of Natural Resources' Forest, Park and Wildlife Service which is responsible for the protection of threatened and endangered species. I located one active nest near Clear Spring, Washington County, while following up a lead from Robert Keedy of the Washington County Chapter of the Maryland Ornithological Society.

The area within several hundred feet of the nest site has a diverse mixture of habitats and land uses and is bisected by a narrow, deadend road. On one side of the road are residential lots with large, well-kept yards adjacent to an old field with scattered small junipers and deciduous shrubs. On the opposite side of the road is a cornfield and a 75-acre cattle pasture with intermittent rock outcroppings and 6- to 12-inch tall grasses. Along the pasture, ten feet from the road, runs a wire fence with several large Eastern Red Cedars (*Juniperus virginianus*) growing beside it.

On June 18, 1987, I located a pair of adults and one fledged juvenile Loggerhead Shrike in this area. The female soon settled on a nest near the top of one of the cedars, approximately 25 to 30 feet up. Apparently she was incubating a second clutch. The male hunted for food along the road, in the pasture, on the lawns, and among ten to twelve small fruit trees on one of the residential lots. During this time, the principal prey item was the 17-year periodical cicada (*Magicicada septendecim*), which was quite abundant in the area. Several times during the 2.5 hours I observed them, the male fed the begging juvenile and carried food over a hill, where I suspected a food cache was located. However, the male never fed the incubating female. The female left the nest twice to feed, and several times she left to chase away intruders, such as European Starlings (*Sturnus vulgaris*), Northern Mockingbirds (*Mimus polyglottos*), and Common Grackles (*Quiscalus quiscula*). Perhaps not considered a threat, an Eastern Meadowlark (*Sturnella magna*) was unchallenged as it sang from a perch only five to eight feet from the nest.

During my next visit, on July 5, both adults actively brought food to the nest, which contained at least one young. Several times the adults left the nest unattended for ten to twenty minutes, but normally were gone only five to ten minutes. Cicadas were no longer available as a prey item. However, the adults frequently caught one inch long June beetles (Scarabaeidae). The fledged juvenile from the first brood was begging food much less frequently than before.



Loggerhead Shrike nest with three eggs. Photo credit: Gabriel Foley



Loggerhead Shrike illustration from Davidson 1988.

On my last visit, on July 14, the fledged juvenile was still present but no longer begging food. The adults spent much less time carrying food to the nest, where the juvenile from the second brood was almost completely feathered, except for the rectrices. A second juvenile may also have been in the nest, but I could not confirm that. Therefore, assuming that the juvenile from the second brood fledged successfully, this pair of Loggerhead Shrikes reared only two young from two broods.

These observations raise some interesting points. First, this pair was double-brooded. Many species of birds attempt to rear a second clutch if the first one fails. However, Loggerhead Shrikes are somewhat unusual among passerines in that they often attempt two broods, even if the first one is successful (Bent 1965). This behavior is thought to occur more frequently among Loggerhead Shrikes that breed in areas with favorable weather and long nesting seasons, such as Florida and California (Kridelbaugh 1983). Also, Kridelbaugh found the percentage of pairs that renested after initial success declined with increased latitudes. Therefore, renesting may be unusual for Loggerhead Shrikes in Maryland.

Second, and more importantly, the pair had low reproductive success despite being double-brooded. Using an average clutch size of four to six eggs (Bent 1965), the reproductive success of this pair was probably only 25 percent. The causes of their low reproductive success are probably complex. However, in a summer when 17-year periodical cicadas emerged and provided an abundant food source, prey scarcity would not seem to be a factor. After studying Loggerhead Shrikes in central Missouri, Kridelbaugh (1983) found that nesting success varied greatly from year to year, and that predation and severe weather were responsible for most reproductive failures. More specifically, he found that climate affected brood size: little brood reduction occurred during dry, warm years; but, significant brood reduction occurred during cool, wet years.

From these limited observations, it is impossible to say whether climatic conditions or some other factor, such as pesticide poisoning, was responsible for the low breeding success of this pair. Similarly, it is impossible to say whether reduced reproductive success or some other factor, such as loss of habitat, is primarily responsible for the decline of the Loggerhead Shrike in Maryland. However, very little has been published concerning the reproductive biology and success of Loggerhead Shrikes in the Mid-Atlantic region, and assuming fewer than ten pairs currently breed in Maryland, the low reproductive success of this pair may be significant.

Note

The Maryland Natural Heritage Program currently tracks site-specific information on 50 species of breeding birds classified as rare, threatened, or endangered. However, only 21 of these birds are officially designated as such by the Department of Natural Resources. Information on all 50 breeding birds, as well as many other species of animals and plants, is continually added to the Program's data base in an effort to provide protection to each species and their habitats. You can help protect our rare breeding birds by reporting your observations of these species to the Maryland Natural Heritage Program. To report your observations, to obtain a complete list of Maryland's rare flora and fauna, or to request further information, please write to the Maryland Natural Heritage Program, Tawes State Office Bldg. B-2, Annapolis, MD 21401 or call (301) 974-2870.

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Acknowledgements

I am most grateful to D. Daniel Boone, John A. Davidson, Mark Hoffman, D. A. Rasberry, and Hal Wierenga for their review of this paper. I especially thank Robert Keedy for informing the Maryland Natural Heritage Program of this Loggerhead Shrike pair.

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