

# Lower Neuse Bird Club

Editor: Michael Cheves, LowerNeuseBirdClub@gmail.com

## LNBC Monthly Bird Walk – Friday, April 30, 2021 Goose Creek SP

by Les Coble

For April we will, yet again, venture to a site we rarely bird. Goose Creek State Park has a number of trails that will give us an opportunity to seek resident birds and migrating birds. Views into 2 creeks may have us find a few waders.

Goose Creek State Park is located about 15 miles east of Washington, NC and south of Hwy 264, on the shores of the Pamlico River. We will meet at the Park Office at 8:00 AM (Address for your GPS: **2190 Camp Leach Rd., Washington, NC 27889**). It is on the left a short distance after entering the park. There is ample parking and well-maintained restrooms.

We will walk the Palmetto Boardwalk. The south end of the boardwalk is closed due to damage from Florence. It is roughly 1 mile from the parking area to the closed section of the boardwalk and back to the parking area. There is an excellent transition from upland to swamp to floodplain and we should see a variety of species, including all three species of Vireo, Prothonotary Warblers, and most of the woodpecker species (no RCWs) of eastern NC.

The second walk will be a 1.3-mile loop from the swimming access parking area to the beach along the shore of the Pamlico River towards Mallard Creek and back through the woods on a trail to the parking area. There are nesting gnatcatchers, plenty of pine warblers, yellow-throated warblers, ovenbirds, and other resident birds. Kingfishers, a merlin, and green herons are not uncommon. Both walks take about one hour each. There are covered picnic tables in various locations for an on-site lunch and more trails if you wish to linger after the walk.

Web site: [Goose Creek SP | NC State Parks \(nc.gov\)](https://www.nc.gov/parks-recreation/locations/goose-creek-state-park)

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Monarch Butterfly (male)

©Michael Cheves

## Mexico's Magical Migrations: Monarchs & Humpbacks

by JoAnne Powell

The Friends of the Maritime Museum, Beaufort, is partnering with EcoQuest Travel to offer a trip to witness two of nature's greatest spectacles—the wintering monarch butterflies and humpback whales in Mexico. There should be some good birding in the mountains and at the coast as well. This 10-day natural history and archaeological experience is scheduled to depart January 10th, 2022. The cost is \$4,455.00 plus international airfare. For a complete itinerary and registration details go to [www.maritimefriends.org](http://www.maritimefriends.org) (click: Get Involved; International Travel) or contact JoAnne Powell, trip leader, at [joannepowell1208@gmail.com](mailto:joannepowell1208@gmail.com) or Dave Davenport, EcoQuest director, at (919) 963-3038 or at [INFO@ECOQUESTTRAVEL.NET](mailto:INFO@ECOQUESTTRAVEL.NET).

## Lower Neuse Bird Club

### North Carolina Bird Atlas Project

by Christine Stoughton Root

As you may have heard, we have lost 2.9 billion birds nationwide since 1970. Even common species have declined, such as the Dark-eyed Junco and the White-throated Sparrow. Can we make a difference?

A bird atlas is a systematic survey of an entire region, in this case North Carolina. The first step is having a detailed picture of birds and what they depend on to be healthy in the state. Through the North Carolina Bird Atlas, we gather this essential information. This is a state-wide project of collecting that information. The state has been divided into Priority Blocks. Volunteers adopt a block and this is where they concentrate their efforts. Many of you may actually be living in a priority block. Birders of ALL experience are welcome to the project.

Below is the link to the NC Bird Atlas 101-How to get started

<https://ncbirdatlas.org/nc-bird-atlas-101-how-to-get-started/>

This video may seem a bit overwhelming, and that is where I come in. I have volunteered to work with the District 2 team, and what this means is I will assist anyone to get started or along the way as needed. Additional link “Plan to Participate” provides block information and much more:

<https://ncbirdatlas.org/how-can-i-help/plan-to-participate>

If you have any interest/questions, or require any assistance, please feel free to call me at 252-269-6306.

Thank you for considering. I believe we can make a difference.

Christine

### Global Big Day – May 8, 2021

by Michael Cheves

May 8 is World Migratory Bird Day, and what better way to celebrate than to be part of this year’s spring season Global Big Day? Last year, more than 50,000 birders from 175 countries submitted 120,000 checklists, setting a new record for a single day of birding. Your observations can help researchers understand global bird populations, through the use of products such as animated abundance maps ([Abundance Maps – eBird](#)).

To participate, get an eBird account ([Sign-up, free of charge](#)). Once you have an eBird account, you can enter your bird sightings on eBird ([Enter sightings on the eBird website](#)) or you can use the free mobile app on your iOS or Android device. Finally, plan to watch birds on May 8. Bird anywhere you would normally bird, for any length of time. A few spare minutes in your own yard counts as much as a few hours at a National Wildlife Refuge. Global Big Day runs from midnight to midnight in your local time zone.

Birders may wish to take the free [eBird Essentials](#) course ahead of Global Big Day. For help with bird identification, Cornell Labs offers the free [Merlin Bird ID app](#). The “Explore” feature on eBird Mobile helps birders find recently reported species and nearby birding hotspots.

However you choose to participate, please be mindful ([Mindful Birding – Guide](#)) and have fun. Every bird counts!



## LNBC – Patsy Pond/Cedar Point/Haywood Landing – April 3, 2021

by Ronnie Hewlette

The Lower Neuse Bird Club's First-Saturday Bird Walk for April started out to be a bit on the cool side – 31° in New Bern at 7:00 AM, as three vehicles gathered at the James City Food Lion parking lot. We were headed to the “Longleaf Pine Flat Woods” of Patsy Pond, located between Broad Creek and Bogue on Hwy 24, in Carteret County.

The **Patsy Pond Nature Trail** is managed by the North Carolina Coastal Federation in cooperation with the Croatan National Forest. Upon arrival at the small parking area at the trailhead, we met other club members, bringing our list of participants up to 13 for the day.

Leaving the parking area, we headed up the trail, choosing to follow the Blue Trail for its proximity to the ponds, the RCW habitat, and its moderate length. All the trails loop around the ponds, but this one seemed to best fit our purposes for the morning, namely, to locate a Bachman's Sparrow and the Red-cockaded Woodpeckers that thrive here.

This is the first week of April and here we stand with caps, gloves, or mittens to keep our extremities warm, while each breath vaporizes before us in the morning stillness, looking and listening for birds that might be nearby.

Aside from a flight of 75 White Ibis that flew over as we gathered in the parking lot, the first bird of the day was a Brown-headed Nuthatch, as it exited its nest in a small cavity in a residual broken snag of a pine tree and flew up into the branches of a nearby pine. This place seems to be loaded with Brown-headed Nuthatches. Endemic to the pine ecosystem of eastern Oklahoma & Texas, throughout the Southeast to southern Maryland and Delaware, Virginia and south to Florida. Found mostly up in pine treetops eating seeds, insects and spiders, it forages over, around, and up and down branches, twigs, and trunks, often hanging upside down. It can be easily overlooked because they are so high up in the tree crowns.

Pine Warblers began to sing and someone asked what does the Bachman's sparrow sound like? Don't worry, you'll know when you hear it. Just then, it sang out, as clear as a bell – starting with a long, clear or slightly buzzy note, followed by a trill – unmistakable! Finding it proved to be more difficult, or in this case, impossible. We even looked for “singing pine cones”, to no avail...

Bachman's Sparrows are understory birds, and they thrive in this habitat we are in this morning – pine forests with a grassy understory, well-spaced trees, and little to no shrubs. A couple of Canada Geese were spotted on the far side of a small pond on our right, and a Blue-gray Gnatcatcher was heard and then later seen in the shrubs and scruffy oaks that were around us.

Red-cockaded Woodpeckers got our attention – Two together in a single tree, one other in a different location along the east side of the Blue Trail. There were at least three and possibly more, as some attempted to follow a particular bird for a picture or a better view. Red-cockaded Woodpeckers do not migrate, and all the birds we saw had leg-bands for identification.



Kiosk at Patsy Pond Nature Trail  
©Ronnie Hewlette

### Upcoming Bird Walks

April 30: Goose Creek SP, Washington, NC

May (bonus trip, date TBD): Camp Brinson, Croatan NF

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## Lower Neuse Bird Club

LNBC – Patsy Pond/Cedar Point/Haywood Landing – April 3, 2021

by Ronnie Hewlette, continued from Page #3

According to the Cornell Lab of Ornithology, “the Red-cockaded Woodpecker roosts and nests only in live pines, usually ones infected with red heart fungus. The disease softens the wood and makes cavity excavation easier. The birds also peck holes in the bark around the nest entrance, causing the tree to leak pitch that helps keep tree climbing snakes away. The cavity may well extend upward as well as downward, often far enough up for a bird to take refuge from a predator reaching in and down. The exact shape of the cavity follows the contour of the heart-rot. The Red-cockaded Woodpecker is a cooperative breeder; it lives in small family groups of one breeding pair and several helpers. The extra birds usually are sons from previous breeding seasons (daughters rarely stay with their parents). The helpers assist in incubation, breeding, and feeding.”

We also found Bluebirds nesting in one of the boxes attached to a tree along the trail. An unexpected Red-throated Loon was spotted flying in the distance, out toward Bogue Sound as we completed the 1.2-mile loop, returning to the parking area. What a great way to start the day! We got good looks at the Red-cockaded Woodpeckers and at least got to hear the Bachman’s Sparrow. Maybe another time we will actually get to see the Bachman’s Sparrow.

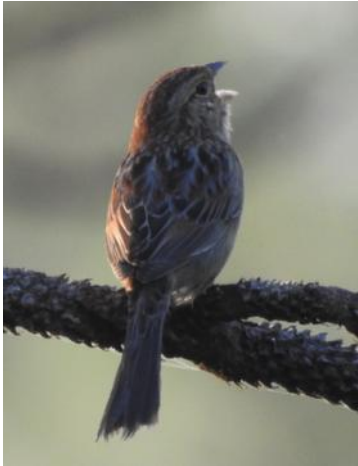
Next stop is **Croatan NF – Cedar Point Tideland Trail**, located just north of Cape Carteret, near the mouth of the White Oak River. This area is totally different from where we just came from, consisting of a boardwalk that crosses over a salt marsh, providing views out over the White Oak River system, and a continuing trail that loops back through a coastal forest. The tide was out, exposing mud flats and oyster shells, but surprisingly no shorebirds and few waders were found. Maybe the wind has them hunkered down somewhere else.

The first thing we notice are a couple of active Osprey nests in live pine trees. This is not unheard of, but usually the Osprey selects dead trees, poles, waterway channel markers, antenna towers, etc. for its nesting site, returning year after year to the same nest. According to the U.S. Fish & Wildlife Service, “sixty days after hatching, young osprey make their first flight! After fledging, the young remain with their parents for up to two months, and then remain at their wintering grounds for two to three years until they return north to make their first attempt at breeding.”

From the boardwalk that looped across the marsh, we walked down to a sandy area at the water’s edge. Looking out over the open water, we found a couple of Forster’s Terns, and as we watched them dive and hover, they were joined by a couple of Bonaparte’s Gulls. BOGU’s have such an interesting hopping motion when feeding, dropping in the water and then lifting out of the water with ease, only to repeat the process.

Four Great Egrets were huddled together in a scrubby tree on the far side of the marsh, but nothing else was discovered from this vantage point. Disappointing not to find more waders, but that aside, it is a fabulous morning to be out birding!

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Bachman’s Sparrow  
LNBC Scouting Trip 3/27/21  
©Ronnie Hewlette



Salt Marsh/ Cedar Point Tideland  
Trail  
4/3/21  
©Ronnie Hewlette



## LNBC – Patsy Pond/Cedar Point/Haywood Landing – April 3, 2021

by Ronnie Hewlette, continued from Page #4

As we continued around the boardwalk, we came upon a Red-throated Loon that had portions of a fish net around its neck and head. We were concerned about its predicament, but it seemed to be foraging and feeding on small fish as we observed from the raised bridge vantage point. From our relatively closeup view from the boardwalk, we challenged ourselves with whether this was a Common Loon or a Red-throated Loon. After fully discussing the field marks and looking at images on our phones, we agreed that what we had was a Red-throated Loon.

Moving to the coastal-forest portion of the trail, we encountered a Ruby-crowned Kinglet – by end of month, they will have all moved north. We are now circling around the marsh that we had crossed over when on the boardwalk. Looks to be a perfect place for a Rail, although we had gotten no response when we called them from the boardwalk. With the wind now in our face, we called from a corner of the marsh and got an almost immediate reply from a Clapper Rail right in front of us. Then moving along to another location, we stopped and called a second time, getting a response from a King Rail and a Sora. What a great find!

Part of the group has moved ahead, and we saw them across the marsh from us, as the trail continued around this little neck of marsh. They were calling and listening to yet another rail. When we all got together, we continued calling and talking and making all kinds of disturbance. The rail came up and flushed right in front of us (literally) – all the eyewitnesses saw it: “a brown, rail-like bird, right there”. Got it – very conclusive! Cedar Point has provided Clapper & King Rails, a Sora, a loon with a fishnet, Bonaparte’s Gulls, Forster’s Terns, a Royal Tern, multiple Osprey on nests in live trees, and an adult Bald Eagle. Nice visit to a marsh environment; now we are off to another habitat, hoping to find some warblers!

**Haywood Landing** is a boat-ramp / tent-camping area at the end of Haywood Landing Road, in the Croatan NF of Jones County. Leaving NC Hwy-58, we traveled down Loopy Road, looking for early spring migrants. The road was hard packed and not muddy, just potholed and narrow – just barely wide enough for vehicles to pass without tagging mirrors.

Traveling approximately two miles through hardwood ridges, cypress-gum-palmetto swamps & drains, pine flatwoods, and creek bluffs, we began to pick out some birds as the habitat transitioned. Yellow-throated Warblers, Ovenbirds, a Red-tailed Hawk, White-breasted Nuthatch, Northern Parula, Blue-gray Gnatcatcher, and surprise, surprise – American Woodcock. Four Woodcock were found alongside the road – Les saw some movement that made him stop and we flushed the birds right there! They only went about 20 feet before settling back down and disappearing in the forest floor cover. The ground cover was open enough that you could see the birds moving / walking away as you approached, but not clear enough for a picture. What a find!

The American Woodcock’s breeding season is May 17 – Sep 14, according to eBird, but Eastern NC is outside their normal breeding range. Birds that are found here this time of year would be pre-breeding migrants (mid-Jan to mid-May), but some may be found locally through the year.



LNBC Members at Cedar Point  
Tideland Trail  
4/3/21  
©Ronnie Hewlette



Warbler-watching on Loopy Road,  
Croatan NF  
4/3/21  
©Ronnie Hewlette

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## Lower Neuse Bird Club

LNBC – Patsy Pond/Cedar Point/Haywood Landing – April 3, 2021

*by Ronnie Hewlette, continued from Page #5*

At the end of the road, we found Haywood Landing's boat ramp, parking area and primitive camping area with several occupied camping sites. The wind has picked up from the North and the bird sightings were limited, to say the least. This ended our trip for the day, and folks departed for home.

We had some exceptional sightings, and as always, it was rewarding to go birding as a group. The three different stops made for a really great birding experience! One of the best trips the club has had – great weather, outstanding locations, and plenty of birds to test our birding skills. Love it!

*More photos from this trip on pg. 12 – Ed.*

#	Species	#	Species	#	Species
1	Canada Goose	19	Turkey Vulture	37	Ruby-crowned Kinglet
2	Mourning Dove	20	Osprey	38	Eastern Bluebird
3	King Rail	21	Bald Eagle	39	American Robn
4	Clapper Rail	22	Red-tailed Hawk	40	Cedar Waxwing
5	Sora	23	Red-bellied Woodpecker	41	Eastern Towhee
6	Amerian Woodcock	24	Downy Woodpecker	42	Bachman's Sparrow
7	Bonaparte's Gull	25	Red-cockaded Woodpecker	43	Swamp Sparrow
8	Laughing Gull	26	Northern Flicker (Yellow-shafted)	44	Brown-headed Cowbird
9	Ring-billed Gull	27	Pileated Woodpecker	45	Red-winged Blackbird
10	Forster's Tern	28	Blue Jay	46	Common Grackle
11	Royal Tern	29	American Crow	47	Boat-tailed Grackle
12	Red-throated Loon	30	Fish Crow	48	Ovenbird
13	Common Loon	31	Carolina Chickadee	49	Prothonotary Warbler
14	Double-crested Cormorant	32	Tufted Titmouse	50	Northern Parula
15	Great Blue Heron	33	White-breasted Nuthatch	51	Pine Warbler
16	Great Egret	34	Brown-headed Nuthatch	52	Yellow-rumped Warbler
17	White Ibis	35	Blue-gray Gnatcatcher	53	Yellow-throated Warbler
18	Black Vulture	36	Carolina Wren	54	Northern Cardinal

## LNBC Morning Walk – Late April Migration – April 18, 2021

by Les Coble

20 members convened at the home of Les & Joan Coble on a partially cloudy, and mostly sunny, brisk April morning. A few “voices” from birds could be heard. Black-and-White Warblers, Cardinals, Goldfinches, White-eyed Vireos, many White-throated Sparrows, and, piquing interest, a Hooded Warbler. It teased by coming within 100 feet and fell silent.

At the feeder, several Goldfinches showed their new “clothes” for the season, yet others had not fully dressed. They were overshadowed by an active Blue-gray Gnatcatcher nest and a Purple Finch.

Over 50 Purple Martins made some bird songs faint in the din of their chatter. Next we moved on to a wide trail into the woodland. Our first stop was a rise near a flooded depression and stream where 2 pairs of Louisiana Waterthrush were known to clash over territory. A few chips from the recordings on the cell phone brought a bird zipping overhead and landing on a limb over the trail. Its habit of bobbing and tail lifting helped members see it and look for the long white eyebrow and breast spots. We will catch glimpses of a Waterthrush at our next stop.

Never guarantee a bird will be seen! That was said a few days earlier. Fortunately, the White-eyed Vireos that were heard and then aggressively flitting about made quite a show as they fought over territorial lines. Whew!

What about that new Hooded Warbler being heard? Yet again, this one did not make a showing to chips from the phone app. On a try for Ovenbirds near the stream, Yellow-throated Vireos finally held steady atop a sunlit and not fully-leafed tree. Its color was quite similar to the new leaves, but their propensity for sitting in a spot while singing allowed us to see it. No Ovenbird.

In a land-locked field, song could be heard of various Vireos and Yellow-throated Warblers, but we instead moved on to the sound of 2 Hooded Warblers along an East Carolina “canal”. There, the chip sounds from the App finally resulted in one agitated Warbler allowing brief views as it frenetically searched for the intruder. Most members joined the “I am enthralled” club when seeing the lime-yellow bird with a black hood that allowed its face to be highlighted.

As we walked along the stream, no Acadian Flycatchers were heard, nor the target Prothonotary Warbler, nor those normally prolific Ovenbirds, but a singing Blue-headed Vireo helped us note the distinction to Red-eyed Vireos.

Inside, at a simple breakfast of bagels and coffee-ground-infused coffee (that pot is now “retired”), a Blue Grosbeak was spotted. Cameras were active with photos, now including the male Purple Finch at the feeders. The Grosbeak did not escape the lens of Bill Jarvis.

Thanks to all who helped listen and ID many sounds of a spring migration. Yes, some of these birds will remain and some will move on. Our combined lists will show 2.75 hours went by over the 1.1 mile saunter, with a tally of 48 birds. The list will show many heard only birds, but the success at seeing those we located felt warming. Over the next 2-3 weeks, new arrivals will add to the residents, including Summer Tanager, Yellow-billed Cuckoo and Wood Thrush. Maybe that sought-after Ovenbird nest will be found yet.

### Upcoming Bird Walks

*Friday April 30: Goose Creek SP, Washington, NC*

*May (bonus trip, date TBD): Camp Brinson, Croatan NF*

# Lower Neuse Bird Club

## Checklist – Coble Lands – April 18, 2021

*Compiled by Les Coble*

#	Species	#	Species	#	Species
1	Mourning Dove	17	Carolina Chickadee	33	Eastern Towhee
2	Ruby-throated Hummingbird	18	Tufted Titmouse	34	Red-winged Blackbird
3	Laughing Gull	19	Purple Martin	35	Common Grackle
4	Turkey Vulture	20	Barn Swallow	36	Brown-headed Cowbird
5	Barred Owl	21	Northern Rough-winged Swallow	37	Ovenbird
6	Red-bellied Woodpecker	22	Blue-gray Gnatcatcher	38	Worm-eating Warbler
7	Downy Woodpecker	23	Brown Thrasher	39	Louisiana Waterthrush
8	Pileated Woodpecker	24	Northern Mockingbird	40	Black-and-white Warbler
9	Northern Flicker	25	Eastern Bluebird	41	Hooded Warbler
10	Great Crested Flycatcher	26	Wood Thrush	42	Northern Parula
11	White-eyed Vireo	27	American Robin	43	Yellow-throated Warbler
12	Yellow-throated Vireo	28	House Finch	44	Summer Tanager
13	Red-eyed Vireo	29	Purple Finch	45	Northern Cardinal
14	Blue-headed Vireo	30	American Goldfinch	46	Blue Grosbeak
15	American Crow	31	Chipping Sparrow	47	Carolina Wren
16	Fish Crow	32	White-throated Sparrow	48	Wild Turkey



*This Chickadee was nesting in a snag next to the Gnatcatcher  
©Jenny McDiarmid*



*Blue Grosbeak  
©Bill Jarvis*



## The Migration Science Revolution

by Scott Weidensaul

Reprinted from *Bird Watcher's Digest* May/June 2021, with permission.

See [birdwatchersdigest.com](http://birdwatchersdigest.com)

Early May at daybreak, and the first real dawn chorus of the spring is lifting winter's silence here in the woods of New Hampshire. The blue-headed vireos have been back for a week, and yesterday a few chipping sparrows and a single hermit thrush were singing. Today they (along with the titmice and chickadees that have been here all year) were joined by the first black-throated green warbler and two ovenbirds.

Even the darkest winters are followed by a spring of birdsong here in the northern hemisphere, which is reason enough to celebrate the return of the migrants. But the closer we peer into migration – how migratory birds are able to do what they do, the physical feats they accomplish, their navigational abilities – the more astounding the phenomenon becomes.

We're learning that every time we think we've found the physiological limits of what a migrant can do, the birds blow right past them. Who would have imagined that some migratory birds can literally spend more than three-quarters of the year aloft, without ever setting foot to ground? Or that they are finding their way across the planet using a form of quantum physics that made even Einstein uneasy?

This is also a remarkable time for migration science writ large – exciting advances in miniaturization that are finally allowing us to follow even the tiniest migrants across the hemispheres. Leaps in computing power, radar, acoustic technology, and Big Data like eBird together permit scientists to map and model migration at mind-boggling scales of precision, with on-the-ground benefits for conversation.

I've spent the past five or six years exploring these frontiers of migration science and migratory bird conservation for a new book, *A World on the Wing*, which just came out – a journey that took me to Asia, the Mediterranean, Latin America and the Caribbean, and all over North America. I thought I already had a pretty good sense of how amazing migratory birds are, but I soon learned that like most folks I, too, was underestimating them.

Physiology is a good place to start. When a marathon runner broke the world record by completing a 26.22-mile race in less than four hours a few years ago, he was lauded as superhuman – but in a very real way, he was actually just sub-avian. A six-inch semipalmated sandpiper weighing barely half an ounce will make a 3,200-mile nonstop flight from eastern Canada to Venezuela, the equivalent of running 126 consecutive marathons – and the bird will do it over the course of three or four days, with no food, water, or rest.

In doing so, the sandpiper will be exercising at eight or nine times its normal metabolic rate – compared with the most elite of human athletes, like a male Tour de France cyclist, who can work at “only” four or five times his base metabolic rate, and only for a few hours at a stretch with regular food and hydration.

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*Semipalmated Sandpiper*  
Oregon Inlet, 7/27/18  
©Michael Cheves

## The Migration Science Revolution

*by Scott Weidensaul, Continued from Page #9  
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See [birdwatchersdigest.com](http://birdwatchersdigest.com)*

But there is one similarity between that little semipalm and (at least some) professional cyclists: doping. Many semipalmated sandpipers stop off at the Bay of Fundy in eastern Canada, where they feed selectively on a tiny crustacean, called *Corophium*, in the mud of the tidal flats. *Corophium* is rich in omega-3 fatty acids, which juice the bird's metabolic system, a practice researchers likened to a natural form of performance enhancing drug use.

But given that it is an elite natural athlete, a migratory bird about to depart for a long flight actually doesn't look so healthy. Grossly fat, and with biochemical markers typical of human diabetics with advanced heart disease, such a bird seems in the words of one avian physiologist, better suited for the ER than the sky. Yet somehow its body fends off any long-term damage, holding the promise of leading researchers who study avian biology to breakthroughs for human health.

Another group of humans who push themselves to the limits have their own reasons to envy birds. Extreme climbers, spending weeks or months painfully acclimating to higher and higher altitudes in the Himalayas, where every step is painful labor, have only to look up and see geese, ducks, and cranes passing high above their heads. Despite the extraordinarily thin atmosphere, birds like bar-headed geese need no acclimation; they simply take off from sea level in southern India and claw their way higher and higher, at rates of up to 7,200 feet an hour and reaching altitudes of more than four and a half miles up.

The geese have adaptations like highly efficient hemoglobin in their blood, larger-than-usual lungs (on top of the off-the-shelf avian respiration system with its interlocking air sacs that is orders of magnitude more efficient at extracting oxygen than ours). Physiologists aren't sure how, but these high-altitude migrants also have ways of warding off pulmonary edema, a frequent and often fatal consequence of climbing for humans.

When a bar-tailed godwit takes off from Alaska and flies across the widest part of the Pacific (a journey, research published last year shows, that can take 11 days of nonstop flight), sleep obviously becomes an issue. A sleeping bird can't flap; flying isn't an autonomous function like breathing. Birds get around this problem through unihemispheric sleep – putting one half of their brains to sleep for a few seconds at a time, alternating endlessly back and forth. Yet even if a bird is forced to stay fully awake, and not permitted to employ unihemispheric sleep, it somehow manages to avoid all the problems of sleep deprivation that plague a person who had an insomniac night – provided, that is, that the bird is in migratory condition in spring or fall. At other times of the year, a migratory bird prevented from sleeping becomes just as foggy as a sleep-deprived human. Why? Sleep specialists are still trying to figure that out.

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## The Migration Science Revolution

by Scott Weidensaul, Continued from Page #10

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See [birdwatchersdigest.com](http://birdwatchersdigest.com)

And as for how they're navigating, the biggest surprise has involved a migratory bird's magnetic sense, long a mystery. It now appears that birds are able to visualize the Earth's invisible magnetic field by tapping into a form of quantum mechanics known as entanglement, a facet of this field of physics Einstein all but rejected, but which now appears poised to allow (at least in theory) unbreakable cryptography and faster-than-light communication. Sounds like science fiction, but birds got there first.

Just as we've been hearing more about the physiology of migration, so, too, have we become ever more adept at following the birds themselves. The snowy owls that my colleagues and I track for Project SNOW-storm ([projectsnowstorm.org](http://projectsnowstorm.org)) carry matchbox-sized transmitters that record precise GPS coordinates as frequently as every six seconds, along with data from temperature sensors and accelerometers, and send it all to us via the cell-phone network.

In the July/August 2020 issue of *BWD*, I wrote about the Motus Wildlife Tracking System ([motus.org](http://motus.org)), which marries extremely tiny (as little as 1/700th of an ounce) radio transmitters with nearly a thousand automated receiver stations – a number that grows almost weekly around the world. Motus has provided the first chance to trace the movements of species as small as hummingbirds on a hemispheric basis.

ICARUS, a new German-Russian telemetry system based on the International Space Station ([icarus.mpg.de](http://icarus.mpg.de)), promises global tracking of migratory animals anywhere on the planet without ground-based receiver stations. While there are still limits to how small an ICARUS transmitter can be – those currently in use weigh 4 grams and require a bird about the size of a thrush or larger to carry them – developers promise that even small songbirds will eventually be trackable by this system.

Because of new tracking technology, we now realize that ability to sleep on the wing is especially critical to Old World swifts, including the alpine and common swifts. Using tiny data loggers with accelerometers, scientists have discovered that these swifts simply do not land outside of the two-month nesting season in Europe. The other 10 months of the year, in migration and while in Africa, they spend entirely on the wing, 24/7, day and night. (Our North American swifts, it appears, do roost and sleep each night.)

But some of the biggest advances in our understanding of migration have come from all of us. Every time you submit an eBird checklist, you add to an astonishing database of bird distribution and movement. By combining those hundreds of millions of observations with, say, Doppler radar data (which allow researchers to calculate, for example, just how many birds are emerging from a particular stopover region along the Gulf Coast) as well as satellite-based remote sensing of landscapes and habitat, scientists are able to draw astonishingly detailed pictures of what species of birds are where, in what numbers, and using what habitats. That, in turn, provides a road map for knowing what areas should be prioritized for protection.

There's never been a more exciting time to study migration – or a better time to look, with renewed wonder and respect, at the newly arrived migrants in your own backyard.



# Lower Neuse Bird Club

## Photo Gallery

Submissions are welcome. Send your bird and nature photos to [lowerneusebirdclub@gmail.com](mailto:lowerneusebirdclub@gmail.com)



Northern Parula, Loopy Road, Croatan NF (above)  
Red-cockaded Woodpecker, Patsy Pond Nature Trail (below)  
©Mike Creedon 4/3/21



LNBC at Patsy Pond Nature Trail, 4/3/21  
©Ronnie Hewlette



Rare to NC: Gray Kingbird  
Pea Island NWR North Pond, 4/17/21  
©Michael Cheves

Carolina Chickadee nestlings,  
Two days old 4/22/21

Wren/Chickadee Box from  
Wild Birds Unlimited

©Michael Cheves

