the NATURALIST newsletter

Louisiana Master Naturalists, Greater New Orleans

Message from the President

New Continuing Education Offerings

As announced at our November membership meeting, LMNGNO is celebrating its 10 years of service by a) continuing our wonderful workshops for new friends and b) expanding our service to certified LMNs by offering new programs addressing your interests in continuing education. We will "ease" into new offerings and expand their diversity and numbers as our members become engaged. We will notify certified LMNs of these events via email.

Hikes:

Byron Almquist has hosted several hikes that focus mainly on learning more about trees. They have been very educational and well enjoyed by those who have participated. In addition to Byron's occasional offerings, we will schedule additional hikes/outings to the following places (This first year, a new area every other month).

Short Classes:

We will begin with brief, evening discussions and instruction on single topics. These will be held at our Resource Center or at Loyola University. Imagine a three-hour workshop with specimens, slides, and hands on activities, including use of literature.

Butterflies	Mammal identification
Seashells and beachcombing	Lichens
Plant biology and related topics	Mushrooms
Wilderness first aid	Algae
Astronomy	Dragonflies and damselflies
Journaling	

In This Issue

- President's Message
- 10th Anniversary
- 2023 Calendar
- Search for Black Rails
- Book Review
- Slate of New Officers and Board Members
- Mollusks on Elmer's Island
- Grand Isle Reflection



Roseate Spoonbill Platalea ajaja (photo by Bill Van der Meer)

Editor: Bill Van der Meer bvanderm1@gmail.com

Proof Reader: Dr. Mary Gubala

Study Groups:

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Y'all have your interests and passions, and we will help you get with like-minded LMNs and provide guidance that allows you to expand your expertise. The concept is to provide a framework, a mentor to get the group started, and guidance along the way to keep the group excited. Some ideas (only limited by your interest) include:

Seashells and beachcombing. (This group will	Insect identification.	
meet soon and has four members already and	Gradually advanced bird studies.	
will be led by Dr. Bob Rogers.)	Spiders. Led by Aimée Thomas	
Frogs and their choruses. Led by Bob Thomas.	More topics and leaders as the "market	
Plant identification.	demands!	
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Please be reminded that we now have three new levels of certification for those who enjoy such things. If you are intrigued, email me for discussion (<u>rathomas@loyno.edu</u>). We are very open to offering more natural history services to our members. Please share any ideas you may have.

Have a Happy New Year and hope to see you soon!

- Dr. Bob Thomas

A Tenth Anniversary Soirée

Hardly a formal event, the Louisiana Master Naturalists of Greater New Orleans gathered on the evening of November 16, 2022 to attend our general meeting and celebrate the 10th anniversary of our organization. And what a fun time it was with just about 100 attendees present! We began the evening with a "Friendsgiving" themed potluck, and lots of fellowship. Congratulations to the sixteen newly certified Master Naturalists, who received their certificates of completion.

We learned a bit about the history of the formation of our group from a few of the original "founders" including Rusty Gaude, Bob Thomas, and Michael Massimi (aka Nutria head). We are very grateful to them for starting our organization and how much it has meant to their successors who continue to carry the torch. We ended the night with a fun Nature Trivia game, proving how much we have learned, and of course, still have room to learn! - *Michele Mire*



A great turnout, costumes and all (Photos by Bill Van der Meer)

Calendar of Meetings and Events 2023

SAVE THE DATE!

Rendezvous 2023

Members of the Southwest Chapter of Louisiana Master Naturalists are busy planning Rendezvous that will take place on **Friday April 21- Sunday April 23, 2023 in Hackberry, Louisiana.** Rendezvous is an excellent opportunity to meet naturalists from around the state, participate in interesting field excursions, hear keynote speakers, and earn all of your continuing education hours in one weekend! Look for an email soon with details of how to register and make hotel reservations.

The Greater New Orleans chapter is looking for a volunteer to organize a basket of local items donated by members or vendors as our contribution to the Silent Auction. To volunteer contact Janell at LaMasterNatGNO@gmail.com. Thanks to Belinda and Larry Janeski who have graciously agreed to chair the Silent Auction for a second year.

- Janell Simpson, delegate to LMNA

LMNGNO Spring 2023 Class Schedule

Rest assured Spring is just around the corner, the Spring 2023 Master Naturalist class schedule that is. As of this writing there's a full class at 28 plus a waiting list. So welcome, class of Spring 2023!

January 7	Orientation
January 21	Bayou Sauvage
February 4	Turtle Cove
February 25	City Park
March 11	North Lake Nature Center
March 25	CERF
April 14-15	Grand Isle, Elmer's Island
April 29	Jean Lafitte National Park
May 20	Bayou Dupont
May 24	Closing Session, site TBD

Meetings Calendar:

Board of Directors Meetings (5:30 pm)

Also open to all members in good standing

LMNGNO Resource Room STEM Library 3011 N I-10 Service Rd. Metairie, LA 70002

> January 19 April 12 July 20 October 19 December (TBD)

General Membership Meetings

Social Hour begins at 5:30pm Business meeting and seminar begins at 6:30pm

> Loyola University Miller Hall, Room 114

> > January 26 April 19 August (TBD) October (TBD)

The Louisiana Master Naturalists of Greater New Orleans is a community of citizens interested in engaging with the natural environment through education, stewardship and volunteering.

Visit us on the web



It began at a pink tricycle, half rusted, half sunken into the marsh. There I heard my first Black Rail ever, tooting its ki-ki-do song. I approached with my recorder as close as a few feet away in the thick coastal grasses, but the bird never came into view. About 10 years ago, this was one of only about a dozen confirmed records of this secretive, most elusive bird in Louisiana.

At the time, the US Fish and Wildlife Services (USFWS) was also undergoing a process to evaluate the need to list the Eastern Black Rail subspecies (Laterallus jamaicensis jamaicensis) as threatened under the Endangered Species Act. Funding was made available to study the birds in Louisiana starting in 2017. Audubon was contracted by the Louisiana Department of Wildlife and Fisheries to take on the challenge of finding a bird that didn't exist. The population estimate in Louisiana was 0 to 10 birds.

Learning from some recent excellent work in Texas, we began to develop a search image for Black Rail habitat in Louisiana - high coastal marshes above the tide line with thick, knee to thigh-high grasses and scattered shrubs. And we found Black Rails – dozens of them – suggesting they have simply been overlooked for decades, and extremely specialized on unique high marsh habitat. We still know little about how to best manage this high marsh for Black Rails and other co-occurring species like Yellow Rails and Mottled Ducks. It probably requires fire, but how often should it burn? Does that optimal fire interval frequency change with different soil, tidal, and rainfall conditions?

Because of the bird's incredibly secretive nature, we also know little about other aspects of their natural history. Most of what is known is from the more common and less secretive West Coast population (L. j. coturniculus), relatively well-studied populations from the mid-Atlantic Coast, which have now almost completely disappeared, and from a small interior Florida population. Along the western Gulf Coast, only a single active Black Rail nest has ever been found – a radio transmitter fell off a bird in a nest with one egg in mid-March on the upper Texas Coast.

On the Atlantic Coast, clutch sizes seem to range from 4 to 13 eggs, but may usually be less than seven eggs. Are large clutch sizes the result of egg-dumping, as has been suspected in other rail species? Egg dumping is a behavior where females will lay eggs in another female's nest, forcing the host female to raise those young. It's fairly common in waterfowl, and a few other birds.

As far as we know, the Black Rail's diet is similar to other rails, and involves a combination of snails, small insects, amphipods, crustaceans, and seeds. Our research team is collecting poop from captured birds to analyze the samples genetically to better quantify the diet along the Gulf Coast. The Eastern Black Rail, the subspecies found east of the Rocky Mountains including in Louisiana, are now listed as threatened under the Endangered Species Act as of November 2020.

Estimates suggest that there are fewer than 3,000 birds left in the world, after experiencing decades of habitat loss. In the Mid-Atlantic States where the species has been relatively well studied, the Black Rail has disappeared by about 90% in 30 years. Concerns about its disappearance are tied to sea level rise, where this high marsh is becoming more frequently inundated by water, and habitat development, as is the case where several of the Liquefied Natural Gas export terminals are planned in Cameron Parish.

Funded through the NOAA RESTORE Science Act, a pot of money established by the Deepwater Horizon oil disaster global settlement, a Gulf-wide collaborative of academics, NGOs, and state and federal entities are conducting surveys from Texas through Florida to develop science-based habitat management recommendations to help Black Rails in the face of climate change. In Louisiana where Audubon leads the survey effort, volunteers are instrumental in helping with our winter survey work,.

This takes place from November through February. The best way to find Black Rails at this time of year is to walk through the marsh with a small team, drag a rope with noise-makers attached,



Black Rail (Laterallus jamaicensis) in its high coastal marsh habitat (Photo: courtesy of Julio Mulero via <u>flickr</u>)



Captured bird ready for recording, banding and release. Black Rails are authorized to be handled and banded under our state and federal permits. Photo by Erik Johnson

and look for birds with spotlights. We begin surveying 30 minutes after sundown, and it takes about 3-4 hours to completely survey a study plot.

If you would like to volunteer for this effort, which mostly takes place in Cameron Parish (but also in Texas and Mississippi), please contact Jonathon.Lueck@audubon.org to get on the email notification list. We generally survey most Friday and Saturday nights, and there will be some weekday opportunities as well.

Even though we cannot guarantee a Black Rail on every survey, the effort is key to understanding the tolerances of birds to habitat change, and how we can more effectively create good habitat. We're hopeful that if we can better manage the habitat now and create and restore habitat in the coming decades, we can buy enough time to address the underlying drivers of climate change.

Dr. Erik Johnson is Director of Conservation Science, Audubon Delta, National Audubon Society

Book Review: by Nicole P. Green, Ph.D.

A World on the Wing: The Global Odyssey of Migratory Birds

In the first chapter of his wide-ranging study of migratory birds, Scott Weidensaul takes us to the industrial mudflats of the Yellow Sea in China's Jiangsu Province, a stopover site for many migratory shorebirds on their flight from the Bering and East Siberian seas to Southeast Asia.

In many ways, this opening chapter previews the subjects that concern Weidensaul and birders world wide. Weidensaul begins by describing ornithologists' present-day knowledge of migratory birds' flight paths and examining the the many recent advances in technology which have made this information possible. He reminds us that it was only a few decades ago that "there was no practical way to track a bird as small as a 1.3 ounce swift" (p.91).

Now scientists have a host of innovative technologies which allow them to track breeding, wintering and migration: doppler radar, geolocators, small radio transmitters, GPS tracking, satellite transmitters, and audio migration monitoring such as BirdVox which allows us to track birds at night through recording their song. Weidensaul integrates the uses of these innovations through a series of case studies of migratory birds throughout the world, emphasizing how little we still know about the lives and long-distance voyages of these birds.

Now that they have a better idea of how far birds travel, researchers must ask, how do these long-distance migrants manage this (p.64)? How do they travel distances that can be compared not to a marathon but rather to "a journey to the moon"? Ornithologists are discovering that "these creatures have evolved extraordinary physiological abilities that touch on every aspect of migration, from speed and endurance to memory and brain function, metabolism, disease immunity, blood chemistry and much more" (p.64). In order to prepare for these migrations and physical adaptations, birds rely almost entirely on suitable habitat, sometimes, very specific habitat and food sources at very specific times of the year, all of which are subject to environmental changes.



Weidensaul notes one third of birds on the North American continent have disappeared in the course of his lifetime (p149). Yet, he writes, "some species have shown an unexpected flexibility in the face of changes that are occurring faster than birds have ever experienced in the geologic past" (p.192).

One fascinating case study is that of the Kirtland's warbler which migrates 1,500 miles between Northern Michigan in the summer and the Bahamas, specifically Cat Island, in the fall. Like other migrants, their routes differ in spring and fall. Fifty percent of the Kirtland warblers breed in a small 10-county area of Northern Michigan, in the scrubby jack pine forest, an "artificially maintained habitat" (p.180). Climate change and sparse rain in the Bahamas and limited food "create a caloric deficit that delays the start of a bird's migration ... [and] may even force the migrant to cannibalize its own muscle and organs to make the trip" (p.158).

Researchers have discovered that the Kirtland warbler is now beginning to be found more generally in the Caribbean, in Cuba and Jamaica, as Cat Island slowly sinks.

"Because migration in most birds.... is genetically encoded and not learned, there are always a few individuals with odd software that sends them in unexpected directions." Thus new routes emerge.

While we are unlikely to see Kirtland's warbler in Louisiana, we enjoy the migratory rufous hummingbird among many others. Yet hummers too are "tearing up the calendar" as Weidensaul discovers. A retired neighbor knocks on his door during a very cold Pennsylvania winter morning, having seen a hummingbird in his tree, feeding on wizened apples. Weidensaul quickly traps the rufous, examines it to find it is a healthy adult female with good fat reserves assuring him that she will be heading to the Gulf in a few days, easily flying non-stop for 600-miles. As Louisiana bander Nancy Newfield states, hummingbirds too are evolving new migratory routes.

The author's descriptive passages, character sketches, and colloquial dialog appeal to the general reader, allowing Weidensaul to present new knowledge about migratory birds to a wider, non-scientific audience who are needed in the endeavor to preserve and protect habitats and food sources for these amazing creatures. This appeal to a wider audience is also one the leadership of the Louisiana Master Naturalists understands so well.

While recording the loss of birds and increasing threats to migratory species in the last decades, Weidensaul, like many present-day nature writers, is careful to keep a balance as he recounts the achievements of scientists and preservationists. In one of his last chapters, we travel to Butte Valley in California where Peter Bloom, and his team of raptor biologists have successfully rescued the migrating Swainson's hawks, which were being decimated by pesticides in the Argentinian plains.

Their success has been the result of international cooperation between American and Argentinian ornithologists. Bloom's advances in trapping and marking the raptors has also meant that "almost every hawk [in Butte Valley] is, at a glance, a recognizable individual" (p.233). Yet, writes our author, "what we don't know about the global journeys of birds still vastly outstrips what we do know" (p.246).

In some respects, A World on the Wing is also a travel book. In his exploration of migratory birds, Weidensaul takes us to China and Alaska; the St. Lawrence River Valley where he experiences both reverse migration and meta migration; Fort Morgan, Alabama; the Bahamas and North Michigan; Butte Valley, California; Cyprus and the Mediterranean, and finally Cape Hatteras, North Carolina. It is a springboard from which to explore the birds who colonize the many small Atlantic islands, crisscrossing the vast ocean from the Shetlands in the north to the Falklands in the south.

Weidensaul is a gifted writer who enables us to experience what he sees. A well-documented study with notes and bibliographies following each chapter, A World on the Wing also includes a very useful general index.

I counted at least fourteen maps with diagrams of bird flights as well as 38 colored photographs. This is a book for all ornithologists, researchers and amateurs, or anyone who is astounded by the endurance of these creatures as, against all odds, they navigate their global odysseys in graceful flight.

Board of Directors Update

Effective January 1, 2023 a new duly elected slate of officers and board members will be seated as follows:

Officers - President: Julia Lightner; Vice President: Janna Wisniewski; Secretary: Janell Simpson; Treasurer: Michele Mire

New Board Members - Ann Plicque, Bill Van der Meer, Tres Fisher, Rebecca Stilling

Some Commonly Observed Gastropod Mollusks Found on the Upper Beach of the Elmer's Island Coastline

By: Robert M Rogers Ph.D.

Although it was not an objective of the "Caminada Headland Beach and Dune Restoration Project", a number of marine creature remains have made their way onto the beach areas along with the intended sand pumped in from Ship Shoal for the beach restoration project. This has included coral fragments, beach rocks, barnacles, and sea shells. By far the most obvious are the seashells. These carbonate remains of bivalve and gastropod mollusks have accumulated in the ship shoal sediments for as long as 20,000 years, ever since the shoal was once an island. This long history has resulted in a mix of estuarine and full marine species, some of which have even become fossilized.

Identification of these older shells becomes more difficult due to fragmenting from natural processes and changes in color over the extended period of time. It is interesting to note that fossilized specimens are generally bone white in color resulting as calcium carbonate becomes converted to a more stable calcite over a long period of time.

The appearance of blackened shells indicates that the shell has been buried and then exposed again at a later time. This occurs as iron sulfide in anoxic sediments displaces iron oxide resulting in the blackish color. This may occur as a shell originally located in a back bay or marsh becomes buried and appears on the beach side of a barrier island through island migration processes.

One of the most common of the noteworthy, collectible seashells found on Elmer's Island is the Lettered Olive (*Oliva sayana*). They are commonly found in good condition and fairly large numbers in the dune line of the beach restoration area where sand has been most recently moved around from storm activity.

Many of the Lettered Olives maintain their glossy appearance and deep brown markings resembling letters of the alphabet.



Figure 1 Lettered Olive shells (Oliva sayana) collected from Elmer's Island

Their pristine appearance comes in spite of the rough trip they have had being transported through cutter dredges, pipelines, mud slurries, and bulldozer spreading.

The live snail makes its living as an aggressive predator gliding through sandy sediments with its mantle folds largely extended like wings. It feeds on small invertebrates such as clams, crustaceans, and polychaete worms. The glossy appearance of the shell comes from the extended mantle and its ability to replenish the shell material.

Shells of another common predatory snail is the Shark's eye, so named because the chocolatey brown umbilicus located in the body whorl of the shell resembles that of a real shark's eye. They are in the same family with moon snails and as carnivores do, they feed on bivalves, snails, and even other individuals of their own species. The shark's eye also has an extended mantle reaching out of the animal's shell resulting in an obviously glossy shell in the living organism.

This Shark's eye organism is an efficient hunter using its radula and odontophore to drill a countersunk hole. It secretes acid to further weaken the shell and insert its proboscis through the opening. The animal can then secrete digestive fluids to digest the flesh of the prey, which is then slurped up through the proboscis. The predator has an uncanny sense of knowing the most efficient part of the shell of the prey to drill. This is either at the umbo where the bivalve organism is concentrated or on the edges where the shell is thinnest.

However, this drilling process is not always successful and may be time consuming. Partially drilled shells may be encountered and sometimes the predator may become the prey of a larger gastropod. Bivalves of the family Arcidae and Tellinidae often serve as victims of this voracious predator. The egg case of the Shark's eye is known as a sand collar (fig.2). Eggs are laid under the collar where they are anchored by mucous to the bottom. The collar itself is initially tough and somewhat rubbery.



Fig. 2. Shark's eye, Neverita (Polinices) reclivata, collected from Elmer's Island. Drilled bivalves are shown in upper left and Sand collar egg case in upper right of photo.

When it dries out it becomes fragile and readily crumbles.

Another noteworthy snail is the Southern Oyster drill. This predatory snail is of particular interest because it preys on a commercially important bivalve, the common eastern oyster (*Crassostrea virginica*). These snails are also known as the red-mouthed rock shell or Florida dogwinkle. It belongs in the family Muricidae with other drills, such as the eastern oyster drill (*Urosalpinx*). These drills are well-adapted to feeding on oysters, mussels, and clams by possessing specialized mouthparts featuring an extensible proboscis with a radula complete with teeth, and calcium dissolving sulfuric acid. These mechanical and chemical operations are coordinated to drill a small access hole. Completion of this process may take up to eight hours.

Digestive enzymes are then introduced by the proboscis through the opening to aid in digesting the hapless oyster or mussel in its own shell. The partially liquified meat is then sucked up by the oyster drill. It is generally estimated that it takes three days for one drill to consume one large adult oyster. Other snails appear to be attracted by the feast and may join the original predator. Consuming young oysters, called spat, requires much less time and numerous spat can be wiped out in a day.

Oyster drills are marine, warm water species. They prefer salinities above about 15 parts per thousand (ppt) and temperatures generally above 12 °C. Over many years of experience, commercial oystermen have learned to confine their oyster leases and reefs to lower salinity waters.

Another reason for the success of the oyster drill are the large numbers eggs they produce which are deposited just below the surface on hard substrates such as oyster reefs, jetties, and even other marine snails. The newly hatched snails are capable of drilling soon after they hatch. It is interesting that Oyster drills find their food by moving along the substrate with their siphon extended, detecting their prey through the sense of smell.



Fig. 3. Southern Oyster drill, Stramonita haemastoma, specimens collected from Elmer's Island. The shell in the upper left is covered with barnacles indicating it was probably an abandoned shell, perhaps inhabited by a hermit crab. To the right is a typical clutch of egg cases.

A siphonal canal protects its anterior anatomy from predators as it moves through the water. In the Shark's eye and Lettered olive, there is no such protection since these organisms generally move through the sand below the surface seeking prey through the sense of feel.

The gastropods mentioned--Lettered olives, Shark's eyes, and Oyster drills—are just a few examples of the carnivorous snail species located in the marine waters around Elmer's Island. Many others are found with some as pictured in Figure 4. The unusual aspect of these species is the fact that they have been concentrated from the beach restoration program and are found from the littoral zone going up the beach profile into the dune line. These shells have further been uncovered. transported, or reburied. Many of these species are fossilized having lived in the waters around what was once Ship Island, presently existing as Ship Shoal, some 30 meters beneath the waters of the Gulf of Mexico.

The diverse conditions of natural processes and man-made disturbances have resulted in an interesting and challenging area of beach shells with their commensal organisms, puzzling fragments, and a variety of species ranging from estuarine to full marine.



Fig. 4. Other common predatory snails found in the waters around Elmer's Island: Lightning Whelk (*Busycon pulleyi*), Horse conch (*Triplofusus (Pleuroploca) gigantea*), Apple murex (*Murex pomum*), Florida fighting conch (*Strombus alatus*), Common sundial (*Architectonica nobilis*)

For further information of local shell identification and ecology, three excellent references are:

Darnell, R. M. 2015. The American Sea: A Natural History of the Gulf of Mexico. College Station: Texas A&M University Press.

Rothschild, S.B. 2004. Beachcomber's Guide to Gulf Coast Marine Life, 3rd Edition. Dallas: Taylor Trade Publishing.

Tunnel, J.W. Jr., J. Andrews, N.C. Barrera, and F. Moretzsohn. 2010. Encyclopedia of Texas Seashells. College Station: Texas A&M University Press.

Grand Isle Reflection

November 18th, 2022 found Mary and me cruising into Grand Isle to take part in a two-day workshop with the Master Naturalists class of Fall 2022. What's not to like about sleuthing around on the beaches, salt marshes and rich maritime forest at Grand and Elmer's Isles on a crisp fall weekend? As always, nature had found a way to quickly rebound after the wrath that Hurricane Ida had visited upon the island on August 29th of 2021. If one's eyes could avoid the vast empty tracts where houses once stood and other damage to human infrastructure one might have scarcely been able to notice the difference in the marsh, forest or littoral zones.

Aside from catching a nice redfish one morning, my primary mission here was to cover the workshop event while catching up with what I had potentially missed during a COVID shortened workshop in Fall of 2020. I would certainly not be disappointed. It was great to be around such an enthusiastic group of students and be exposed once again to an esteemed team of educators and workshop leaders, all of whom were neither discouraged nor deterred by the wind and cold rain on day two. Congratulations to all those who have completed the requirements for Master Naturalist certification. But keep in mind, your well earned badge is only a beginning of the journey.

It's understandable that in spite of our best laid plans to meet the annual volunteer and continuing education requirements, life often does have a tendency to get in the way. There is, however, a plethora of excellent opportunities and choices that I've personally found to be only minimally challenging in terms of time and effort. Some examples are highlighted in our outgoing president's message on page one about new CE offerings currently in the works. Stay tuned for announcements and please stay engaged with our organization. It's not only fun but important work we do. *- Bill Van der Meer*



Erik Johnson demonstrates capture, recording, banding and release of warblers and sparrows on Grand Isle.



Class of Fall 2022 at the Dept. of Wildlife and Fisheries, Grand Isle LA



Andrew Barron leads a group of students on plant identification along the dune line at Elmer's Island.

(Photos by Bill Van der Meer and Mary Gubala)