The Snowy Owl is North America’s heaviest owl. Measuring 23” in length and typically weighing about 4 pounds, Snowy Owls outweigh the Great Horned Owl by a pound and are twice the weight of a Great Gray Owl (North America’s tallest owl). The weight is attributed to the thick, dense feathers needed for insulation by the owls to withstand the Arctic cold.

Snowy Owls are predominantly white owls, with round heads, yellow eyes, and no ear tufts. The presence of several black or brown markings on the body and wings makes their plumage variable. On the female, the markings increase, giving the bird a salt and pepper appearance. The male, however, tends to be paler in color, with fewer markings on the younger bird, but becomes whiter as he ages. The body of the owl is bulky, with feathers extending down its legs to the talons (claws).

Snowy Owls inhabit the high Arctic tundra above the tree line, where the rolling terrain is open and often rugged and wind-swept.
NOTE FROM PRESIDENT

Greetings,

I hope that you have had a joyful and peaceful holiday season. I am grateful to all of you for your support and for all that you do for Audubon Everglades that help us to safeguard and steward the birds and natural habitats that we love.

I am also grateful to our generous supporters and Friends of Audubon Everglades, our community partners, and for the commitment of our hardworking AE Board and volunteers.

I look to 2022 with increased hope, optimism, and renewed resolve as we work together to help bring the promise for a bright future to the natural wonders around us that make our lives fuller and more complete.

From all of us at Audubon Everglades, we wish you a Happy New Year and hope to see you soon.

Sincerely,

Scott Zucker
President
most often hunt by day, especially during the summer when there is 24 hours of daylight, but they hunt just as well at night. Once prey is spotted, the owl pursues it in a swift flight and catches it in its talons. Rodents are usually swallowed head first and whole. Larger prey is torn apart and swallowed in bite-sized pieces; if used to feed the mate or young, the prey is taken whole back to the nest.

Once the male Snowy Owl has established a territory and attracted a female with elaborate courtship flight displays, including presenting her with a prey item (usually a dead lemming), he sets about guarding that territory from all other males. The female selects the nest site on the ground, usually on a mound in hilly terrain where there is good surveillance of the surrounding area. The nest structure itself is no more than a slight depression shaped in the substrate by the female’s body, with no nesting material added. Three to eleven whitish eggs are laid and incubated solely by the female for 31 – 33 days, while the vigilant male guards the territory. During incubation, the male does all the hunting, catching prey and bringing it to his mate at the nest. One brood of young is raised each season, with nesting success being dependent on prey availability. In years when the lemming population is abundant and prey availability thus high, a larger number of eggs are produced with a greater hatch and survival rate for the chicks. Correspondingly, in years of a lemming population crash (usually in four-to-five-year cycles), nesting success is poor or non-existent. Both parents care for the young for about 9 – 10 weeks. They can leave the nest at about 2 – 3 weeks of age and begin flying at about 7 weeks old.

The 2021 Bird of the Month Series continues to focus on North American species requested by our Audubon Everglades members. Each month, information on the featured species will cover its description, range, habitat, food, and reproduction. This information is also included in the Bird of the Month.
MAKE A DIFFERENCE IN OUR COMMUNITY: VOLUNTEER WITH AUDUBON EVERGLADES

BY SCOTT ZUCKER

Become actively involved in AE and support our mission to inspire and educate others to conserve wildlife and the environment. Help ensure that future generations can enjoy all the wonders that nature has to offer! We have plenty of volunteer opportunities and are sure to have a place where you can make a difference. If you have a special interest or talent or simply want to give to the community as an Audubon Everglades volunteer, please check this list of volunteer opportunities.

If your interest area is not listed but you would like to volunteer, get in touch with us by contacting us at info@auduboneverglades.org.

CURRENT VOLUNTEER OPENINGS

Plants for Birds Garden Stewards
Volunteer gardeners or plant lovers are needed to help once a week or so for a few hours in the Audubon Everglades Plants for Birds Teaching Garden at FAU Pine Jog Educational Environmental Center in West Palm Beach. Tasks may involve weeding, pruning, plant identification, watering, transplanting, and mulching to help the garden thrive. Training will be provided. If you are interested, please contact Lauren Butcher at lauren@auduboneverglades.org.

Purple Martin Stewards
Volunteers are needed to support our ten Palm Beach County Purple Martin partner locations by assisting with public outreach, education, housing, etc. No previous knowledge of Purple Martins is required. All that is required is a desire to learn and a passion to make a positive change for Purple Martin conservation. Shelly Rozenberg, our Purple Martin Project Coordinator, guarantees that volunteers will fall in love with these unique and social birds! Please contact Shelly at shellyrozenberg@bellsouth.net.

Community Outreach
Assist with other volunteers in staffing the Audubon Everglades Display booth at local events and festivals. Have fun interacting with the public while providing valuable education about birds and the environment. Experience or prior training is not necessary, and all materials/information are provided. Please contact us at info@auduboneverglades.org for more information.
Audubon Everglades is pleased to announce our newest Purple Martin collaborative partner, Lion Country Safari! Lion Country Safari’s relationship with Purple Martins dates back to 2006 when they installed their first twelve gourds. After three seasons trying to attract Purple Martins, they finally took up residency and each year the park adds additional housing to accommodate a growing population. Located near a busy walking path, guests can observe the birds up close and read about them on educational signage.

In 2017, twelve gourds were installed at the Rhinoceros and Zebra section to not only increase Purple Martin breeding, but to help mitigate the insect population around this facility. Flies and other insects cause problems to Rhinos’ eyes and unfortunately, Rhinos attract a lot of flies. Purple Martins are aerial insectivores (they feed by capturing insects while flying) so they were the perfect remedy and occupied this section the first year!

Today, Lion Country has 120 Purple Martin gourds and there are plans underway to expand to other prime locations in the park. We are impressed by their commitment to Purple Martin conservation and also their dedication to providing suitable habitats to all wildlife by restoring wetlands and providing nesting for other native species including Wood Ducks and bats. They are ambassadors to injured and non-releasable native Brown Pelicans and Great Horned Owls. Renowned for their global efforts to help threatened animal species facing extinction, they welcomed two baby White Rhinos this year and coincidentally, one was born on World Rhino Day!

Lion Country Safari joins Audubon Everglades’ ten other collaborative partners committed to making a difference by ensuring the preservation, protection and safety of our beloved Purple Martins. Purple Martins rely on human supplied housing to breed in our region and we are extremely honored to be working with such extraordinary partners to help the Purple Martins thrive in Palm Beach County.

By Shelly Rozenberg

The White Rhinoceros in front of the Purple Martin Gourds is Lissa, a cancer survivor and Lion Country Safari oldest female at 41.

WELCOME LION COUNTRY SAFARI!
Please join us on our December field trips. Most trips are led by volunteer Audubon Everglades leaders. Unless otherwise indicated, they are free and open to the public. When you arrive, we will have our usual sign-in sheet with some additional CDC practices we need to follow.

With safety in mind for all participants and trip leaders at AE sponsored and led field trips during the Covid-19 pandemic, Audubon Everglades recommends that face masks be worn and social distancing be practiced. Audubon Everglades also recommends that you stay home if you have a fever, cough, shortness of breath, fatigue, muscle aches, or new loss of taste or smell. Audubon Everglades Field trip leaders reserve the right to refuse those who exhibit these symptoms.

Please see our Calendar for more trip details and updates.

**JANUARY 2022**

1/2 Christmas Bird Count  
*Field Guide: Chuck Weber*

1/8 Pine Glades Natural Area  
*Field Guide: Dr. Mark Cook*

1/9 Indian Trails Improvement Area  
*Field Guide: Ranger Booth*

1/13/2022 - 1/17/2022 Everglades Birding Festival  
*Key Note Speaker: Richard Crossley/Field Guide: Paddy Cunningham, David Simpson, Jeff Kietzmann.*

1/14 Wakodahatchee Wetlands  
*Field Guide: Valerie Brauer*

1/15 A1 FEB  
*Field Guide: Bob Hartman*

1/15 Wellington Environmental Preserve  
*Field Guide: Mary Dunning*

1/15 Lakeside STA Photography Birding Trip from EAA tour  
*Field Guide: Martin County Audubon*

1/16 Lake Okeechobee: Herbert Hoover Dike and EAA tour  
*Field Guide: Dr. Paul Grey*

1/19 Jonathan Dickinson State Park Scrub Jay Walk  
*Field Guide: Jim Howe*

1/22 STA 5/6 Hendry-Glades  
*Field Guide: TBD*

1/23 STA 1 E  
*Field Guide: Brian Garrett*

1/23 Green Cay Wetlands  
*Field Guide: Valerie Brauer*

1/29 Grassy Waters Preserves: Behind the scenes  
*Field Guide: Scott Zucker & Cindy Bush*

**FEBRUARY 2022**

2/5 Wakodahatchee Wetlands  
*Field Guide: Valerie Brauer*

2/12 Wellington Environmental Nature Preserve  
*Field Guide: Scott Zucker*

2/13 Indian Trails Improvement Area  
*Field Guide: Ranger Booth*

2/13 Green Cay Wetlands  
*Field Guide: Valerie Brauer*

2/19 STA STA 1E  
*Field Guide: Kenny Miller*

2/20 STA 5/6 Hendry-Glades  
*Field Guide: Bob Hartmann*

**MARCH 2022**

3/4 Green Cay Wetlands  
*Field Guide: Valerie Brauer*

3/5 STA 5/6 Hendry-Glades  
*Field Guide: TBD*

3/6 Birding Class: Ascend to Be a Better Birder  
*Field Guide: Paddy Cunningham*

3/13 Indian Trails Improvement Area  
*Field Guide: Ranger Booth*

3/16 Jonathan Dickinson State Park Scrub Jay Walk  
*Field Guide: Jim Howe*

3/18 Wakodahatchee Wetlands  
*Field Guide: Valerie Brauer*

3/19 STA 1 West Expansion  
*Field Guide: Brian Garrett*

3/20 STA 2  
*Field Guide: Bruce Pickholtz*
After a year hiatus, the West Palm Beach Christmas Bird Count resumes Sunday, January 2. The CBC, since its beginning in 1900, has become a holiday season tradition. National Audubon calls it “the nation’s longest running community science bird project.” Conducting the West Palm count since 1956, we are able to see long-term trends in our local bird species, both positive and negative.

Each count takes place in an established 15-mile diameter circle, divided up into territories and assigned to count teams. Our West Palm circle stretches from West Palm Beach to Delray Beach, and includes a portion of the coastline, as well as a small part of Loxahatchee National Wildlife Refuge. The counters are seasoned, skilled birders, as well as those with less experience, who usually help by keeping the lists.

2019 saw the second highest number of participants in the history of our local count -- 120. Our counters logged a very respectable 149 species. We also made important inroads gaining access to more gated communities within our circle with good bird habitat.

Following the January 2 count, we’ll conduct our compilation via Zoom the same evening at 7:30. If you feel you can help the effort, counting or accessing your community, contact compiler Chuck Weber at cweber4aves@comcast.net.

Here are National Audubon’s COVID protocols: https://www.audubon.org/news/christmas-bird-count-compiler-announcements

Here’s a map of all count circles -- you can zoom in to find and explore our circle: https://audubon.maps.arcgis.com/apps/View/index.html?appid=ac275eeb01434cedb1c5dcd0fd3fc7b4
Mark Cook’s presentation will discuss some of the incredible ecological responses that occurred in 2021 as a result of the flows that returned to the southern Everglades and Florida Bay. He will first discuss the exceptional wading bird nesting year across the Everglades, why it happened, and the relevance of these responses to wading bird conservation and restoration. He will then take you on a visual journey with a selection of photos/videos taken during his scientific aerial surveys: the return of massive flocks of foraging water birds, huge nesting colonies of storks and ibises, and an abundance of healthy predators set within expansive watery landscapes.

Dr. Mark Cook is a British born avian ecologist and restoration scientist who has studied bird behavior and conservation ecology for over 23 years. Mark has a BSc Honors degree in Marine Zoology from the University of Bangor, Wales, an MSc in Ecology from Durham University, England, and he received his PhD from Glasgow University, Scotland, where he specialized on life-history and breeding strategies of arctic seabirds. After his PhD he spent four years as a post-doctoral researcher at the University of California, Berkeley studying breeding strategies of Neotropical passerines. His scientific research has broadly investigated the ecology and evolution of bird behavior and how it relates to environmental conditions. This has involved studying species as diverse as wading birds and waterfowl in the Everglades, songbirds in the rainforests of Puerto Rico and Spain, parakeets in the Llanos of Venezuela, seabirds (guillemots and puffins) on uninhabited islands off Scotland and northern California, and general conservation work in Tanzania.

Mark is currently the Section Leader of the Systemwide Everglades Research Group in the Applied Sciences Bureau of the South Florida Water Management District. Here he is responsible for leading a multidisciplinary team of scientists and providing the scientific foundation for the management and restoration of freshwater flows to the Everglades and Florida Bay. For the past 16 years, Mark’s research has focused on the restoration and management of birds and aquatic fauna in the Everglades and Florida Bay. It involves understanding the relationships among avian reproduction (storks, herons, ibises and spoonbills), aquatic prey availability (fish, crayfish and apple snails) and wetland hydrologic conditions, as well as the potential impacts of non-native plant and animal species. His latest research also investigates the role of wildlife in wetland nutrient cycling. Mark has published over 50 manuscripts, book chapters and reports on the ecology of birds, fishes, crayfish and the effects of non-native animal species. He is the editor of the widely reported annual South Florida Wading Bird Report.

Mark is involved in multiple professional and technical advisory committees. For example, he is an active member of the Florida Flamingo and Wood Stork working groups where he helps guide the management and conservation of these rare species. He is also the lead scientist and research coordinator for the wildlife research program at the Loxahatchee Impoundment Landscape Assessment (LILA) facility, a 30-ha physical model system of the Everglades used for multidisciplinary studies of its ecology.

As Mark’s career developed, he began to see the critical importance of visual communication, especially photography, in his work. What initially started as documentary evidence to support his scientific work soon blossomed into an artistic passion to highlight the wonder and beauty of the swamp. With his unique understanding of animal ecology and behavior, and with access to some of the wildest corners of South Florida, Mark uses his photography and other forms of communication to educate and inspire a much greater appreciation of our natural heritage to encourage its conservation. His scientific images have been published in newspapers, magazines and scientific journals. He has exhibited at galleries, and has won awards in international competitions. Mark regularly communicates his scientific work and images to the public through workshops, presentations, and media events.

JANUARY FEATURED SPEAKER
WHEN THE FLOW RETURNED TO THE RIVER OF GRASS
2020-21 Wading Birds Nesting Season in the Everglades

Mark Cook

Dr. Mark Cook
• Zoom Hosted Presentation
• Tuesday, January 4, 2022 at 7PM
• 6:45-7:00 PM Social time with fellow members

CLICK HERE TO REGISTER.
Florida has been a great place to live for over 10,000 years. With a cooler climate and roaming mastodons, Florida used to be much different place. Learn about how Florida's first people survived and thrived in this environment by counting on a paleo-diet (before it was all the rage), and how archaeological evidence helps tell the story of this long ago past.

**Everglades Photography - Clyde Butcher**

An Evening with Acclaimed Photographer Clyde Butcher.

Tuesday March 8, 2022
7pm - 9pm

[Register here!](#)

**Snail Kite Conservation**

Tyler Beck, Snail Kite Coordinator, Florida Wildlife Commission presents on the status of Snail Kites.

Tuesday April 5, 2022
7pm - 9pm

[Register here!](#)

**Illegal Trapping of Songbirds**

Captain Jay Marvin of Florida Wildlife Commission Law Enforcement talks about efforts to stop illegal trapping of songbirds.

Tuesday May 3, 2022
7pm - 9pm

[Register here!](#)
**PLANT OF THE MONTH:**

Oaks (*Quercus* spp.)  
- BY HELEN LAURENCE

In their beautiful, useful book, "Attracting Birds to South Florida Gardens," Kushlan & Hines write, "If there is space in a yard, live oak is the single best bird plant in South Florida. Stout branches, dense leaves, fissured bark, pollen, acorns, and epiphytes all translate into protection and food" (p.219).

"The number one overall bird plant in South Florida..." (p. 218)!

The single best! The number one overall bird plant in South Florida! Not every yard can accommodate the Live Oak tree, but there's hope even for a modest-sized yard. According to the Atlas of Florida Plants maintained by the University of South Florida's Institute for Systematic Botany ([https://florida.plantatlas.usf.edu/](https://florida.plantatlas.usf.edu/)), there are 26 species of native oaks in Florida. Of these, 10 species have been "vouched" (that is, observed and officially documented as occurring in the wild) in South Florida, and several of these never grow as big as a Live Oak. All provide significant food and cover for wildlife.

Please refer to the following chart to help you choose the right oak for your space.

<table>
<thead>
<tr>
<th>Common name</th>
<th>Scientific name</th>
<th>Hardiness zone (PBC=10b)</th>
<th>Typical height in feet</th>
<th>Habitat</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAPMAN'S OAK</td>
<td><em>Q. chapmanii</em></td>
<td>9b-10a</td>
<td>15-25</td>
<td>Scrub, scrubby flatwoods and xeric hammocks</td>
<td>Species of Conservation Concern, Morton p.92</td>
</tr>
<tr>
<td>SAND LIVE OAK</td>
<td><em>Q. geminata</em></td>
<td>9b-10a</td>
<td>20-40</td>
<td>Scrub and scrubby flatwoods</td>
<td></td>
</tr>
<tr>
<td>SCRUB OAK</td>
<td><em>Q. inopina</em></td>
<td>9</td>
<td>9</td>
<td>FL endemic, Scrubby flatwoods; vouched as far south as Martin C.</td>
<td>Species of Conservation Concern, Morton p.134</td>
</tr>
<tr>
<td>TURKEY OAK</td>
<td><em>Q. laevis</em></td>
<td>8-10</td>
<td>40-70</td>
<td>Scrub and scrubby flatwoods</td>
<td></td>
</tr>
<tr>
<td>LAUREL OAK</td>
<td><em>Q. laurifolia</em></td>
<td>8a-10b</td>
<td>30-50</td>
<td>Hydric hammocks</td>
<td></td>
</tr>
<tr>
<td>DWARF LIVE OAK</td>
<td><em>Q. minima</em></td>
<td>8</td>
<td>½-1½</td>
<td>Sandhills</td>
<td></td>
</tr>
<tr>
<td>MYRTLE OAK</td>
<td><em>Q. myrtifolia</em></td>
<td>8-10</td>
<td>15-30</td>
<td>Scrubby flatwoods</td>
<td></td>
</tr>
<tr>
<td>WATER OAK</td>
<td><em>Q. nigra</em></td>
<td>8-9</td>
<td>15-30</td>
<td>Hydric hammocks</td>
<td></td>
</tr>
<tr>
<td>RUNNING OAK</td>
<td><em>Q. pumila</em></td>
<td>8-9</td>
<td>3-6</td>
<td>Pine rocklands, mesic flatwoods, scrubby flatwoods</td>
<td></td>
</tr>
<tr>
<td>LIVE OAK</td>
<td><em>Q. virginiana</em></td>
<td>8a-11</td>
<td>30-50</td>
<td>Mesic and prairie hammocks</td>
<td></td>
</tr>
</tbody>
</table>

Doug Tallamy is a professor in the Department of Entomology and Wildlife Ecology at the University of Delaware, and a native plant guru. In his previous books, he sang the praises of oaks, but now, thanks to his own and his graduate students’ research, he has such overwhelming scientific evidence of the importance of the oak genus that his new book is devoted entirely to this “keystone” plant and the critical ecosystem services it provides.

He notes that most songbirds are entirely insectivorous, especially during nesting season, and about 75% of the insect food required by birds is produced by just a few plant genera. In most U.S. counties, oaks, cherries, willows, birches, hickories, pines, and maples are producing the vast numbers and types of insects that support animal populations... Oaks are top life-support trees in 84% of the counties in North America, which is just about every county in which they occur... No other tree genus supports so much life” (pp. 38-39).

We have all heard the term “insect apocalypse,” referring to significant declines in numbers of insects worldwide due to habitat loss, climate change, and pesticide overuse. Bird declines follow insect declines. The numbers are staggering. Nearly 30% of all North American birds have disappeared in the last 50 years. This translates to 3 billion birds. [link]. If we think of insects as food for birds, “we can start to appreciate the ecological significance of insect declines and why we must reverse them.” (Tallamy, p.34)

How can we do this? Tallamy cites the work of his graduate student Desiree Naranjo, concluding that “we can support breeding bird populations indefinitely as long as at least 70% of the plants in our yards are productive native species” such as oak trees, supporting the insect populations that feed the birds (p.76).

By far the most common oak species in South Florida is Live Oak; however, as noted above there are several smaller oaks associated with scrubby, sandy habitats in our area. These include Myrtle Oak, Chapman's Oak and, of particular interest, Scrub Oak and Sand Live Oak, which are the preferred food of the imperiled Florida Scrub-Jay. At Archbold Biological Station, over 50 years of Scrub-Jay research has revealed that the loss of scrub habitat has created severe fragmentation, “leav(ing) jay sub-populations isolated and living on disconnected ‘islands’ of scrub. Florida Scrub-Jays and other wildlife dependent on the Florida scrub require connectivity among public and private conservation lands” [link]. Could our yards be those “private conservation lands?” As Shelly Rozenberg noted in the December 2021 Kite, “Florida Scrub-Jays live exclusively in Florida and are reliant on the oak scrub habitat. Unfortunately, the Scrub-Jay’s population has declined by 90% in the last century... Continued conservation efforts will determine the future of the magnificent Florida Scrub-Jays and other plants and animals dependent on the threatened Florida scrub habitat.” Such conservation efforts might replicate the success of Project Acorn, a public-private partnership between the Florida Fish and Wildlife Conservation Commission, the Disney Worldwide Conservation Fund, and local volunteers, who worked to restore the Lake Wales Ridge Wildlife and Environment Area. They collected acorns from surviving oak populations, propagated them, and planted the seedlings back in the Scrub Oak habitat. [link].

As individuals, we can contribute to these conservation efforts by planting Scrub Oak and Sand Live Oak trees in our appropriately scrubby yards, which include nearly all properties located along the I-95 corridor. Scrub-Jays are considered to have been extirpated in Palm Beach County, but a small population is hanging on just north of the border with Martin County at Jonathan Dickinson State Park. If enough Scrub and Sand Live Oak is planted by enough homeowners, we could begin to reverse that fragmentation, perhaps creating another success story like that of the Coontie plant and the Atala butterfly, both of which came back from the brink of extinction and now thrive throughout South Florida. This is what hope looks like!

Scrub Oak and Sand Live Oak may be available at local native plant nurseries, or, if not, native nursery owners or landscapers may be able to find them for you. You can also search for availability of plant stock at [link]. To create your own scrub landscape, see this excellent plant list: [link].

Helen Laurence is a regular contributor to Audubon Everglades. A Master Gardner who loves plants, birds, and butterflies, Helen has a lavish native plant garden on her five acre property bustling with birds and butterflies. Helen also volunteers at our recently established Educational Native Plant Demonstration Garden at Pine Jog Educational Environmental Center.