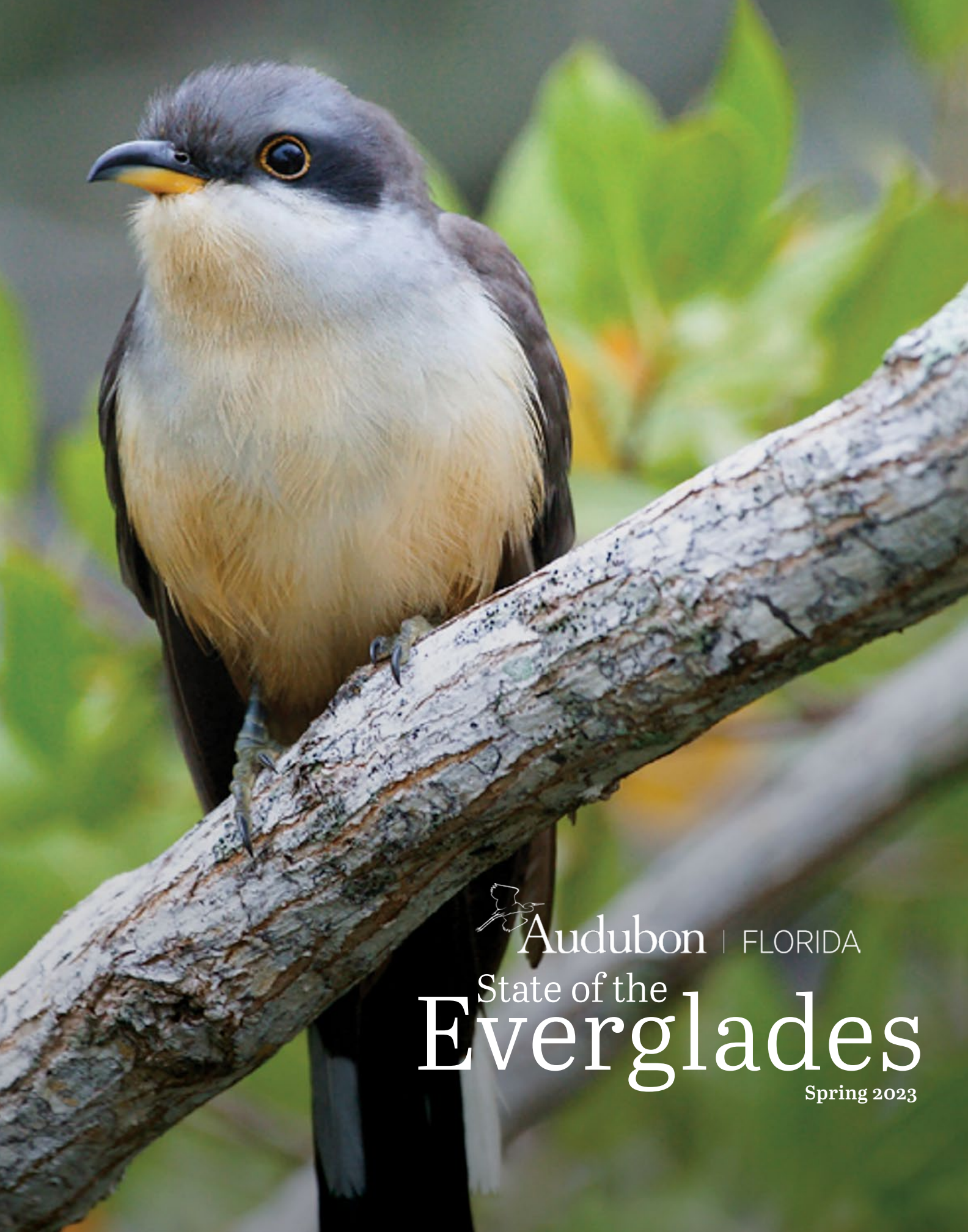


Audubon | FLORIDA

State of the Everglades

Spring 2023

Roseate Spoonbill.
Photo: Trena Thompson

It's been a whirlwind few months here in South Florida, from the Everglades Coalition conference and Secretary of the Interior Deb Haaland's visit (pg. 3), to the groundbreaking of the EAA Reservoir (see article on right), and so many other projects. It seems like every day we have cause to celebrate progress in restoring the River of Grass. However, obstacles remain on the horizon. The proposed delisting of the Wood Stork under the Endangered Species Act could have disastrous consequences for this important wading bird and all the species that share its wetland habitats. Funding levels are finally high enough to meet the challenge of restoration, but we need sound, common sense land use policy and conservation to maintain these gains and create a future for birds, other wildlife, and people that is bright in the face of a changing climate and increased development pressure. We will need your voice in the coming months as we applaud positive legislation and tackle policy that would harm the unique, beautiful, and imperiled Everglades ecosystem. Sign up for the Advocate newsletter so we can alert you when you can make a difference!

fl.audubon.org/advocate

Sincerely,

Kelly Cox,
Director of
Everglades Policy
kelly.cox@audubon.org

Cover Photo: Mangrove Cuckoo. Photo: Paul Brooke/Audubon Photography Awards

From left to right, Audubon's Paul Gray, former State Senator Joe Negron, sponsor of 2017's SB 10 that advanced EAA reservoir construction, and Audubon's Kelly Cox.

EAA Reservoir Groundbreaking Starts New Era of Everglades Restoration

In late February, the South Florida Water Management District (SFWMD), together with the U.S. Army Corps of Engineers (USACE) celebrated the groundbreaking of the most consequential Everglades restoration project to date, the Everglades Agricultural Area (EAA) Reservoir. This project encompasses both a 6,500-acre-foot wetland that SFWMD is constructing to clean water and a 240,000-acre-foot reservoir that USACE is constructing to store the water.

This project will allow Lake Okeechobee water levels to lower by six inches, an important measure to improve lake health and reduce damaging releases to the northern estuaries — which contributes to harmful algal blooms. Fortunately, the EAA reservoir can reduce these discharges by 55%. It will store 78 billion gallons and send massive amounts of clean water south through the Everglades to rebalance the salinity levels of Florida Bay, recharge the aquifer, and more.

The EAA Reservoir is a Comprehensive Everglades Restoration Project under the Central Everglades Planning Project, the latter of which aims to restore flows to the Central Everglades and Everglades National Park. The treatment wetland — or Stormwater Treatment Area — component is set to be completed this year.

"Audubon was thrilled to attend the groundbreaking for one of the most impactful Everglades restoration projects to date. As the crown jewel of the Comprehensive Everglades Restoration Plan, this reservoir and stormwater treatment area will send billions of gallons of water south, restoring the ecosystems of the Everglades and Florida Bay, all while improving the health of Lake Okeechobee and the northern estuaries."
— Julie Wraithmell, Executive Director, Audubon Florida

Secretary Haaland Visit and Everglades Coalition Conference Showcase Momentum in Everglades Restoration

Audubon Director of Everglades Policy Kelly Cox (left) and Audubon Vice President of Water Conservation Julie Hill-Gabriel (right) meet U.S. Secretary of the Interior Deb Haaland (center) during the annual Everglades Coalition Conference.

The 38th Annual Everglades Coalition Conference celebrated a "Watershed Moment" in late January with a diverse group of stakeholders from state and local government as well as tribal officials, environmental advocates, and students. The conference took place in Coral Springs and included forums with scientists and leaders in Everglades restoration, including Audubon Florida's Director of Everglades Policy Kelly Cox as the conference organizer. Paul Gray, PhD, Everglades Science Coordinator, moderated an important panel on the Northern Everglades, and Brad Cornell, Southwest Florida Policy Associate, participated as a panelist during an intriguing discussion on climate change and wildlife management plans. A real treat was the historical dive into the events and people that have influenced Everglades restoration through the decades with Charles Lee, Director of Advocacy, as keynote speaker during the Saturday breakfast session.

SECRETARY HAALAND TOURS THE EVERGLADES

The conference was rounded out on Saturday evening with a special keynote by Deb Haaland, United States Secretary of the Interior, who highlighted the importance of collaboration, federal investment, and tribal leadership in the restoration planning process. Following the conference, Secretary Haaland joined Audubon staff members Jerry Lorenz, PhD, State Director of Research; Kelly Cox, Director of Everglades Policy; Field Biologist Jon Paul Haydocy; and other stakeholders for an Everglades National Park-led tour of Florida Bay.

More than two dozen attendees boarded boats for the tour of the park, completing the Secretary's first trip to the Everglades. The boats explored the iconic seagrass flats of Florida Bay, rich with tiny invertebrates and small fish, then motored to East Cape Canal (site of groundbreaking restoration work). Participants spotted manatees, dolphins, American White Pelicans, crocodiles, and so much more.

The tour of Everglades National Park demonstrated the importance of ongoing restoration work to bring more water to Florida's River of Grass, the largest continuous stand of sawgrass prairie in North America. As sea level rise stresses the southernmost portion of the ecosystem, restoration must include efforts to improve water quality and prevent seagrass die-offs, all of which will make the region — and Florida as a whole — more resilient to the impacts of hurricanes and other threats.

Secretary Haaland recognized and deeply appreciated the efforts of the Everglades community to restore one of America's most important wetlands. The Everglades is critical not only for the iconic Florida wildlife that call this region home, but also for our own continued prosperity. A healthy Everglades protects our communities from storms, bolsters the economy, and provides drinking water to more than eight million people in South Florida.

Audubon has studied and advocated for the Everglades for 123 years. We appreciated the opportunity to show Secretary Haaland on-the-ground progress on the largest restoration effort in the world, as well as how far we still need to go to forge a resilient future for the region as a whole.

Secretary of the Interior Deb Haaland joined Audubon and other stakeholders for a tour of the Everglades, led by National Park Service staff.

Audubon Shares Findings on Invasive Species and More During Annual Conference

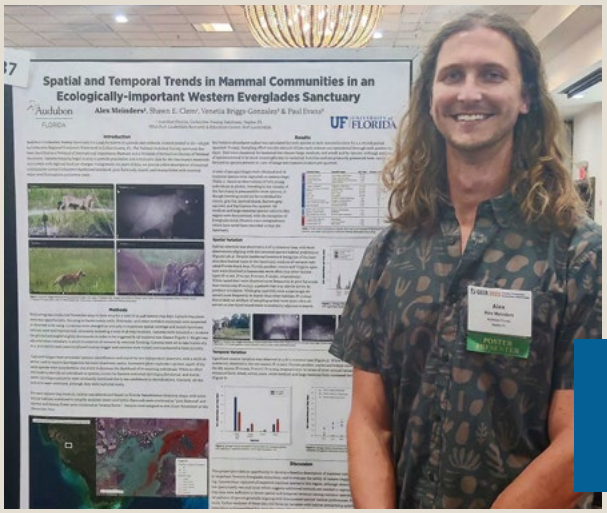
The exciting Greater Everglades Ecosystem Restoration (GEER) Conference was held from April 17 to 20 in Coral Springs this year. This technical forum showcases the latest in ecological research by the best scientists, engineers, and environmental managers working on the largest ecosystem restoration in the world. Scientists presented their research findings and addressed complex challenges for the region, including climate change, sustainable development, and invasive species pressures.

Several Audubon Florida staff presented this year, including Jerry Lorenz, PhD, Director of Research at the Everglades Science Center in Tavernier. Dr. Lorenz discussed how an invasive fish species, the Mayan cichlid, has made survival more difficult for Roseate Spoonbills.

Alexander Blochel, Senior Biologist at Tavernier, explained research on coastal mangrove zones, specifically on the connections between underwater plants and fish communities. Two sessions organized by the Snail Kite Coordinating Committee included Audubon's Everglades Science Coordinator Paul Gray, PhD.

Audubon staff from the Western Everglades Research Center at Corkscrew Swamp Sanctuary also attended, including Director of Research and Interim Conservation Director Shawn Clem, PhD. Dr. Clem moderated a session on how a native-nuisance shrub, coastal plain willow (a.k.a. Carolina willow), is taking over freshwater wetlands across Florida. She highlighted both the challenges and successes of restoring the marsh and wet prairie habitat at the Sanctuary. During this session, Jacob Zetzer, Research Technician, summarized Audubon's ecological monitoring program that is using data to evaluate restoration success and develop best practices.

Audubon staff shared Audubon's most recent research on Everglades ecology during April's GEER conference. L to R: Shawn Clem, Alex Meinders, Jacob Zetzer, Keith Laakkonen, Anna Simmons, Alex Blochel, Emily Johnson, Brian Fedak, Casey King, Jerry Lorenz, Jaime Gilrein, Paul Gray, and Kevin Ramirez.



During the poster session, Dr. Clem and Research Technician Alex Meinders shared their research: *Spatial and Temporal Trends in Mammal Communities in an Ecologically Important Western Everglades Sanctuary*. Mammal population baselines are critical at locations like Corkscrew where invasive pythons have not yet been documented.

Alex Meinders, Research Technician for Corkscrew Swamp Sanctuary, at the poster session.

Florida Executive Order 23-06 Prompts Additional Restoration Investment

At the beginning of the new year, Governor DeSantis released his Executive Order 23-06, Achieving Even More Now for Florida's Environment, an expansion on Executive Order 19-12, released when he first took office. This new executive order secures $3.5 billion for Everglades restoration, water quality, and water supply, setting a target for total state investment at a record-breaking $6.8 billion by the end of his administrations second term. The executive order prioritizes the restoration of one of the most biodiverse estuaries in the country, the Indian River Lagoon, as well as additional investments in resiliency and land conservation across the state through programs like Florida Forever. It also prioritizes expanding the Wastewater Grant Program through the Florida Legislature.

A new executive order will increase investments in the restoration of both the Everglades and Indian River Lagoon. Little Blue Heron. Photo: Camelia Marculescu/ Audubon Photography Awards.

- The executive order outlines specific directives for various state agencies. For the South Florida Water Management District, these include continuing to expedite Comprehensive Everglades Restoration Plan projects, providing progress updates on U.S. Army Corps projects, and implementing the Lake Okeechobee System Operating Manual effectively. In addition, it asks the South Florida Water Management District to ensure meaningful progress on water storage components in the Lake Okeechobee watershed, the EAA Reservoir, and Indian River Lagoon-South Projects.

- Given the state's current battle with red tide on the west coast and the perennial problem of blue-green algal blooms in the northern estuaries, the executive order focuses on reducing these occurrences through initiatives with the Blue-Green Algae Task Force, the Department of Health, Florida Fish and Wildlife Conservation Commission, the Harmful Algal Bloom Task Force, and the red tide emergency grant program.

- Another goal of the executive order is to improve nutrient-impaired waterbodies by updating and strengthening Basin Management Action Plans to meet water quality standards, requiring local governments to expedite high-priority projects, and funding regional projects that will address pollution from nonpoint sources. The Florida Department of Agricultural and Consumer Services will be critical in the latter effort as well as in improving Best Management Practices for agriculture.

- Finally, the executive order also contains an important directive on enhanced coordination by state agencies with local governments to improve comprehensive planning. This is especially valuable in South Florida as we work to protect the Everglades and expedite restoration while balancing the need for continued growth. It has never been more clear that this is necessary, especially in light of all of the new development applications in Miami-Dade County.

High Levels of State Investment in Everglades Restoration and Conservation Result from 2023 Florida Legislative Session

The Florida Legislative Session kicked off in March and wrapped up in May. The final House and Senate budgets underscore the importance of Florida's environment for our continued quality of life. Of the total $117 billion state budget, funding buckets for the Everglades, land conservation, and the Indian River Lagoon were a big focus, with more than $1.6 billion allocated towards water and Everglades restoration (Table 1, below). More than $1 billion has been set aside for conservation.

Significant funding has been appropriated for Everglades restoration in Florida's state budget.

EVERGLADES FUNDING

The budget includes $64 million for the Everglades Agricultural Area Reservoir and more than $350 million for the Comprehensive Everglades Restoration Plan, key pieces of the overall Everglades restoration puzzle.

EVERGLADES	AMOUNT
Restoration Strategies Water Quality Plan	$58,000,000
Comprehensive Everglades Restoration Plan (CERP)	$356,520,477
EAA Reservoir	$64,000,000
Northern Everglades and Estuaries Protection Plan (NEEP)	$86,084,653
Dispersed Water Management (base funding)	$5,000,000
Okeechobee Restoration Agricultural Projects (Florida Dept. of Agriculture)	$5,000,000
Everglades Water Quality Improvements (LOWRP)	$50,000,000
TOTAL	**$624,605,130**

The budget includes $850 million for land acquisition, the largest appropriation for conservation in Florida history, and could result in significant habitat connectivity improvements in Northeast and Southwest Florida.

HISTORIC LAND APPROPRIATION

Of note, in addition to $100 million for Florida Forever and $100 million for the Rural and Family Lands Protection Program, an additional $850 million appropriation appeared in the budget in the final week of the session. These funds are earmarks for habitat conservation in Northeast Florida (the "Ocala to Osceola Corridor" or "O2O") and Southwest Florida (the "Caloosahatchee-Big Cypress Basin").

Of these two regional focuses, the Caloosahatchee-Big Cypress Priority Area encompasses much of the Western Everglades. This project in Hendry and Collier counties will protect and preserve approximately 72,000 acres of conservation and agriculture land and includes an option for easement sellers to lease back acreage for a limited time. Lease terms that are favorable for conservation will be key and remain to be negotiated between sellers and the state. Both of these projects would provide critical linkages for wildlife, recreational opportunities for people, and benefits for water quality and carbon sequestration.

This is the largest appropriation for land conservation in Florida history and presents a remarkable opportunity for progress in these two regions of the state. While these acquisitions may be outside the Florida Forever program, it will be important that the transparency and accountability Floridians have come to expect from conservation land buying are applied to these projects too.

Urban Development Boundary Expansion Halted – For Now – In Miami-Dade County

Since its creation, the Miami-Dade County Urban Development Boundary (UDB) has been threatened by urban sprawl. Audubon has worked with many partners over the years to "Hold the Line" in Miami-Dade County to prevent development into the Everglades.

The Miami-Dade County commission instituted the line in the early 1980s in an effort to limit urban sprawl and protect agriculture and our natural resources.

Of these battles to protect the Everglades from urban sprawl, one application has been particularly troublesome: the South Dade Logistics and Technology District. Originally, the plan for this district would convert 800 acres of farmland currently protected by the UDB in South Dade into an industrial park.

Several commission meetings (including four separate deferrals) and several iterations of the application came and went before the proposal to move the boundary passed on a Commission vote in November of 2022. At this point, the acreage had been narrowed down to 380 acres, but concerns remained — including a lack of a detailed development plan for promised jobs and negative environmental impacts to Biscayne Bay and the vital forthcoming Comprehensive Everglades Restoration Plan project, the Biscayne Bay and Southeastern Everglades Ecosystem Restoration. Despite a Mayoral veto, the Miami-Dade County Commission moved forward with the expansion in mid-November 2022.

However, Audubon Florida orchestrated a strategy to notify the Florida Department of Economic Opportunity (DEO) of missed statutory deadlines in the comprehensive plan amendment process. And, DEO agreed! In January and March 2023, DEO issued letters indicating that the applicant had in fact missed their voting deadline. Now, developers must start the approval process from square one.

While the fight to hold the line is not quite over, we are pleased that our continued efforts to facilitate state intervention, through coordination with the Governor's office and state agencies such as DEP and the SFWMD, has been an effective tool in delaying what would be a poor land-use and planning decision for Everglades restoration.

The Urban Development Boundary creates a buffer of agricultural land between urban areas and the Everglades, preventing sprawl from crowding to the very edges of the River of Grass as it does in other parts of the region. Audubon does not recommend moving this boundary line. Photo: Kenneth Carlson/iStock.

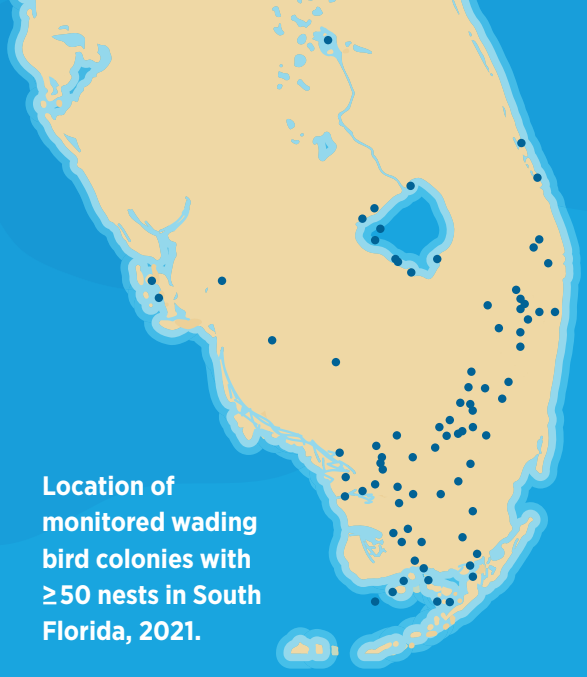
While Wood Storks now live and nest farther north, it is unclear if smaller and newer colonies will survive in the long term. Wood Stork. Photo: Joseph Przybyla /Audubon Photography Awards.

Proposed Wood Stork Delisting Premature for South Florida

On February 14, the U.S. Fish and Wildlife Service (USFWS) announced a new proposal to remove the Wood Stork from the list of endangered and threatened wildlife under the Endangered Species Act. This is the only breeding stork species in the U.S. The USFWS listed the Wood Stork when it faced extinction in the early 1980s, as its numbers decreased from 20,000 nesting pairs in the 1930s to 5,000 in the 1970s. Their breeding population has now doubled since that time and they have spread to other states besides Florida, however, they are still not doing well in their historic breadbasket: the Everglades.

While the Greater Everglades used to be this species' heartland, South Florida's Wood Storks have not yet reached species recovery targets. In many seasons, chicks starve in their nests for lack of food due to loss and degradation of wetland habitat. Storks have recently spread northward however, it's unclear whether these outposts can continue to thrive long-term, especially with the loss of habitat protections that would accompany delisting and the uncertainties posed by climate change.

Audubon Florida detailed its objections to the USFWS' recommendation in an analysis this April, citing data from Audubon and others demonstrating this decision is premature. South Florida's Wood Storks were the anchor of the U.S. population for a very long time, and could still be crucial to the species if the gains of recent years prove short-lived. While we celebrate many delistings, we have grave concerns for the future of the Wood Stork and its habitat, especially if it is left without the protections afforded under the Endangered Species Act.



Location of monitored wading bird colonies with ≥50 nests in South Florida, 2021.

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2021 EVERGLADES WADING BIRD REPORT

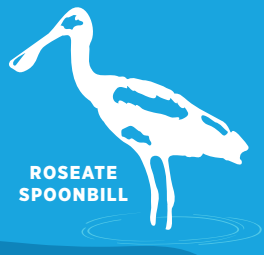
Each year, researchers from nonprofits, agencies, and universities work together to combine wading bird survey results from across the Everglades as a measure of success in restoring the River of Grass.

Wading birds need the right combination of wet and dry conditions throughout the year to breed successfully. A wet summer that promoted an abundance of prey followed by a dry winter and spring resulted in dropping water levels that concentrated prey in shallow pools or other water bodies—the conditions that set most wading birds up for success.

101,794 EVERGLADES WADING BIRD NESTS INITIATED

10-YEAR AVERAGE: ~48,000

2021 is twice the 10-year average, and marks the second-largest Everglades nesting effort in 80 years!



MOST SPECIES experienced increased nesting compared to the 10-year average. For example, **GREAT EGRETS** nested at 1.7x the 10-year average, and **WHITE IBIS** nested at 2.3x the 10-year average.

▲ DOUBLE

ROSEATE SPOONBILL nest numbers were more than double the decadal average.

▲ 152%

Good news! **LITTLE BLUE HERONS** posted numbers 152% higher than their 10-year average.

TRICOLORED HERONS, SNOWY EGRETS, AND LITTLE BLUE HERONS

<10,000 NESTS PER SPECIES ▼

South Florida used to be the heartland for **WOOD STORKS** but today the megacolonies of the past—like the one-time largest in the country at Audubon's Corkscrew Swamp Sanctuary—are a distant memory. Over-drainage, particularly in Southwest Florida, and withdrawals for agriculture and public water supply have altered the region's water levels, reducing food for Wood Storks and increasing their vulnerability to predators.

THESE NUMBERS SHOW US THAT RESTORATION PROJECTS WORK.
AUDUBON CONTINUES TO BE A LEADING VOICE FOR EVERGLADES RESTORATION FOR THE BENEFIT OF BIRDS AND PEOPLE.

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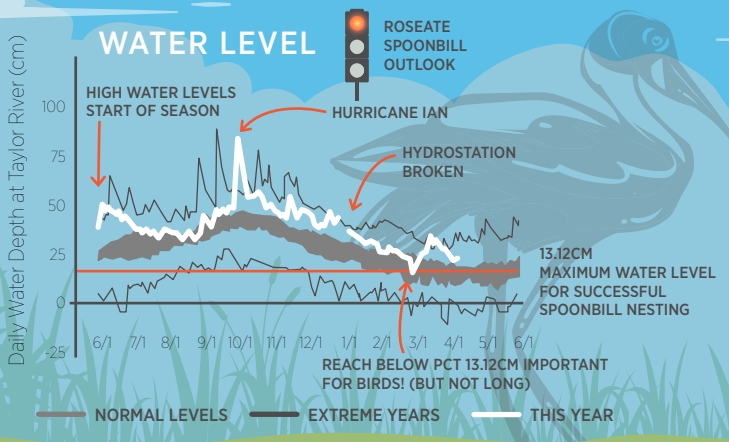
Audubon | FLORIDA STATE OF THE SLOUGH SPRING 2023

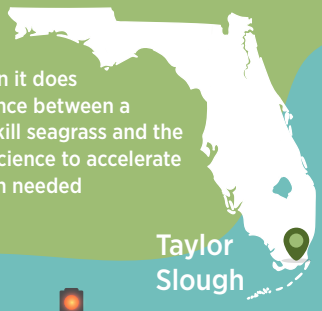
At the southern end of Everglades National Park, a series of sloughs convey freshwater to the Florida Bay estuary. Audubon researchers track these freshwater deliveries (or lack thereof) and their impacts on the ecology of Taylor Slough and the Bay.

WATER LEVEL

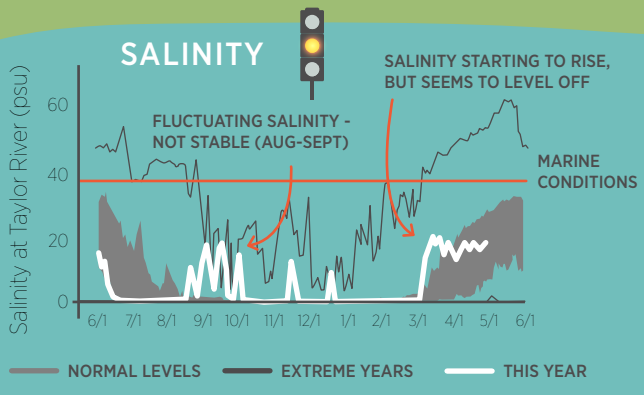


The 2022-23 water year started off in Taylor Slough with record-high water levels in June. In the fall, Hurricane Ian raised the water level in the slough by almost 24 cm (through rain and storm surge). Roseate Spoonbill need water levels of around 13 cm to successfully find enough food to feed their hungry chicks. This only occurred for a short time period during end of February, and this length of time of optimum water levels was probably not long enough for nesting spoonbills to successfully rear their young.

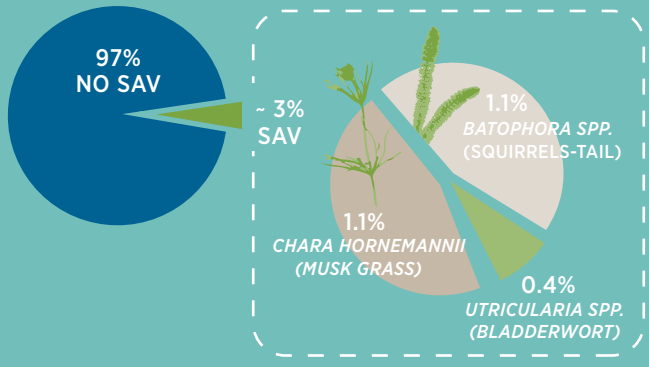
Florida Bay used to receive four times more freshwater from the Everglades ecosystem than it does today. As a result, rainfall makes all the difference between a healthy Bay and a hypersaline one, which can kill seagrass and the species that depend on it. Audubon uses our science to accelerate Everglades restoration projects to deliver much needed freshwater to Florida Bay.



SALINITY



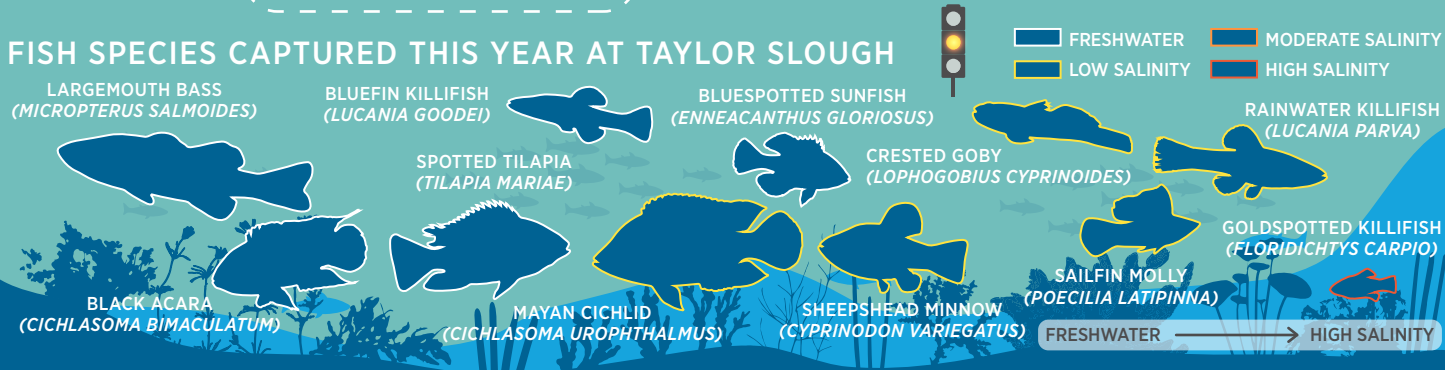
SUBMERGED AQUATIC VEGETATION (SAV) COVERAGE



Historically, Taylor Slough is a freshwater ecosystem. The salinity pulses in July negatively affected freshwater plant and fish communities that are sensitive to salt. The rain from Hurricane Ian returned the slough to a freshwater ecosystem; however, two relatively large spikes in salinity during the dry season still occurred.

The average plant cover for the winter season (November through January) was 3% — a decrease in coverage in comparison to the start of the season. Audubon Florida researchers believe the low level of plant cover resulted from the two severe salinity increases in November and December, which could have destabilized the system and inhibited recover and growth time.

FISH SPECIES CAPTURED THIS YEAR AT TAYLOR SLOUGH



In total, the Audubon team caught 207 fish at Taylor River from October of 2022 through February of 2023. Fish tell us if the ecosystem is healthy, and this season showcases mixed results. Nearly 48% of fish caught were freshwater species, exceeding the healthy target of 40%. However, the low number of fish caught is below expectations.

A long period of low salinity is vital for freshwater plant species like *Utricularia spp.* and *Rupia maritima* to establish, as well as freshwater fish species like Bluefin Killifish, which accounted for 33% of fish caught during this time period. Our data highlight how important it is to keep salinity levels stable over long time periods, increasing freshwater plants and fish species, which in turn increases food resources for wading birds like the Roseate Spoonbill.

Biscayne Bay Coastal Wetlands Celebrate Major Restoration Milestone

On March 21, the South Florida Water Management District (SFWMD), U.S. Army Corps of Engineers, Miami-Dade County, and others broke ground on the final component of the Biscayne Bay Coastal Wetlands initiative. This project aims to rehydrate coastal wetlands, improve water levels and deliveries to Biscayne Bay, build our coastal resilience, recharge our drinking water aquifer, and restore habitat for the bay's diverse fish and wildlife species.

Biscayne Bay is a shallow, estuarine lagoon running the length of Miami-Dade County that supports 500 fish species and hundreds of bird species, including 36 that are endangered or threatened. Historically, fresh water flowed over and through the Miami Rock Ridge and out to Biscayne Bay. Over time, this water flow has been interrupted and reduced. As a result, Biscayne Bay receives little fresh water during the dry season and too much fresh water during the wet season, altering the salinity regime of this once-thriving estuary and causing declining ecological conditions for the bay and Biscayne National Park.

Once complete, the Cutler Wetlands component of this project will rehydrate 1,700 acres of coastal wetlands along the shores of Biscayne Bay.

Audubon's science and policy teams have worked to restore freshwater flows to the wetlands along Biscayne Bay for more than three decades. Our research on indicator species, including the iconic Roseate Spoonbill, tells us whether water conditions are suitable for fish and wildlife. Through our water monitoring, we understand water pathways and the freshwater demands of the ecosystem, while applied science work informs policy efforts and results in good projects — like the Biscayne Bay Coastal Wetlands.

The March groundbreaking marked the beginning of construction of the last phase of this initiative, the Cutler Flow-way Pump Station, which will increase freshwater deliveries to rehydrate coastal wetlands. Kelly Cox, Audubon Florida's Director of Everglades Policy and co-chair of the Everglades Coalition, gave remarks during the groundbreaking celebration: "For years, our advocates, our agencies, our elected officials, and our scientists have called for change. And that's exactly what this project aims to do," Cox said. "It aims to provide needed change for Biscayne Bay, and this effort is not just important for birds and wildlife, but for those of us who live and work here."

All aspects of the Biscayne Bay Coastal Wetlands project are slated for completion by 2025.

American Bittern: Secretive Marsh Birds Make Their Winter Homes at Corkscrew Swamp Sanctuary

American Bitterns are skillful stalkers of still waters. They breed in freshwater wetlands across northern North America and spend winters in Cuba, Mexico, and the southeastern U.S., including at Corkscrew Swamp Sanctuary.

Little is known about the natural history of these secretive marsh birds, but their numbers are declining across their range due to the loss and degradation of wetland habitats. Each winter, eagle-eyed visitors on the boardwalk spot American Bitterns, hidden amidst alligator flags and sawgrass. They stand still, blending in with their environment as they study the water for prey. While they specialize in fish, crayfish, frogs, and other aquatic creatures, they also eat anoles, snakes, and even dragonflies.

By April, American Bitterns embark on their journeys north for the summer breeding season.

Learn more about the amazing migration of bitterns and the challenges they face using Audubon's Bird Migration Explorer tool: explorer.audubon.org

Corkscrew Swamp Sanctuary protects important wetland habitat that American Bitterns need to survive and thrive. Photo: Donald Sawin.

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Sign up to receive Audubon Florida's electronic newsletters and action alerts for opportunities to advocate for Florida and our Everglades.
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