



Audubon | FLORIDA

State of the Everglades

Fall 2024

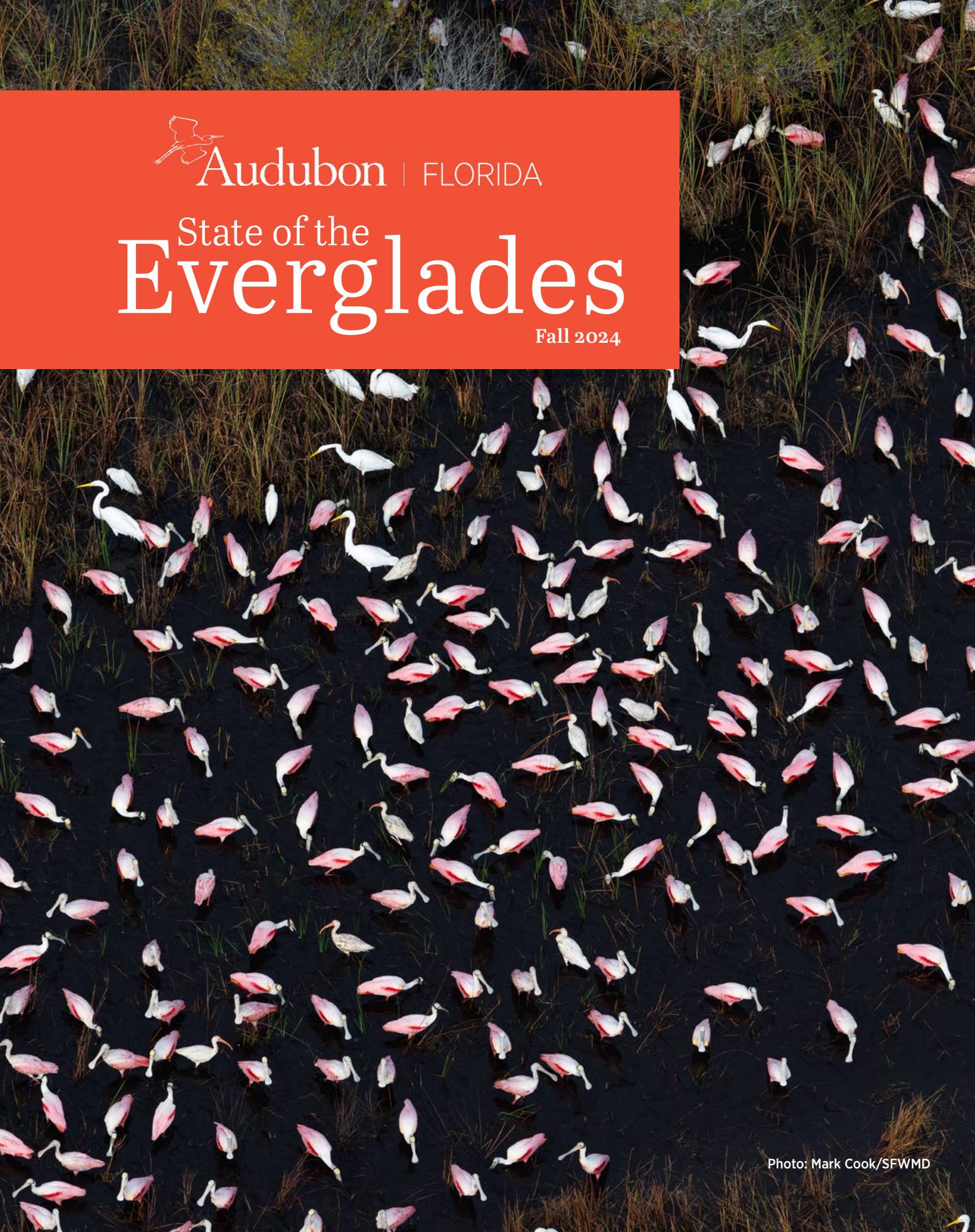


Photo: Mark Cook/SFWMD



Green Heron.
Photo: Marjorie Melnick/
Audubon Photography Awards

Audubon follows birds to a better future for people and the planet. We work to protect birds because we know that the things birds rely on—healthy habitats, clean air, abundant fresh water, resilient coastlines—are the same things that people and other wildlife need to thrive.

We're flocking together to bring more Everglades restoration projects online, to bring new technology to conservation issues, to recover the Cape Sable Seaside Sparrow, and look back at 125 years of Audubon in Florida to prepare for the future. Birds show us that when we work collaboratively and with a sense of purpose, we can create a more resilient future for everyone—after all, this year we released the 1000th Florida Grasshopper Sparrow into the wild as we continue our efforts to bolster their wild populations and conserve their habitat. At Audubon, we are resolved to continue to work for a healthy and sustainable future for the River of Grass.

Sincerely,
Kelly Cox
Director of
Everglades Policy



Photo: Sydney Walsh/Audubon

Western Everglades Restoration Project on the Horizon

America's Everglades is a unique landscape with both incredible biodiversity and economic value. The 644,000-acre Western Everglades Restoration Project (WERP) is essential to restoring the quality, quantity, timing, and distribution of water in Southwest Florida. This December, Congress authorized this project under the Water Resources Development Act of 2024 and Audubon celebrates this important milestone.

Due to development, pollution, and water flow changes, this area has suffered from habitat loss, overdrainage, poor water quality, and catastrophic wildfires for decades. WERP is a priority for both the Seminole and Miccosukee Tribes of Florida and the only Comprehensive Everglades Restoration Plan project with documented benefits for their lands. "We are thrilled to see authorization of this project—a crucial step toward restoring water flow, improving habitats, and protecting imperiled species including Wood Storks and Florida panthers in the Western Everglades," says Southwest Florida Policy Associate Brad Cornell.

The Western Everglades Restoration Project will improve feeding and breeding conditions for many of Florida's iconic species. Wood Stork. Photo: Maxine Roeder/Audubon Photography Awards.





Aerial surveys are a critical part of monitoring wading birds—key indicator species for overall Everglades health. Left photo: Alex Blochel/Audubon Florida; right photo: Christine Lin/Audubon.

Audubon Takes to the Skies to Monitor Wading Birds

On a chilly February morning, Audubon Biologist Jacob Zetzer prepares for aerial surveys of Wood Storks and other wading birds at nesting sites across Southwest Florida. Meanwhile, 150 miles away, biologists Alex Blochel and Kevin Ramirez board a helicopter to monitor water quality stations critical for guiding policy decisions that impact Roseate Spoonbills' nesting success.

Zetzer's monthly surveys from December to June are vital for assessing Wood Stork nesting success, providing data on species presence, nest counts, egg stages, and chick development. Corkscrew Swamp Sanctuary, once home to nearly half of the nation's Wood Storks, has seen a drastic decline in its population due to regional wetland loss and over-drainage. In response, Audubon is working with partners to reverse these effects and has initiated large-scale wetland restoration efforts and reduction of adjacent development impacts.

In addition to aerial surveys, Zetzer uses drone technology to monitor restoration progress, employing GIS and machine learning to analyze plant species, canopy coverage, and foraging birds. This data guides habitat management decisions and contributes to annual reports by the South Florida Water Management District, guiding actions for the federally threatened Wood Stork population.

In the Everglades, Blochel and Ramirez conduct ten helicopter flights a year to maintain 23 water quality monitoring stations—19 accessible only by boat and four requiring helicopters. They assess conditions in areas altered by dredging and channelization, checking equipment performance, monitoring saltwater intrusion, and ensuring data accuracy.

This is especially important as environmental conditions are changing in the Everglades. Changes in salinity and water depth are pushing Roseate Spoonbills to nest outside their historical range in Florida Bay. Increased salinity and deeper waters hinder their foraging efficiency, threatening the health of their chicks. Audubon biologists are recording more instances of these unfavorable conditions due to channelization and rising sea levels.

To combat these challenges, Audubon continues to develop innovative strategies for understanding how climate change and development impact Florida's birds. Our data informs policies aimed at protecting vulnerable species like Wood Storks and Roseate Spoonbills, ensuring their survival for future generations.



Family Ranch Adds New Crop to Their Portfolio: Wetlands!

Dispersed water management projects work with nature to store and clean water. Photo: Danielle Ivey/Audubon Florida.

In September, the South Florida Water Management District celebrated the completion of the Partin Family Ranch Project, a dispersed water management (DWM) initiative in Osceola County. DWM projects are a way to work with nature to store and clean water. Instead of building big reservoirs or treatment plants, DWM uses existing lands—like farms, ranches, or wetlands—to temporarily hold water during rainy seasons, allowing water to slowly seep into the ground, filtering out pollution and replenishing aquifers while also creating wildlife habitat.

This 3,000-acre public-private partnership will play a vital role in preventing nutrient-laden runoff from entering Lake Okeechobee. This project will hold 3,100 acre-feet of water. By storing water before it reaches the lake, the project aims to reduce harmful high-water levels while reducing pollutants that threaten this precious ecosystem and the northern estuaries with algal blooms. The goal of this project is to remove 800 pounds of nitrogen and 1,100 pounds of phosphorus by capturing one billion gallons of rainwater and runoff annually.



Audubon’s Wetland Restoration Specialist Danielle Ivey attended the Partin Family Ranch ribbon-cutting ceremony in September.



As central Florida experiences rapid growth, the demand for potable water continues to rise, and DWM can significantly contribute to meeting this need. Furthermore, these projects enhance storm protection and bolster regional resilience. Currently, the region’s watersheds are not meeting the water quality or storage objectives, and DWM offers a promising solution for both problems. Landowners gain a new income stream by helping distribute water more evenly across the landscape. DWM initiatives can restore natural hydrological patterns essential for the health of wetlands and upland habitats, reduce flows of nutrient-enriched runoff, and provide a variety of ecosystem benefits.

Partnerships are crucial for advancing water resource projects. Audubon is at the forefront of leveraging our scientific expertise and credibility to foster these collaborations in central Florida, which includes Orange, Osceola, Polk, Seminole, and southern Lake counties.



Biologists Jacob Zetzer and Alex Meinders collect critical data at Corkscrew Swamp Sanctuary to inform region-wide conservation efforts. Photo: Sydney Walsh/Audubon.

State Developing Ambitious Game Plan for Southwest Florida Watershed Restoration, with Corkscrew Swamp Sanctuary at Its Heart

Launched in 2024, the Corkscrew Watershed Initiative (CWI) is a new collaborative planning study by the South Florida Water Management District dedicated to the conservation and restoration of the Corkscrew Swamp in Southwest Florida, encompassing northern Collier and southern Lee counties. Audubon plays a vital role in this initiative, which aims to protect the region's unique ecosystem, characterized by its wetlands, forests, and diverse wildlife.

Key components of the initiative include habitat restoration, increasing the duration of time that water remains on the landscape, and restoring natural flows of water. A primary focus is identifying projects that will increase the region's resilience to flooding, wildfire, and climate change.

The CWI fosters partnerships among various stakeholders, local communities, and government agencies, emphasizing a collaborative approach to enhance biodiversity, promote ecological resilience, and educate the public on the importance of protecting this vital watershed. The initiative seeks to balance environmental health with community needs and interests, with Shawn Clem, PhD, and other scientists at Audubon's Corkscrew Swamp Sanctuary playing pivotal roles in its progress.

The Big Cypress Basin Board of the South Florida Water Management District (SFWMD) significantly contributes to the CWI by overseeing water resource management, habitat restoration, and conservation efforts in the region. Their involvement includes monitoring water quality, implementing water management practices, and supporting restoration projects that enhance the ecological health of the area.

Audubon's long-term monitoring at Corkscrew Swamp Sanctuary has documented a significant reduction in the duration that water remains on the landscape and an increase in the rate at which water drains from the Sanctuary. These changes have had detrimental effects on the ecosystem—restoring Corkscrew Swamp Sanctuary is one of the best investments we can make in Southwest Florida.

In response, CWI is developing a comprehensive restoration strategy to address these critical issues which will guide restoration investments in Southwest Florida and the Corkscrew Swamp watershed.



“Partnerships are key to protecting and restoring the more than 60,000-acre Corkscrew Regional Ecosystem Watershed. Collaborating with our partners and sharing our cutting-edge science and historical data from the Sanctuary will continue to promote conservation efforts in Southwest Florida.”

— Keith Laakkonen, Corkscrew Swamp Sanctuary Director

New Funding for Everglades Restoration Creates Progress for Birds and People

In September, the Army Corps of Engineers announced three new contract awards to build critical restoration projects that continue the decades-long work to restore America's Everglades. Audubon has worked to protect and restore the Everglades for more than 100 years and is a proud partner and supporter of this work.

These three contract awards advance critical components of Everglades restoration and are partially funded through President Biden's Bipartisan Infrastructure Law funding, which invested a historic \$1.1 billion in the Everglades. These contract awards are a testament to the commitment made by the state and federal governments to expedite Everglades restoration.

New contract awards mean that progress continues on major Everglades restoration projects, helping both birds and South Florida communities. Roseate Spoonbill. Photo: Benjamin Cammarata/Audubon Photography Awards.

The awards are part of the Comprehensive Everglades Restoration Plan (CERP) and include:

- » The Central Everglades Planning Project Everglades Agricultural Area A-2 Reservoir Embankment contract, for construction of a 38-ft high dam, outlets, and spillway in Palm Beach County. (\$2.9 billion)
- » The Broward County Water Preserve Areas (WPA) project, which will reduce water loss from the central Everglades. (\$10.2 million)
- » The Indian River Lagoon South project, to support build out of the C-23/C-24 North Reservoir, home to more than 3,000 species of plants and animals. (\$193 million)

Audubon urges congressional leaders to maintain this high level of Everglades restoration momentum. We thank Congress for passing its bipartisan, biennial Water Resources Development Act (WRDA) of 2024, which includes additional project authorizations for Everglades restoration.

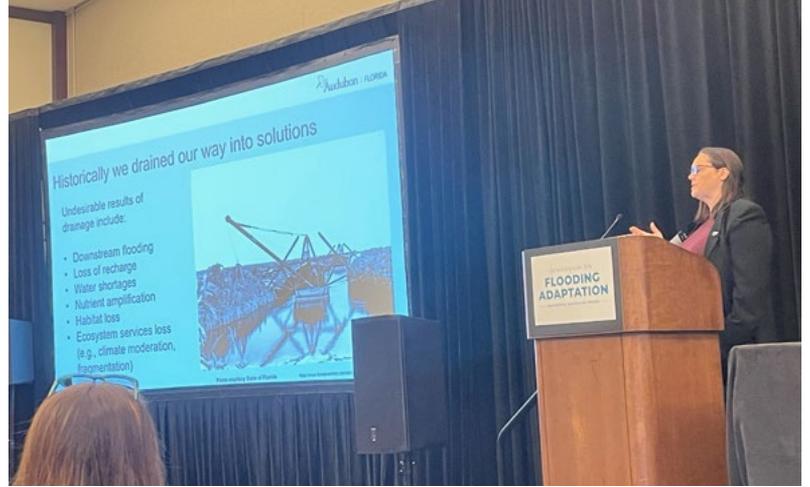
“Audubon applauds the partners who made these contract awards possible, including the South Florida Water Management District and the U.S. Army Corps of Engineers, Jacksonville District. These projects will be major steps forward in our efforts to restore America's Everglades.”
— Caitlin Newcamp, Everglades Policy Associate



Audubon Promotes Wetland Restoration to Help Communities Address Flooding

Audubon Florida Wetland Restoration Specialist Danielle Ivey presented at the University of Florida's Symposium on Flooding Adaptation in October. Her presentation featured Audubon's Wetland Evaluation Tool (WET) and our efforts to drive wetland restoration in the Central Florida Water Initiative Area.

WET is a GIS tool designed to identify scalable projects that mitigate flood risks, improve water quality, enhance recharge, reduce water shortages, create habitats, and improve quality



 Danielle Ivey describes the new wetland evaluation tool. Photo: Paul Gray/Audubon Florida.

of life. The tool pinpoints key areas for wetland restoration and DWM projects that recharge aquifers and manage surface water effectively.

1,000th Grasshopper Sparrow Release

Over the past two decades, the Florida Grasshopper Sparrow has faced a catastrophic decline, dropping from over 1,000 birds in the wild to fewer than 100. However, there's hope on the horizon: The 1,000th captive-bred sparrow has been released back into the wild!

These distinctive birds are found only in the dry prairie ecosystem near the Kissimmee River. In response, federal and state agencies, universities, breeding facilities, and non-profits like Audubon ramped up efforts to improve management practices, enhance research, and establish a conservation breeding program.

On July 16 at Avon Park Air Force Range, the team released the 1,000th Florida Grasshopper Sparrow.

Audubon staff have been vital throughout this reintroduction process, providing technical support to agencies, funding field technicians, and securing resources for ongoing captive breeding efforts. The release of these young sparrows renews our hope for the recovery of this remarkable endemic Florida bird and highlights the importance of continuing support for this critical program.

"This is a hard-won milestone in Florida Grasshopper Sparrow conservation and in dry prairie conservation as a whole," says Paul Gray, PhD, Everglades Science Coordinator for Audubon Florida and charter member of the Florida Grasshopper Sparrow Working Group. "I am immensely proud of our diverse team who, through thick and thin, have come together to achieve this."



Florida Grasshopper Sparrow.
Photo: Tatiana Villante/Audubon
Photography Awards.

How do recent Everglades restoration projects benefit the American Flamingo? We'll show you!

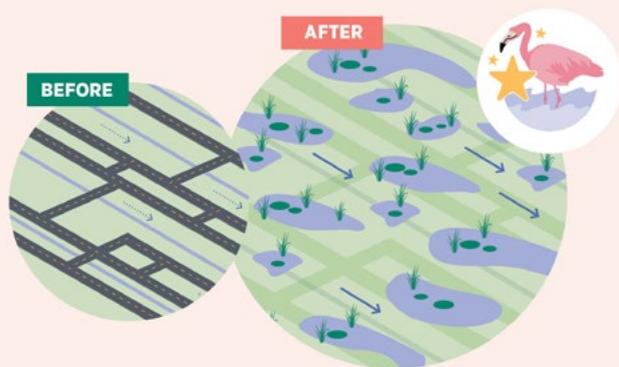
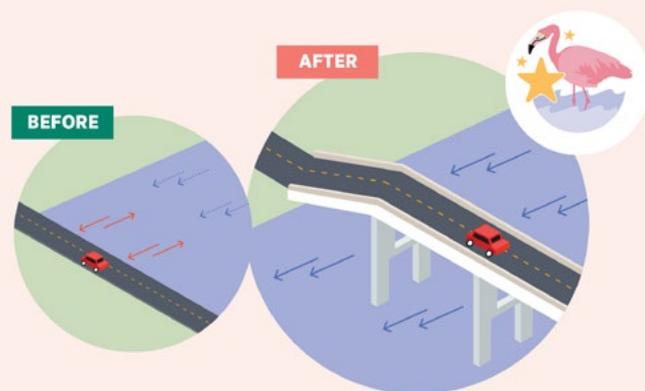
REVERSE ENGINEERING

Everglades restoration is already creating more welcoming conditions for newly arrived American Flamingos, as well as better habitat for long-legged regulars like Wood Storks and Great Egrets. These three projects—slated for completion over the next decade—will help renew the seasonal freshwater flows that are this rich ecosystem's beating heart.



1 HIGH ROAD

Tamiami Trail, completed in 1928, allowed motorists to travel easily between Tampa and Miami. The downside? It also acts as a dam, cutting off the natural flow of freshwater. Since 2008 the U.S. Army Corps of Engineers has been building a series of nine bridges at strategic sites, allowing water to pass beneath traffic and replenish habitat in Everglades National Park to the south. The work is scheduled to wrap up in 2026.

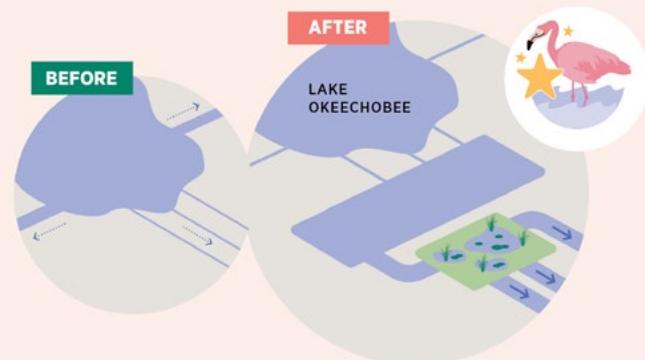


3 SLOW RELEASE

Lake Okeechobee's seasonal overflows long nourished the Everglades. Today that water is shunted to Florida's coasts, carrying pollution that feeds harmful algae blooms. Considered the core of the entire restoration and set for completion in 2029, a vast reservoir and stormwater treatment area will hold water in the rainy season, then gradually release it to create habitat conditions that wading birds need. —*Andy McGlashen*

GHOST TOWN

A satellite view of Southwest Florida reveals a grid of mid-century roads and canals that swindled thousands of would-be retirees into buying swampland while also ruining the region's hydrology. By next year the Army Corps and its state counterpart aim to finish Picayune Strand Restoration, removing roads, plugging canals, and installing pumps to rebuild 55,000 acres of wetlands and restore the flow of fresh water into nearby estuaries.



2024 EVERGLADES RESTORATION: A SNAPSHOT OF COMPREHENSIVE EVERGLADES RESTORATION PLAN PROJECTS AND FUNDING

Everglades restoration is the world's largest ecosystem restoration effort, spanning decades. To stay on track, we must measure progress, celebrate successes, and meet deadlines for funding and implementation.

As 2024 comes to a close, we celebrate significant achievements: The Army Corps of Engineers released an updated Integrated Delivery Schedule (IDS), with 24 projects completed this year and construction underway for 11 more in 2025.

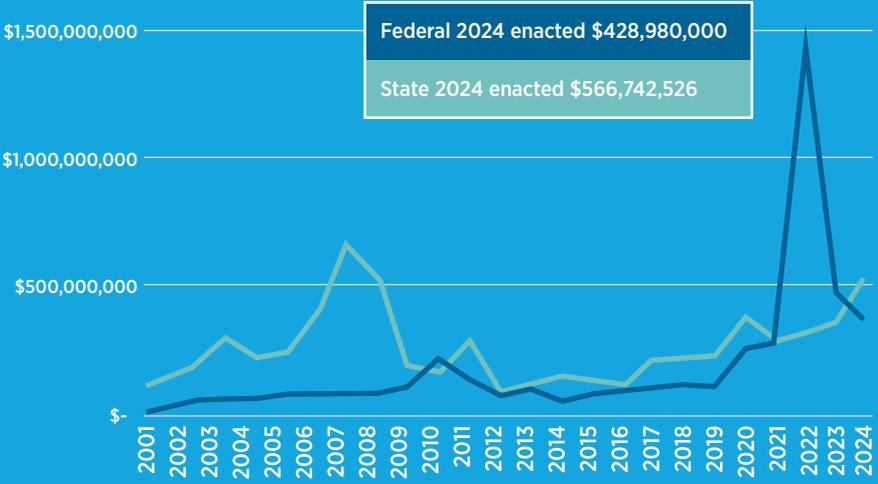


★ Under Construction in FY 2025
○ Completed

- ★ 1 Caloosahatchee River (C-43) West Basin Storage, 44% complete*
- ★ 2 Indian River Lagoon South, 35% complete
- ★ 3 Restoration Strategies, 93% complete
- ★ 4 Everglades Agricultural Area
- ★ 5 CEPP North
- ★ 6 CEPP South
- ★ 7 CEPP New Water
- ★ 8 Tamiami Trail: Western Culverts, 68% complete
- ★ 9 Biscayne Bay Coastal Wetlands Phase 2 in planning, 72% complete
- ★ 10 Broward County Water Preserve Areas, 12% complete
- ★ 11 Picayune Strand Restoration Project, 93% complete

- 12 Lake Worth Lagoon Restoration
- 13 Acme Basin B
- 14 Protect and Enhance Existing Wetlands Systems along Lox (Strazzulla Tract)
- 15 Winsberg Farms Wetlands Restoration
- 16 Site 1 Impoundment with ASR
- 17 Melaleuca Eradication and Other Exotic Plants in Davie
- 18 Lower East Coast Water Conservation
- 19 Change Coastal Wellfield Operations
- 20 C-4 Structures
- 21 Modified Water Deliveries to Everglades National Park
- 22 C-111 South Dade
- 23 C-111 Spreader Canal
- 24 Florida Keys Tidal Restoration

*Percent completion numbers were derived from the US Army Corps of Engineers Civil Works Construction Budget Justification Sheets for FY 2025



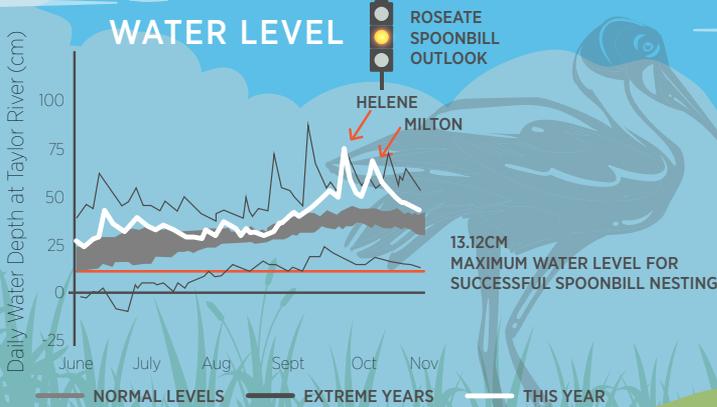
Funding Levels from Both the State of Florida and the Federal Government for Projects within the Comprehensive Everglades Restoration Program*

■ State ■ Federal

*Numbers were derived from the Cross-Cut Budget which is a document produced for the South Florida Ecosystem Restoration Task Force by the U.S. Department of the Interior's Office of Everglades Restoration Initiatives.



At the southern end of Everglades National Park, a series of sloughs convey fresh water 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.

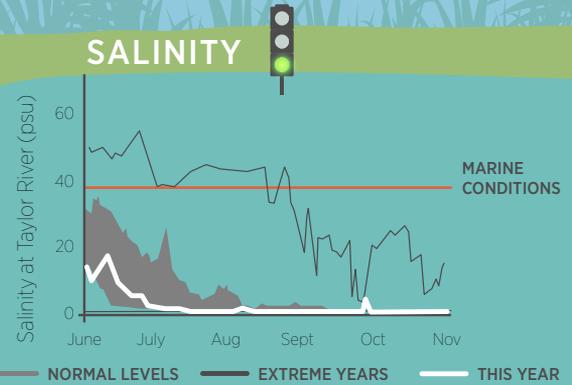


During the 2024-25 season, water levels in Taylor Slough started out high in June, then returned to average levels until September. Heavy rainfall from Hurricanes Helene and Milton briefly raised water levels again. We're hopeful that by the end of January, levels will fall below 13 cm, which is essential for Roseate Spoonbills. These birds rely on concentrated prey for successful feeding, which occurs when water levels are low.

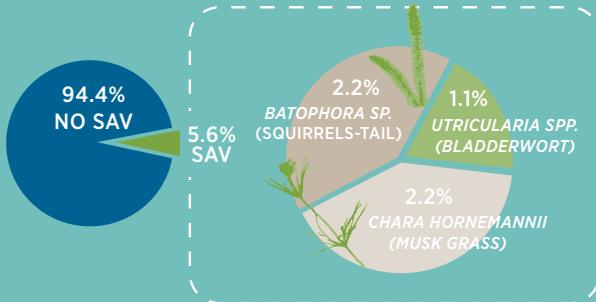
Florida Bay used to receive four times more fresh water from the Everglades ecosystem than it does today. As a result, rainfall makes all the difference between a healthy Bay and a hypersaline one, which can kill seagrass and the species that depend on it. Audubon uses our science to accelerate Everglades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



Taylor Slough



SUBMERGED AQUATIC VEGETATION (SAV) COVERAGE



Historically, Taylor Slough was a freshwater ecosystem. This water year, the Slough saw stable and consistent freshwater flow—a pattern that must continue in the coming years to help the system recover. While a pair of hurricanes with heavy rainfall may have played a role in the low salinity, this positive outcome seems to be partly due to restoration efforts that have increased freshwater flow from upstream sources.

During the 2024 wet season (June–November), plant coverage in this area averaged 5.6%—a slight increase from last year but still very low. Although freshwater flow has been steady this year, plant cover remains sparse. This is likely due to past years of fluctuating salinity, which may have diminished the seed supply in the soil. Consistent freshwater flow or low-salinity conditions over several years will be essential for future plant recovery.

FISH SPECIES CAPTURED THIS YEAR AT TAYLOR SLOUGH



In June and September, Everglades Science Center staff collected 180 fish, of which 15 were freshwater species—8% of the total fish community. While having more than 5% freshwater fish is a positive sign that restoration efforts are working (a "yellow stoplight" on our scale), the area is still facing challenges. Unfortunately, 36% of the fish population is now made up of invasive Mayan cichlids, which prey on native species and disrupt the ecosystem.

Cape Sable Seaside Sparrow Get Influx of Funding - And Hope

Great News! The South Florida Water Management District announced in December that they would provide seed funding for the conservation breeding of the critically endangered Cape Sable Seaside Sparrow.

The Cape Sable Seaside Sparrow was listed as endangered in 1967. It relies on marl prairie habitat, and is non-migratory with an extremely limited range in South Florida. Because the birds require drier conditions for nesting season from February through August,

chronic high-water conditions, especially within the last year, have been disastrous for their population numbers.

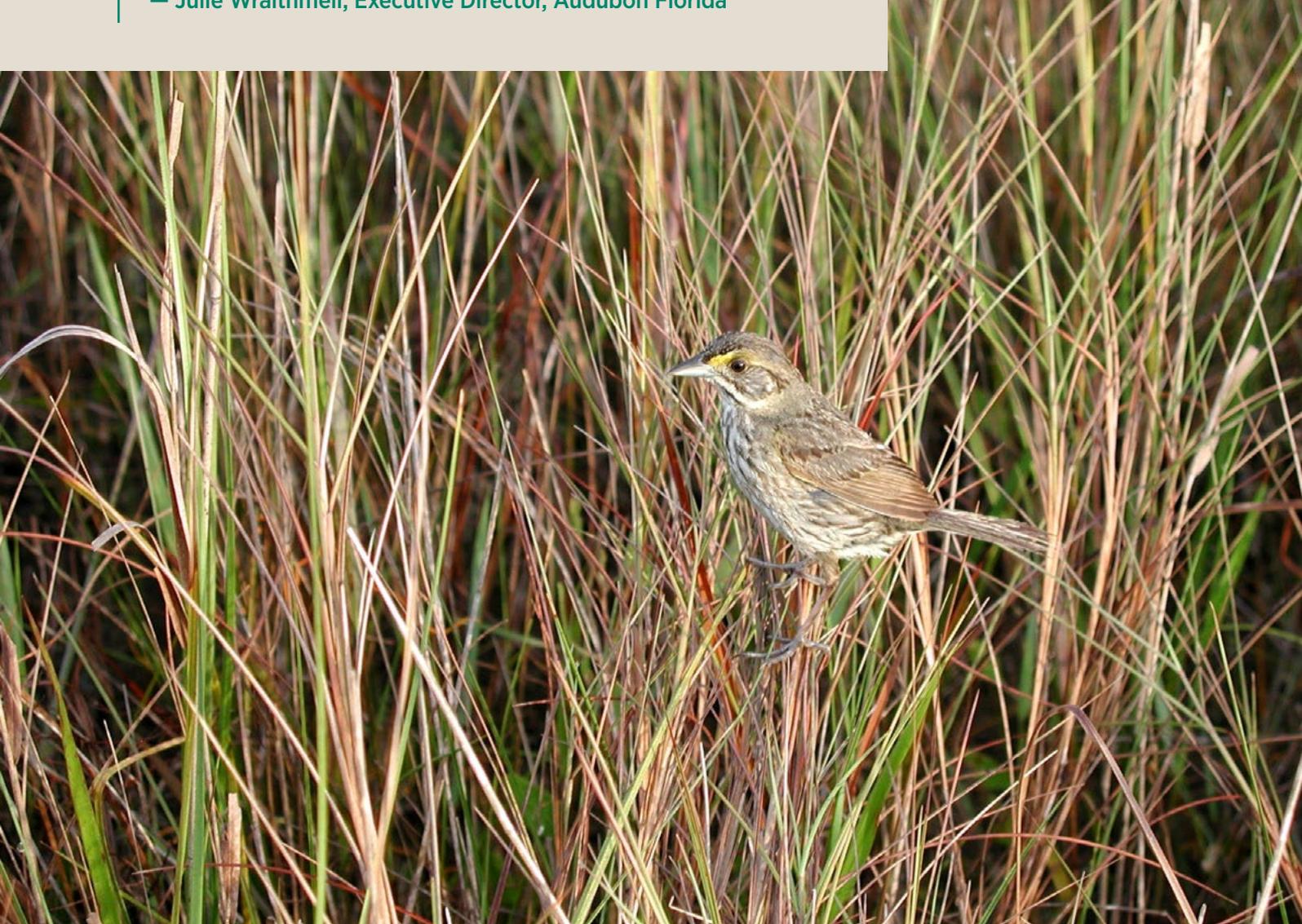
A conservation breeding initiative will help ensure continued survival and resilience of the Cape Sable Seaside Sparrow population and aid in translocation programs if the birds need to move to higher ground. These efforts have proven successful with Florida Grasshopper Sparrows farther north (they just released the 1,000th sparrow this year!).



“This initiative marks a significant step forward in safeguarding the species. Its survival is critical to preserving the biodiversity of the Everglades. This funding underscores the District’s commitment to innovative conservation strategies to protect and restore this iconic bird’s dwindling population.”

— Julie Wraithmell, Executive Director, Audubon Florida

New funding for conservation recovery brings hope to the resiliency of the Cape Sable Seaside Sparrow into the future. Photo: Lori Oberhofer/NPS





125 Years of Audubon

Next year we are celebrating 125 years of Audubon in Florida. Formed to bring wading birds back from the brink of extinction, Audubon has been working for more than a century to protect birds because we know that the things birds rely on—healthy habitats, clean air, abundant fresh water, resilient coastlines—are the same things that people and other wildlife need to thrive.

Birds are symbols and sentinels to measure our success, and they inspire us to work collaboratively and expansively throughout the hemisphere.

In simplest terms, “what’s good for birds is good for the Earth.”



Great Egret. Photo: Nathan Kenn/Audubon Photography Awards



DO YOU WANT TO VISIT THE EVERGLADES?

Head to Audubon’s Corkscrew Swamp Sanctuary. More information at corkscrew.audubon.org/visit

DONATE

Audubon’s efforts depend on you. Learn more about giving by contacting Sarah Sauerland at Sarah.Sauerland@audubon.org

LEARN

Explore everglades conservation and our efforts: fl.audubon.org/conservation/everglades

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