



Audubon | FLORIDA

State of the
Everglades

Spring 2022





Common Gallinule. Photo: David Korte

Momentum is finally flowing into the River of Grass. The federal government has dedicated more than one billion dollars to Everglades restoration, a historic level. Major projects have been completed or broken ground (pg 8), the last piece of the Cape Sable restoration puzzle has finally been funded (pg 3), and new federal legislation could continue the research and monitoring South Florida desperately needs (pg 2). And yet we must remain vigilant. During the 2022 legislative session, a bill was rushed through the process that would have had devastating impacts not only on Everglades water projects, but land conservation in Florida as a whole. You made your voice heard, writing to your elected officials as SB 2508 moved through the legislature. As a result, its most harmful provisions were improved, though not completely fixed. Thank you for supporting our work and defending the Everglades.

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



Cover: Great Egret fledglings clamor for food from their parent. Photo: Charlie Causey



Great Egret sporting its breeding plumage. Photo: Frances Gaines/Audubon Photography Awards

New Federal Bill Would Reauthorize Research and Monitoring Program for South Florida

In March, Senator Marco Rubio and Representative Carlos Gimenez introduced the South Florida Ecosystem Enhancement Act to reauthorize the South Florida Geographic Program (SFGP), an EPA-run program advancing ecological research, monitoring, and education throughout South Florida.

This legislation would benefit South Florida's beaches, coral reefs, bays, and estuaries with an expanded scope to include the Indian River Lagoon National Estuary Program and the Coastal and Heartland National Estuary Partnership. Over the next five years, the bill calls for providing \$50 million annually to the SFGP, which has historically received \$3 to 10 million per year.

"This is a historic investment in the South Florida Geographic Program," said Audubon Florida's Executive Director Julie Wraithmell. "We applaud Senator Rubio and Representative Gimenez for their commitment to reauthorizing this important conservation investment across the South Florida footprint."

Cape Sable's canals have driven harmful erosion of interior marshes and sedimentation of Florida Bay. Finally, Audubon's plan for restoration is coming to fruition. Photo: Alex Blochel/Audubon Florida



Cape Sable Canal Dam Restoration Finally Funded

After decades of overdrainage, or shunting water to the coast instead of letting it flow naturally through the Everglades, the final piece of the Cape Sable restoration puzzle has been funded by the National Coastal Wetland Conservation Grant Program under the U.S. Fish and Wildlife Service. Audubon's long history of research on Florida Bay and Cape Sable first called attention to these accelerating problems and has been steadily prescribing restoration and enlisting support for it — with steady progress — for more than a decade.

Located at the southwestern tip of the Florida peninsula and within Everglades National Park, Cape Sable has been drained by canals since the 1930s. The 15-foot-wide canals were dug through wetlands to make way for agricultural land and development, but later abandoned. After Cape Sable became part of Everglades National Park in 1947, staff plugged the canals with earthen dams in an effort to keep more freshwater on the land. Unfortunately, over the next several decades persistent anglers illegally digging through the dams as well as hurricane overwash repeatedly breached the plugs.

Without the dams firmly in place, the canals grew in size with each tidal cycle. They expanded up to five times their original width and deepened as more water rushed through — from a mere one to two feet to 11 or 12 feet. This enabled salt water to penetrate freshwater marshes, converting wetlands to open marshes, eroding the peat soil, and allowing mud flats to now partially fill the largest lake in the area, Lake Ingraham. The resulting fragile ecosystem thus became particularly vulnerable to climate change and rising seas. In fact, sea levels in the area have increased an alarming five inches since 2000 alone, harming the coasts and freshwater wetlands.

In 2012, the National Park Service installed dams made of metal, concrete, stone, and earth on the two largest canals. Five years later, when Hurricane Irma hit the peninsula, scientists at Audubon's Everglades Science

Center assessed the impact that the storm had on restored wetlands and compared with other areas still unrestored. Their observations revealed a marked difference, with restored wetlands exhibiting enhanced resilience and less damage. The resulting evidence confirms that these restoration efforts not only restore wildlife habitat, but also offer protection against coastal storm damage.

Another canal, named for the Raulerson Brothers who once attempted to farm there, also breached. Though temporarily plugged with sandbags on numerous occasions, these efforts ultimately failed and severe erosion continued. Measurements in December 2021 showed that the canal increased to more than 70 feet wide and 11 feet deep. Now, a collaborative effort led by Audubon Florida's Everglades Science Center, National Audubon Society, the National Park Service, and Ducks Unlimited, with the involvement of federal and state wildlife agencies and past involvement from the Everglades Foundation, will finally plug the Raulerson Brothers canal.

Achieving this milestone will protect against hurricanes by restoring critical marshes and the natural flow of water in the area. Without the completion of remaining restoration efforts like this one, unrestrained tidal exchange will continue to cause erosion and salinization of freshwater wetlands, adversely impacting wildlife and submerged aquatic vegetation in many ways.

Audubon Florida has provided scientific data and monitoring to support this project, while Ducks Unlimited is managing the project construction. The project is estimated to cost between \$5 and \$7 million and is scheduled to begin in the winter of 2022. After a decade of Audubon science and advocacy on this issue, we look forward to finally celebrating the benefits to habitat and wildlife that will result from its completion.

An aerial view from May 2021 shows mulching in progress (brown completed, green to be done) in the North Marsh at Corkscrew Swamp Sanctuary.



The same area as the previous photo in September 2021, after completion of mulching and rehydration by the summer rains.

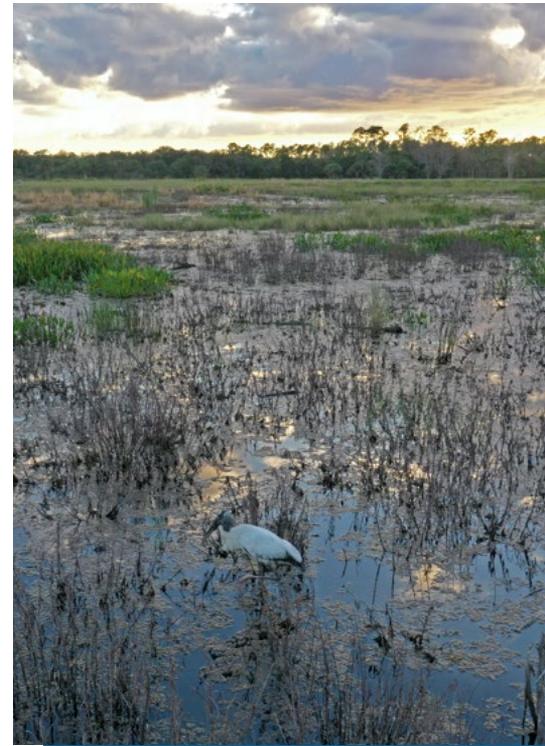
Restoration Progress at Corkscrew Swamp Sanctuary Ebbs and Flows with Water Levels

Audubon has an ambitious goal to restore 1,000 acres of marsh and wet prairie habitat at Corkscrew Swamp Sanctuary by 2023, and we're already seeing extraordinary results from our efforts.

The mosaic of upland and wetlands habitats found in the Sanctuary was once common throughout Southwest Florida, but has been lost to development in many places since the 1950s. What remains, in places like Corkscrew Swamp Sanctuary, is further threatened by degradation, resulting from ditching and draining of the larger watershed.

One mechanism of wetland decline at Corkscrew Swamp Sanctuary has been the invasion of opportunistic native woody shrubs and trees like Carolina willow that have taken advantage of drier conditions. In turn, these willow thickets are resistant to prescribed fire, which can accelerate conversion of the marsh. The resulting habitat loss is harmful to everything from plant diversity to foraging Wood Storks.

Sanctuary staff are hard at work transforming these shrub-dominated landscapes back into highly productive and biologically diverse wetlands. The three-step restoration process includes mechanical shredding of woody shrubs and trees; follow-up treatments with herbicide to encourage the reestablishment of desirable species; and finally, prescribed fire. Drone imagery is improving accuracy as we measure the project's progress and provides a more comprehensive view of the results. We anticipate that this initiative will serve as a model for other land management programs across Florida, including areas with similar infestations in the Corkscrew Regional Ecosystem Watershed (CREW).



The return of species like Wood Storks to this habitat soon after restoration are a measure of its success. Photo: Jacob Zetzer/Audubon Florida

To date, the team has completed Phase 1 mulching, and Phase 2 spot treatment is underway on more than 850 acres, which includes 70 acres that are now under prescribed fire management (Phase 3). In March, Sanctuary staff began preparing for mulching 200 acres this season.

In addition to improving wildlife habitat, restoring these wetlands will reduce wetland water loss and the risk of catastrophic wildfire, providing tremendous benefit to local communities. Because wetlands sequester nutrients that can degrade water quality and provide natural water storage to reduce flooding, the project is a real step to recharge the natural systems fundamental to water quality in Southwest Florida. We look forward to managing Corkscrew Swamp Sanctuary so that our wetlands continue to meet the needs of wildlife and residents, while providing a recreational and spirit-nurturing resource for our 100,000 visitors each year.

Infrastructure Investment and Jobs Act of 2021 and the EAA Reservoir

In November 2021, President Biden signed the bipartisan, \$1.2 trillion Infrastructure Investment and Jobs Act (IIJA) into law. The IIJA includes funding for transportation, environmental infrastructure, disaster response, and more. In January of this year, the White House announced that \$1.1 billion of these funds would go to the Army Corps of Engineers (Corps) in Jacksonville to support their South Florida Ecosystem Restoration Program — the program responsible for implementation and oversight of Everglades restoration in cooperation with the South Florida Water Management District.

Audubon and many others were thrilled to learn of this historic investment in Everglades restoration. Audubon, in cooperation with partners and Florida's Congressional delegation, advocates for increased funding for Everglades restoration to support ongoing projects throughout the Greater Everglades ecosystem. Funding allocated to the Corps' already planned projects under the Comprehensive Everglades Restoration Plan will hasten the completion of Everglades



Snail Kite. Photo: Nancy Elwood/Audubon Photography Awards

restoration. These projects, like the Indian River Lagoon C23/24 Reservoir and the Biscayne Bay Southeastern Ecosystem Restoration project, will improve the hydrology of the region, safeguard drinking water supplies for South Florida, improve water quality, and increase resilience.

The federal funding was certainly a welcomed win. However, several important restoration projects did not receive support, including the Everglades Agricultural Area reservoir project. The EAA reservoir is the single most important project for benefiting multiple parts of the Everglades. When complete, the reservoir will enable clean water to be sent south from Lake Okeechobee to the Everglades, reducing harmful discharges to estuaries in the east and west. Audubon called for additional investment in the EAA reservoir under the general appropriations process.

In March 2022, the Biden Administration announced another record-breaking number for Everglades restoration in the president's budget: \$407 million. If approved by Congress, this funding would primarily support the EAA reservoir. There has been historic bipartisan support of Everglades restoration and we are hopeful that, with the Florida delegation's continued leadership, Congress will meet the call and provide an additional surge of funding for the Everglades.



Double-crested Cormorant. Photo: Diego Ramirez/Audubon Photography Awards



◀ Getting the water right for Lake Okeechobee and its marshes, shown here, requires advocacy for restoration in its watershed to the north. Photo: Paul Gray/Audubon Florida

Northern Everglades and Southwest Florida Projects on Horizon for Restoration

The Lake Okeechobee Watershed Restoration Project (LOWRP) and the Western Everglades Restoration Project are moving forward, with major opportunities for the Everglades and Lake Okeechobee.

The LOWRP is a part of the Comprehensive Everglades Restoration Plan (CERP) and encompasses the 2.6-million-acre watershed located north of Lake Okeechobee. The primary goals of LOWRP are to increase water storage north of Lake Okeechobee by constructing reservoirs, restoring wetlands in the area, and installing underground storage features called Aquifer Storage and Recovery (ASR) wells. This would have the effect of moderating lake level extremes, reducing harmful Lake Okeechobee discharges to the coastal estuaries, sending more water to the Everglades while restoring wildlife habitat and providing opportunities for recreation in the area.

The study began in 2016 and the draft plan was issued this February. Under the proposed plan, wetland restoration under the project would increase from 3,500 acres to 5,900 acres. However, the new plan removes reservoir and stormwater treatment area (STA) storage from the project altogether – eliminating more than 250,000-acre feet of reservoir storage and more than 7,500 acres of STA storage.

The project revision also reduces the number of ASR wells from 200 in the original plan to 55 in the current plan; these wells are used to pump water into the aquifer after treatment to store it beneath the ground until it can be used and distributed during dry periods. Together,

removal of these features and reduction in the number of wells greatly diminished the ability to store and treat water north of the lake.

The current proposed LOWRP plan deviates significantly from the original, but even the revised version will realize benefits for the ecosystem. The Army Corps of Engineers anticipates that the current plan will reduce harmful discharges to the coastal estuaries, improve the ecological conditions on Lake Okeechobee, and will provide additional water supply to users. [Audubon submitted comments](#) supporting the current elements but encouraging the Corps to continue working on viable ways to store more water upstream of the Lake. Only with greatly expanded storage capacity will we realize suitable control over Lake O levels, estuary releases, and sending water back to the Everglades.

The Western Everglades Restoration Project (WERP) is also moving forward after recently receiving federal funding under the bipartisan infrastructure package and is moving forward as a result. WERP encompasses 1,200 square miles of projects across several counties in the western Everglades to restore water flow and improve habitat connectivity. The goal? To connect and rehydrate ecosystems in the area, reduce wildfires, and re-establish a low-nutrient environment for native species to thrive. As this work is reinitiated, Audubon will remain involved to ensure that freshwater flow paths are reestablished throughout the project footprint which will benefit Big Cypress National Preserve, Everglades National Park, and Corkscrew Swamp Sanctuary, as well as Seminole and Miccosukee tribal lands.

Captive Breeding and Reintroduction Delivering Results for Florida Grasshopper Sparrow

As the Florida Grasshopper Sparrow breeding season begins, biologists are optimistic that numbers of birds in the wild will increase, and that captive breeding will continue releasing more birds to bolster wild populations.

The Florida Grasshopper Sparrow is an endemic bird that lives its entire life in the dry prairies of central Florida. Beginning around the year 2000, a population decline dropped sparrow numbers from more than 1,000 to less than 100 by 2019. The Florida Grasshopper Sparrow Working Group, a multi-agency, multidisciplinary group, concluded captive breeding was needed to bolster wild populations while causes for the decline were studied.

To date, about 500 captive-reared sparrows have been released into the wild. The Florida Fish and Wildlife Conservation Commission's Three Lakes Wildlife Management Area had the largest remaining population and has received the most birds. Not only did the released birds survive, but they successfully bred with wild birds, and each other, and the population has

roughly doubled in the past couple of years. About two-thirds of the birds at Three Lakes have at least one captive parent in their lineage.

More good news came with the state's acquisition of the DeLuca Preserve in Osceola County and the Corrigan Ranch in Okeechobee County, both of which are adjacent to the Kissimmee Prairie Preserve. Now in conservation management, these lands have sparrows on them, providing added protection to the population and creating opportunities for research.

The Florida Grasshopper Sparrow is not "out of the woods" yet. Breeding and releases are still experimental and wild populations remain low. But the cooperation and support of so many different entities working effectively to bring these unique birds back is inspirational. Audubon Florida is a charter member of the Grasshopper Sparrow Working Group and has funded technicians and other conservation efforts for the benefit of this species.



◀ With the success of captive-reared Florida Grasshopper Sparrows in the wild, the future is looking brighter for this unique species. Photo: Marianne Korosy/Audubon Florida



Scott Water Farm on left, Stormwater Treatment Area below. Photos: Paul Gray/Audubon Florida



Two Projects Will Improve Water Retention on the Landscape and Reduce Lake O Discharges to St. Lucie Estuary

C-23/24 Stormwater Treatment Area

Florida's coastal estuaries have long been plagued by algae blooms, fueled by stormwater runoff from regional sources and nutrient-rich water from Lake Okeechobee. A critical part of Everglades restoration involves finding places to store and treat this water before it reaches those sensitive estuarine environments. The C23/24 Stormwater Treatment Area does just that.

In a win for Everglades restoration, the South Florida Water Management District broke ground this February on the 2,070-acre C-23/24 Stormwater Treatment Area (STA) that will hold and treat about 4,800 acre-feet of water from the C-23/24 canals and Fort Pierce Farms Basins. It will remove nutrients (phosphorus and nitrogen) and sediments that flow into the St. Lucie Estuary and eventually the Indian River Lagoon. With more than 3,000 species of plants and animals, the Indian River Lagoon is the most diverse estuary in the country. The C-23/24 STA is scheduled for completion in 2025.

Scott Water Farm

Audubon celebrated another major step forward in efforts to clean up the St. Lucie Estuary with the completion of the Scott Water Farm project this spring. The Scott Water Farm stores water across 7,500 acres of private land and is designed to capture and clean 29,000 acre-feet of polluted water before it reaches the St. Lucie Estuary.

Why Water Farming?

Water farming captures onsite rainfall and diverts and pumps water from canals before they become harmful discharges to the estuaries. The project will help curtail future harmful algal blooms in the St. Lucie Estuary and the Indian River Lagoon by redirecting water to the farm's reservoirs. Once stored, the water will also percolate through the soil, providing for aquifer recharge as well.

How Does this Project Impact the Everglades?

Harmful algal blooms have been a recurring issue in Florida, especially in the coastal estuaries due to excess nutrients from upstream urban and agricultural runoff. Algal blooms can damage plants and wildlife and can be a public health risk. It is estimated that 200,000 acre-feet of water must be stored in the St. Lucie watershed to reduce damage to the St. Lucie Estuary from Lake O discharges and regional inflows. This water farm gets us another 15% closer to the 200,000-acre-foot goal.

HOW YOU CAN HELP

› LEND YOUR VOICE

Sign up to receive Audubon Florida's electronic newsletters and action alerts, for opportunities to advocate for Florida and our Everglades. fl.audubon.org/stayintouch

› DONATE

Audubon's efforts depend on you. Learn more about giving by contacting Alison Niescier at alison.niescier@audubon.org

› LEARN

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



4500 Biscayne Boulevard, Suite 350, Miami, Florida 33137

 @AudubonFlorida  @AudubonFL fl.audubon.org