



Audubon | FLORIDA

State of the
Everglades

Fall 2020

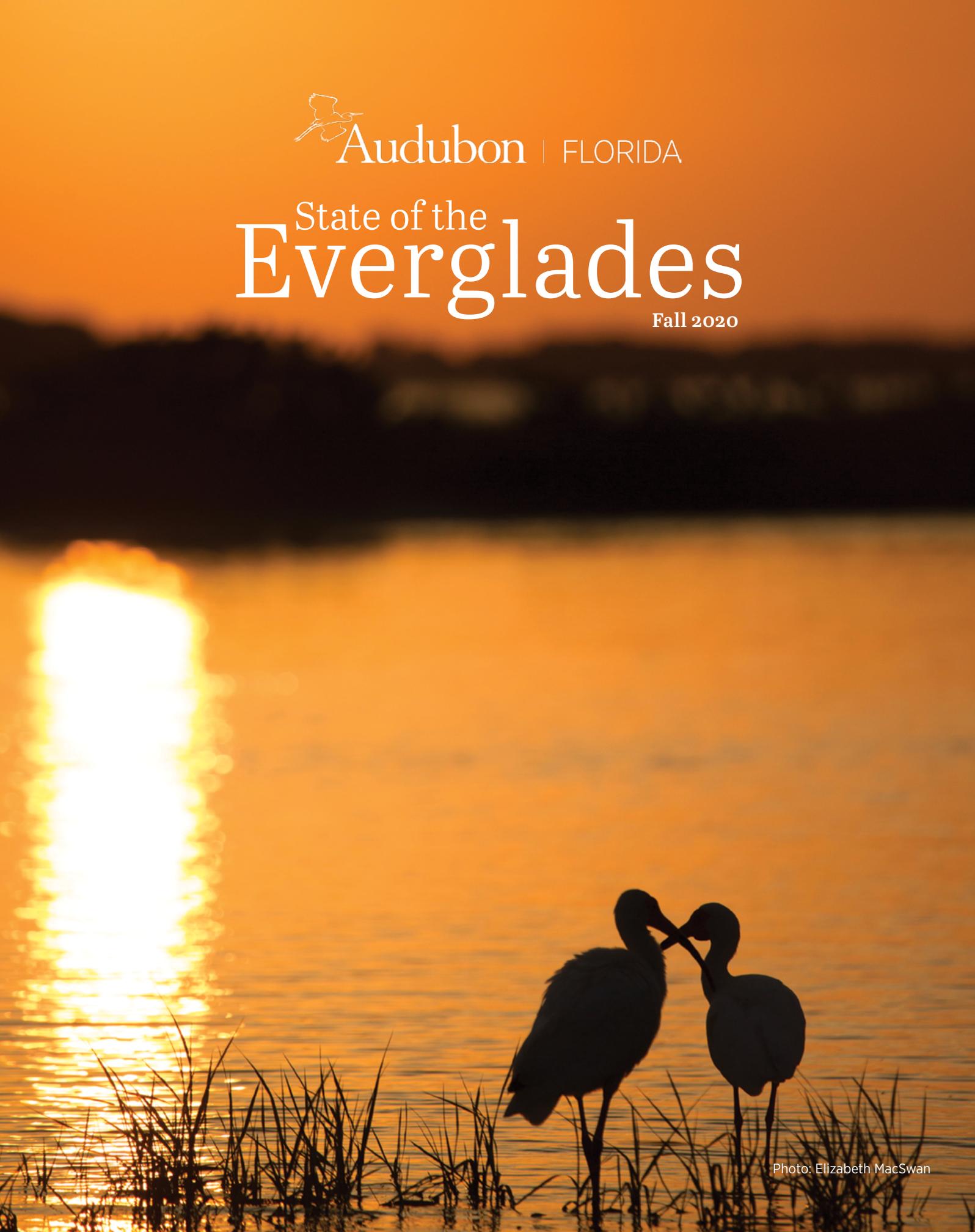


Photo: Elizabeth MacSwan



Wood Storks. Photo: Cheryl Black

When someone says the word “Everglades,” what do you imagine? A River of Grass? Bright pink Roseate Spoonbills and giant flocks of herons and egrets? Crocodiles?

We’re with you — we imagine those things too. But we also trace the true scope of the Everglades, an ecosystem that extends from north of Lake Okeechobee all the way to Florida Bay. Impacts on the northern end of the Everglades flow downstream, and are felt as far south as the Keys, and beyond.

In this issue of the *State of the Everglades*, we work north to south to bring you stories of water storage and nutrient pollution removal projects, Everglade Snail Kite updates from Lake Okeechobee, restoration in the Western Everglades, a Cape Sable Seaside Sparrow story, and the State of the Slough from the southern tip of the state. Do you want to become an advocate for the Everglades? Check out our brand-new training opportunity at the end of this publication.

By working with government agencies, citizens, and stakeholders across the entire Everglades system, Audubon moves Florida towards a more resilient, healthier future for both birds and people. Thank you for working with us.

Beth Alvi, Director of Policy



 Pumped water filling the Brighton Valley project. Photo: SFWMD

Brighton Valley Project Removes Nutrients and Improves Habitat

Audubon helped celebrate the inauguration of the Brighton Valley Dispersed Water Management Project on September 17, 2020. This joint project between the South Florida Water Management District (SFWMD) and Lykes Bothers, Inc. (Lykes) near the Kissimmee River will redirect excess water from the C-41A canal onto 8,143 acres of shallow reservoir on Lykes property (more than 12 square miles).

Lykes will be paid to store and treat between 40,000-90,000 acre-feet of water annually¹ in this shallow reservoir, removing an estimated three tons of phosphorus and 27 tons of nitrogen pollution. The reservoir will be operated during wet periods at the direction of the SFWMD.

Brighton Valley marks the third major partnership project between Lykes and the SFWMD, which includes the 15,858-acre Nicodemus Slough project and the experimental 2,500-acre West Water Hole project. At an average storage depth of two feet, these types of water features are meccas for Florida bird life.

The Lake Okeechobee watershed is five times the size of the lake itself. As a result, large volumes of nutrient-laden runoff flows into the lake every year, stimulating algal blooms and causing discharges to the east and west. Brighton Valley and similar initiatives are needed to catch and clean water before it flows into the lake. These projects not only help improve the lake’s watershed, they also forge innovative partnerships with local landowners, who in turn become part of our water solutions. They keep their land on the tax rolls, producing food and fiber for communities across the country, and improving water quality for wildlife and people.

Audubon is a strong proponent of working with landowners to rehydrate historic wetlands to store more water in the Okeechobee watershed, for the good for birds, wildlife, and people alike.

¹An acre-foot of water equals 325,000 gallons.



Snowy Egret.
Photo: Alice Cahill/Audubon Photography Awards



With higher water levels on Lake Okeechobee this fall, Audubon anticipates a return to normal Everglade Snail Kite nesting in 2021.



Everglade Snail Kite. Photo: Caroline Samson

Improving Critical Habitat for Endangered Everglade Snail Kites

Lake Okeechobee is listed as “Critical Habitat” by the U.S. Fish and Wildlife Service for the federally endangered Everglade Snail Kite. With more than 200 square miles of wetland marshes, the lake’s habitat is second in size to only the Everglades themselves.

This critical habitat is challenged by water management problems that lead to harmfully high levels and high-volume discharges to the estuaries during wet periods, and harmfully low levels and water rationing during dry periods.

Snail Kites have not nested on the Lake since 2018.

In 2019 and 2020, Lake Okeechobee water levels dropped to about 11 feet of elevation during the nesting season, drying out so much of the marsh that kites simply did not attempt nesting. The low levels were caused primarily by dry conditions, but in 2019

the U.S. Army Corps of Engineers (Corps) deliberately allowed lake levels to recede to 11 feet.

It’s true that Audubon and lake stakeholders recommended the levels be lowered to help vegetation grow back after the ravages of Hurricane Irma. Kites are long-lived birds and we considered restoring the marsh a worthwhile trade-off for a year of no nesting. Unfortunately, in 2020 persisting dry conditions kept the lake low and meant a second year of no nesting. Lake Okeechobee is above 16 feet this fall, and we expect a return to a normal nesting season in 2021.

Audubon’s Paul Gray, Ph.D., is a co-chair of the Snail Kite Coordinating Committee, a group of professionals who work on kite-related issues. The Committee’s fall meeting took place virtually in October, during which Rob Fletcher, Ph.D., University of Florida, reported on calculations his lab has made on the importance of Lake Okeechobee to the overall kite population. In a nutshell, if the lake produced no young kites for the next ten years, the statewide population could drop by half or more.

The Corps is working on a new water level management plan for Lake Okeechobee. As the leading advocate for Lake Okeechobee, Audubon will ensure the Corps uses science to evaluate alternatives that will ensure optimal Everglade Snail Kite nesting conditions.



Everglade Snail Kite. Photo: John Wolaver

Everglades Restoration Takes Three Big Steps Forward

Expediting Everglades restoration projects that increase freshwater flows to the Everglades and Florida Bay *while* reducing harmful discharges to the Caloosahatchee and St. Lucie estuaries has been a high priority for Governor DeSantis since taking office. The U.S. Army Corps of Engineers (Corps), the federal partner for the Comprehensive Everglades Restoration Plan, and the South Florida Water Management District (SFWMD), the local sponsor for restoration, moved the ball closer to the restoration goal line with three recent achievements.

The Everglades Agricultural Area Reservoir is a key component of Everglades restoration. The reservoir is anticipated to hold 240,000 acre-feet of water (equal to six inches in Lake Okeechobee) that will be used to refresh the Everglades and Florida Bay instead of being discharged to the northern estuaries and flushed out to the Atlantic Ocean and Gulf of Mexico. In order to ensure federal cost sharing for the project, the SFWMD must reserve enough water to fill the reservoir to protect

fish and wildlife, including key indicator species such as the endangered Everglade Snail Kite and Roseate Spoonbill. In October, the District Governing Board adopted water reservation regulations, clearing the way for federal cost-share dollars to help finance the project and keep it moving forward to realize benefits as soon as possible.

Removing barriers to sending water south and restoring historic flow paths are also important restoration priorities. **Also in October, the SFWMD and Corps marked completion of construction of the S-333N water control structure by SFWMD and the award of a \$40-million contract by the Corps for construction work on the L-67A levee, both authorized as part of the Central Everglades Planning Project.** The S-333N structure, when open, will double the amount of water that can be moved south from Water Conservation Area (WCA) 3A into Everglades National Park and will help alleviate high water levels in WCA 3A. **Construction on the L-67A, to be completed in 2024, will remove barriers to the historic flow of water from WCA 3A to WCA 3B into Northeast Shark River Slough and Everglades National Park.**

Audubon's science and policy team worked closely with key decision-makers to support these critical initiatives.



▲ A ribbon-cutting ceremony marks the beginning of S-333N, a structure that will double the amount of water that can be moved south. Photo: SFWMD



▲ First blast at the EAA Reservoir construction site. Once complete, the reservoir will hold 240,000 acre-feet of water. Photo: SFWMD



Roseate Spoonbill.

Southwest Florida's Picayune Strand Restoration Project Sees Final Phase Construction Start

2019 and 2020 have brought major progress to the largest ecosystem restoration project in the Comprehensive Restoration Plan: Picayune Strand. With a 2024 target completion date, the Army Corps of Engineers (Corps) and South Florida Water Management District (SFWMD) are returning a 55,000-acre partially-built giant subdivision back into wetland sloughs, Wood Stork, and Florida panther habitat, with tens of thousands of additional estuarine acres benefitting from restored sheetflow and salinity balance. This fall, the Corps awarded contracts to build the final large phase of the project — the Southwest Protection Feature — to protect private farms from flooding and move restored sheetflow under Tamiami Trail to Rookery Bay National Estuarine Research Reserve, Collier Seminole State Park, and the Ten Thousand Islands National Wildlife Refuge.

Completion of this phase will allow the plugging of the largest two six-foot deep canals — Miller and Faka-Union — and return sheetflow to the remaining two-thirds of the restoration project, currently waiting for natural flows to cover these dried wetlands.

However, there are some important issues yet to be addressed as this phase is constructed: avoiding harm from fertilizer-laden water draining off the farms and development into the estuaries downstream, and



Merritt Canal restored. Photo: Ken Humiston

assuring restored sheetflows don't get misdirected into uplands needed by imperiled Red-cockaded Woodpeckers and gopher tortoises. Florida panthers and other wildlife also need a crossing under Tamiami Trail to avoid harm to both motorists and large mammals.

Audubon and colleagues in allied conservation groups, with data from local and state agencies, have identified important strategies to fix degraded water quality. Results are still formative, as are efforts to convince the State to build the wildlife crossing, as both will require funding in a time that pandemic-impacted budgets pose challenges. Nutrients from farm fertilizers and sewage are universal ecological problems that plague waters worldwide.

The Corps has also been unclear on ways to protect uplands, but Audubon is working with partners to help avoid doing unnecessary harm while bringing to fruition such an immense restoration wonder.

Audubon celebrates this important step and is grateful to District Governing Board member Charlette Roman who worked hard to advance significant portions of restoration while awaiting the Protection Feature's construction.

Defending the Cape Sable Seaside Sparrow

The Cape Sable Seaside Sparrow has received a lot of attention lately, and for all the wrong reasons. Critics claim, erroneously, that the sparrow is an impediment to Everglades restoration and moving water south from Lake Okeechobee through the Central Everglades to Everglades National Park and Florida Bay. The reality is a bird of a different feather.

The Cape Sable Seaside Sparrow is a non-migratory bird with an extremely limited range that calls the Florida Everglades home. The sparrow prefers the short hydro-period mixed marl prairies in and around Shark River Slough and Taylor Slough for nesting habitat, and six distinct sparrow subpopulations — labeled A through F — have been identified across the Central and Southern Everglades. According to the U.S. Fish and Wildlife Service, subpopulations B through F are “stable or increasing.” But numbers in subpopulation A, which is located along the northwest portion of Shark River Slough and to the south of Water Conservation Area 3A (WCA 3A), have continued to decline.²

The sparrow was listed as endangered in 1967 due to its limited range and habitat threats caused by drainage of the Everglades south of Lake Okeechobee, mainly for agriculture and flood control, as part of the Central and South Florida Project (C&SF Project). C&SF system limitations and water management operations constrain water flows out of WCA 3A which, when combined with the billions of gallons of water from Everglades Agricultural Area (EAA) runoff, results in WCA 3A water levels that are too deep. In order to keep sparrow subpopulation A habitat drier during nesting season, some water control structures are



Cape Sable Seaside Sparrow. Photo: NPS/Lori Oberhofer

closed during parts of the year. Two of the structures (S-12A and S-12B) directly impact sparrow habitat, but have limited flow capacity and do little to reduce water levels in WCA 3A. Other structures with the capacity to impact water levels in WCA 3A without impacting sparrow habitat, such as the newly constructed S-333N, remain closed. Even so, the sparrow gets blamed when water levels in WCA-3A are higher than desired.

The sparrow didn't create the conditions that threaten its existence. Human efforts to drain the Everglades to create the EAA, provide for flood control, and foster urban development altered the natural volume, timing, and flow of water to the Park and Florida Bay. The Comprehensive Everglades Restoration Plan and restoring historic flows to Northeast Shark River and Taylor Sloughs are the remedies for the Everglades and the sparrow, but restoration has suffered from numerous delays since being approved in 2000.

Blaming the Cape Sable Seaside Sparrow won't reduce water levels in WCA 3A or ensure its continued existence. Accelerating restoration and improving water management operations will.



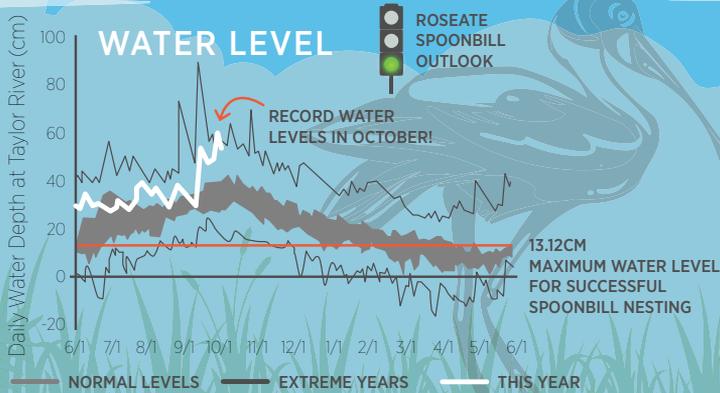
Cape Sable Seaside Sparrows are *not* an impediment to Everglades restoration. They depend on unique habitat in South Florida to survive. Photo: NPS/Lori Oberhofer

²Letter dated September 16, 2020 from Aurelia Skipwith, Director, US Fish and Wildlife Service, to The Honorable Billy Cypress, Chairman, Miccosukee Tribe of Indians of Florida.



Audubon | FLORIDA STATE OF THE SLOUGH

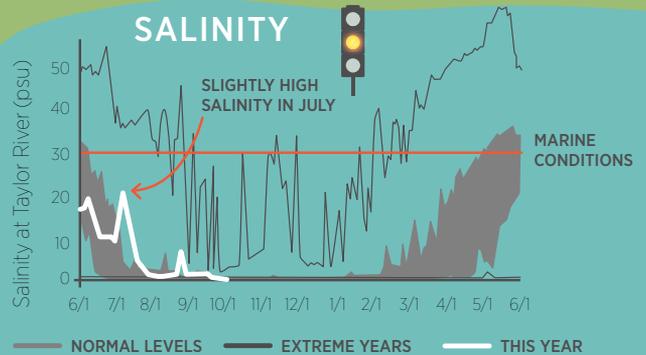
At the southern end of Everglades National Park, a series of sloughs convey freshwater to the Florida Bay estuary. Audubon researchers track these freshwater deliveries (or lack thereof) and their impacts on the ecology of Taylor Slough and the Bay. This data provides critical feedback to Everglades Restoration — measuring whether we are getting it right and prescribing how water management could improve.



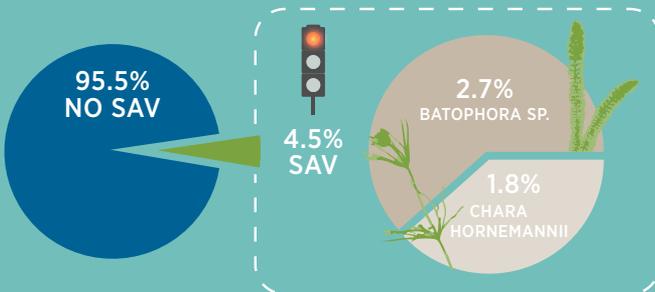
Higher water level in the wet (non-nesting season) is a good thing. This provides more habitat for fish and plants. It also provides fish and plants more three dimensional habitat to reproduce and forage in. These high water levels lead to a greater abundance of prey for spoonbills. In the next quarter, we hope that water levels will begin a slow but steady decline sometime in November or early December.

Florida Bay does not receive enough freshwater through sheetflow. When combined with the absence of rainfall, the bay becomes hypersaline and crashes. The natural system used to receive four times more freshwater from the Everglades ecosystem. Audubon's team works tirelessly to accelerate Everglades restoration projects that will bring freshwater south to rehydrate Florida Bay.

Taylor Slough



SUBMERGED AQUATIC VEGETATION (SAV) COVERAGE

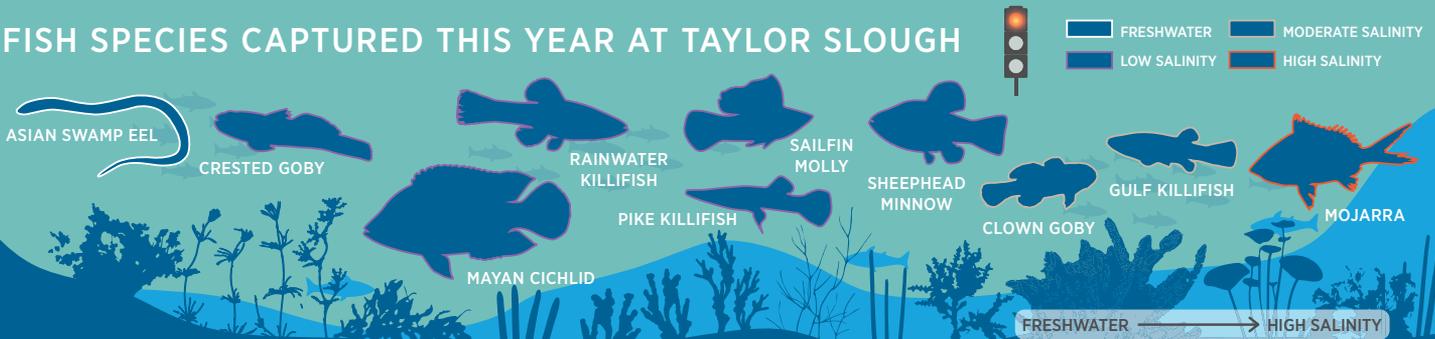


Salinity remained high and above the normal range well into July. The good news is that salinity levels steadily dropped to freshwater conditions in late July. A steady gradual decline is much better than an abrupt drop or a drop with a lot of fluctuations (imagine the line being saw-toothed) because it gives the flora and fauna time to acclimate. Having nearly freshwater conditions through beginning of October plus high water level really suggests that biological productivity will increase. We hope that freshwater conditions persist through the next quarter.

We recorded very low coverage in September. Although this is not good, there is still plenty of time before nesting season for SAV to rebound.

A promising sign: a good portion of the SAV that was present was Chara, a species that has the capacity to quickly explode production under warm, freshwater conditions. Don't be surprised to see an exponential growth in Chara in the next quarter if salinity stays low and does not have any upward spikes.

FISH SPECIES CAPTURED THIS YEAR AT TAYLOR SLOUGH



Given the high salinity in June and most of July, we would not expect any freshwater species to have colonized the wetland from upstream areas by September. We will have to wait for the November fish collection to determine if further colonization will occur, but if salinity stays low, there is a good chance of at least some freshwater species making the journey. If freshwater condition persist into January, they may even have time to produce a few generations before salinity starts to increase.



Tricolored Heron. Photo: Alicia Arnst



Become a Climate Advocate

Climate change will have major impacts on the Everglades. From rising sea levels to hurricane damage and more, the River of Grass and the species that depend on this unique ecosystem face an uncertain future. At the same time, Everglades Restoration is one of our best opportunities to make South Florida communities more resilient, helping resist saltwater intrusion and providing flood attenuation for rainfall events and storm surge that overwhelm the region's 1940's era drainage system.

Through a brand-new training session led by Audubon Florida staff, you can become a climate advocate. It's easy to provide information about the beautiful birds and stunning vistas and impressive alligators of the Everglades. We want to make talking about regional climate solutions just as effortless.

Join Audubon Florida as we share science-based strategies for climate communications and advocacy.

We'll cover terms to use and avoid, inspiring people through the gloom, framing messages to activate extrinsic and intrinsic motivations, and picking the right messengers.

As part of the training webinar, together we will explore how we can successfully communicate to a wide range of audiences in support of initiatives that protect the region's natural landscapes and communities. We provide pragmatic, science based recommendations that you can use with your city and county, as well as provide opportunities to lend your voice on state and federal climate issues.

To request a training webinar for your conservation group or chapter, email State Field Coordinator Laura Aguirre at laura.aguirre@audubon.org.

