



2013 Wading Bird Nesting in the Everglades: Audubon Scientists See Progress for Birds in Critical Habitat

Introduction

Wading birds are vital indicators of ecosystem health. Tracking changes in their numbers and nesting patterns are some of the primary tools used by Audubon scientists to evaluate the success of Everglades restoration.

The 2013 nesting season is estimated to be 57% higher than the average for the last two years, with a total of 48,291 wading bird nests recorded across the Greater Everglades.

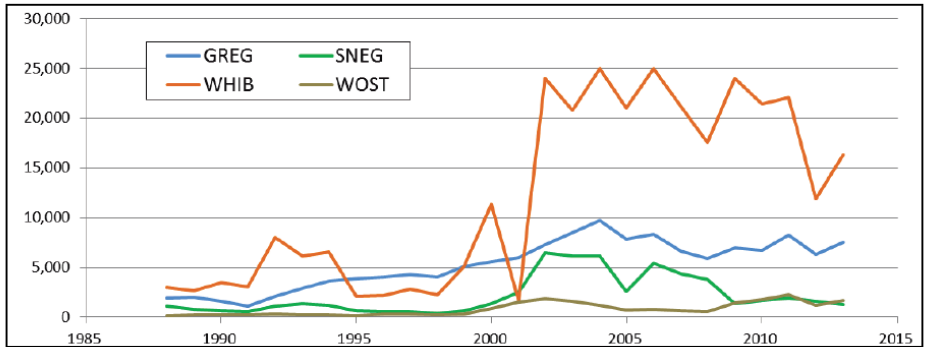


Figure 1. Trends in 3-year running average of nesting pairs of the five target species since 1986. Credit: SFWMD

Great Egret, Snowy Egret, White Ibis, and Wood Storks are the main indicator species tracked by the South Florida Water Management District (SFWMD). The numbers and nesting patterns of these birds are used to evaluate overall performance of restoration efforts. Great Egret and White Ibis have both shown stable population growth while Snowy Egrets and Woods Storks have been less successful.

The completion of the Central Everglades Planning Project (CEPP) is expected to improve hydrology across the Central and Southern Everglades. This project will also benefit the Northern Everglades and estuaries by providing a path south for some of Lake Okeechobee’s flows. Speeding up restoration of the Central Everglades is critical to improving the overall ecological health of the Greater Everglades Ecosystem and increasing wading bird populations.

The following report summarizes nesting efforts across the Greater Everglades Ecosystem by region, as documented by the SFWMD’s 2013 South Florida Wading Bird Report.

Everglades Restoration Goal: Getting the Water Right

Historically, large colonies of wading birds filled the Greater Everglades Ecosystem. Under pre-drainage conditions, these birds nested primarily along the coast of South Florida. Tactile feeders (like Wood Storks and Roseate Spoonbills) were more abundant than visual feeders (like Great Egrets) and about every other year, Ibis would

breed in exceptionally high numbers. Wood Storks, birds that are the most sensitive to changes in water levels, would begin to make their nests in November and December.

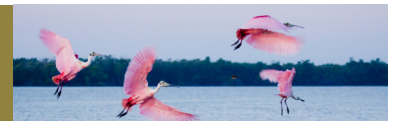
Restoring the natural flow of water is one of the central goals of the Comprehensive Everglades Restoration Plan (CERP)—and progress is being made. More birds are returning to nest in historic, coastal nesting areas; the ratio of tactile to visual feeders has been slowly, but steadily, improving since the mid-1990s; and nesting Ibis have reached target numbers in 9 out of the last 10 years.

While these improvements are encouraging, their continued progress is dependent upon how quickly Everglades restoration projects can be implemented.



“Wading birds are valuable indicators of Everglades restoration success. The 2013 Wading Bird report is a positive sign that restoration is working for some of Florida’s most iconic species.”

- Dr. Tabitha Cale,
Audubon Everglades Policy Associate



Why are water levels so important to nesting birds?

Canals and other flood control structures put in place in the 20th century to drain southern Florida for development severely altered the natural flow of water into the Greater Everglades. These changes in the hydrology leave areas throughout the region too dry in the wet season and too wet in the dry season.

The southern Florida wet season brings higher water levels to the Everglades, allowing tiny prey fish populations to increase. During the annual dry season these tiny fish are forced to congregate in the increasingly shallow water, making it easier for wading birds to find enough food for themselves and their chicks.

Nesting by Region: Highlights

Northern Everglades

◇ ***Kissimmee River and Chain of Lakes***

The Kissimmee River Restoration Project is 85% complete. During times of favorable rainfall, the area abounds with a variety of wading birds and other wildlife.

Often, the numbers of wading birds seen exceeds post-restoration goals. Though birds are returning to the area, they are not yet nesting in the Kissimmee River Basin in historic numbers. In 2013, 38 Great Egret and 30 Great Blue Heron nests were recorded in the area. Once the Kissimmee River Restoration project is completed in the next few years, Audubon scientists expect improved hydrologic conditions will foster the return of larger numbers of nesting wading birds.

Nesting colonies on Lakes Istokpoga (near the river restoration area) and on Lakes Kissimmee, Conlin, and Mary Jane (in the upper Kissimmee River basin), hosted about 1,880 nests of eight different wading bird species, about a 34% increase from last year. Lake Conlin's colony had 40 nesting Wood Storks and Bird Island in Lake Mary Jane hosted 132 Stork nests. Nesting colonies on Lake's Istokpoga and Kissimmee likely will get a boost once the River restoration is completed.

◇ ***Lake Okeechobee***

In the summer of 2012, Lake Okeechobee's water level was higher than usual, which gave fish populations a chance to rebound. During the 2013 dry season the lake levels began to go down, concentrating these greater numbers of fish and providing birds the food they need to raise healthy chicks.

Nesting was strong in Lake Okeechobee, with multiple bird species producing successful nests. A total of 8,461 nests were recorded, more than double the effort seen in 2012. This is a dramatic change from as recently as 2008, when only 39 nests were recorded. Great Egret, White Ibis, and Snowy Egret were the most abundant birds nesting in the area.



Figure 2. Locations of wading bird colonies with ≥ 50 nests in South Florida, 2013. Credit: SFWMD

“Lake Okeechobee is a critical habitat for many important species that need protection. The 2013 nesting season was exceptional—nearly double the effort seen in 2012.”



- Dr. Paul Grey,
Audubon's Northern Everglades Science
Coordinator



Central Everglades

◇ **Water Conservation Areas**

A large portion of the Everglades is now enclosed in three large impoundments known as the Water Conservation Areas (WCAs). These areas have been altered from their natural hydrology so their water levels can be artificially managed.

Nesting efforts in these areas were strong in 2013 with 23,007 nests recorded across all three WCAs. This represents the best nesting effort recorded since 2009. However, nest success rates in the WCAs were low with below average numbers of fledglings surviving and some nests being abandoned completely. Little Blue Herons and Tricolored Herons nested in below average numbers, continuing a concerning down-trend also seen in 2012. A potential bright spot is seen in WCA-1, also known as the Arthur R. Marshall Loxahatchee National Wildlife Refuge. Though hydrologic conditions resulted in poor foraging and nesting efforts in 2013, the higher water levels that kept wading birds from foraging gave prey fish populations a chance to rebound. Depending on hydrology, this may provide higher numbers of prey fish and possible increased nesting in 2014.

◇ **Western Everglades**

Nesting in the Western Everglades has been alarmingly poor. The 2013 nesting season was the fourth season in a row where no nesting of Wood Storks was reported at Audubon's Corkscrew Swamp Sanctuary, once the home of the largest nesting colony of Wood Storks in North America. Two other historic stork nesting areas in the region also failed to produce any nests. In the areas where nesting did occur, success was modest and occurred late in the nesting season. Historically, Wood Storks would initiate nesting in November and December.

Much of the shallow wetland areas that storks rely for foraging during nesting season have been lost. As a result, Wood Storks are only able to nest successfully in years of exceptionally high rains and flood-like conditions.

Southern Everglades

◇ **Everglades National Park**

A total of 12,505 wading bird nests were recorded in 2013. This is 33% higher than nesting efforts seen in 2012. Wood Storks, Great Egrets, and White Ibis had the largest increases in nesting success. Snowy Egrets however, experienced a concerning decline with nest counts 63% lower than in 2012. As more restoration projects like CEPP are completed, nesting of wading birds in Everglades National Park should continue to increase.

◇ **Florida Bay**

For the second year in a row the number of Roseate Spoonbill nests in Florida Bay has increased, with 367 Spoonbill nests recorded in 2013. This is nearly a 100% nesting increase compared to last year (184 nests). As an Audubon priority species, the Spoonbill data is especially encouraging and reflects a reversal of the steady decline of nesting documented in 2005-2011.

The end of 2013 marks one year since the ribbon-cutting of the C-111 Spreader Canal Western Project, which is successfully delivering more freshwater to northeast Florida Bay. Audubon scientists have documented regrowth of

"We can't depend on anomalous rainy seasons to sufficiently recover Wood Stork populations in the Western Everglades. Protection and restoration of the shallow wetland habitats where they forage for food will be key to ensuring the survival of these birds."

- Jason Lauritsen,
Director at Audubon's Corkscrew Swamp



"The data is in from the first year since the completion of the C-111 Spreader Canal Western Project. It's early, but the health and quality of habitat in Florida Bay is improving - habitat that wading birds like Roseate Spoonbills depend on."

- Jerry Lorenz,
Audubon Florida State Director of Research





submerged aquatic vegetation and more favorable salinity levels in Florida Bay are factors that should lead to even larger increases in Roseate Spoonbill nesting within the next few years. The improved conditions are beneficial to forage fish, which are the primary food source of Spoonbills.

Preliminary reports from Audubon's Everglades Science Center at Tavernier and the data provided in the SFWMD wading bird report is early evidence that the ecosystem is responding positively to Everglades restoration.

Audubon Recommendations

To recover Roseate Spoonbill populations in the Southern Everglades:

- Fund construction of an additional 5.5 miles of bridging along the Tamiami Trail to complement Central Everglades efforts and increase flows to the Southern Everglades
- Fund construction of the C-111 South Dade project North Detention Area (also known as "Contract 8")
- Fund construction of the C-111 Spreader Canal Eastern Project
- Fund construction of the Central Everglades Planning Project
- Adaptively manage built projects to maximize ecosystem benefits
- Equitably balance deliveries of water to the natural system with consumptive water use deliveries
- Encourage National Park Service managers to select a final draft general management plan that establishes pole and troll buffer zones around all islands in Florida Bay



Figure 3. A Wood Stork at Audubon's Corkscrew Swamp Sanctuary

To recover Wood Stork populations at Corkscrew Swamp Sanctuary in the Western Everglades:

- Ensure that all permitted impacts to shallow wetlands are fully offset through adequate mitigation
- Increase shallow wetland habitat, especially wet prairies, through land acquisition and restoration
- Protect and maintain existing shallow wetland habitats
- Implement good land stewardship practices to improve wetland health through effective prescribed burning and invasive species controls

To recover wading bird foraging and nesting in the Northern Everglades:

- Complete construction and implement full operation of the Kissimmee River Restoration Project so full ecosystem benefits of the project can be realized
- Expand partnerships with landowners to protect lands in the Northern Everglades through the Rural and Family Lands Protection Act
- Expand partnerships with landowners to store water in the Northern Everglades through the use of Dispersed Water Management
- Move forward with land acquisition and the granting of conservation easements on privately held lands to establish the Everglades Headwaters National Wildlife Refuge
- Implement and fund projects and programs to reduce nutrient pollution entering Lake Okeechobee
- Manage water levels in Lake Okeechobee to maintain its health as valuable habitat, rather than treating it as a large storage reservoir
- Advance Everglades restoration projects to flow water south and temper damaging high flows to the estuaries