Audubon FLORIDA

2012 Wading Bird Nesting in the Everglades

Large scale Restoration Needed to Recover Wading Bird Populations

Introduction

The annual South Florida Wading Bird Report[1] provides an overview of wading bird nesting efforts across the Greater Everglades Ecosystem.

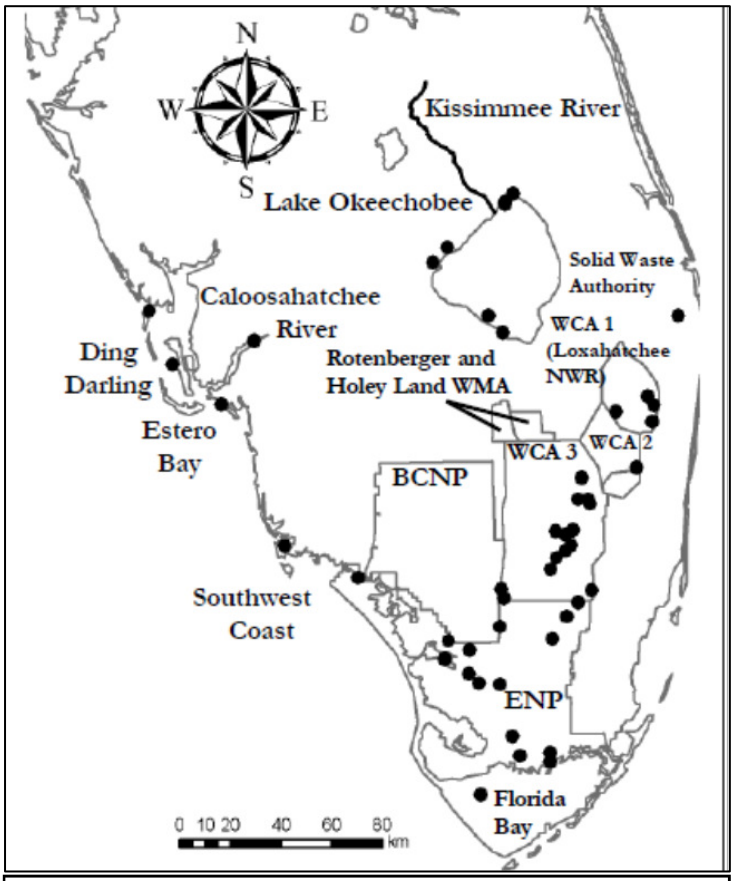
An indicator of ecosystem health, wading bird populations are a central component of evaluating Everglades restoration efforts. Numerous ecologists contribute data from all corners of the ecosystem, which is compiled to evaluate overall nesting effort with notes on long and short-term trends.

The following outlines Audubon's summary of a few report components, including a status of nesting Roseate Spoonbills in Florida Bay and Wood Storks at Corkscrew Swamp Sanctuary provided by Audubon scientists. January to December 2012 was the third consecutive year of relatively poor nesting effort across the Everglades, with success better in some regions and among certain species than others.

Restoration projects currently under construction or in the planning phase are urgently needed to reverse ecological declines in the Everglades and enable wading birds to return historical nesting locations and to nest in greater abundance.

"The iconic birds of the Everglades are dependent on the urgency in which restoration projects are completed."
- Megan Tinsley, Audubon Florida Everglades Policy Associate

[1] South Florida Wading Bird Report. Cook, Mark I. and Mac Kobza, editors. Volume 18. December 2012.



Locations in South Florida with 50 or more wading bird nests. (South Florida Wading Bird Report. Cook, Mark I. and Mac Kobza, editors. Volume 18. December 2012.)

Note on Hydrology

Wet and dry season patterns in the Everglades impact wading bird nesting success. In general, the 2012 water year began with a late onset of the wet season, and while water levels rose quickly and were followed by ideal recession rates, optimal water depths for wading bird foraging late in the dry season did not last long. This combined with droughts in previous years likely impacted 2012 success.


Photo by Mac Stone

Species Spotlights

Roseate Spoonbills in Florida Bay

Historical nesting sites in Florida Bay produced 184 Roseate Spoonbill nests in 2012 while the target is 1250. Although disappointing from a historical perspective, the year was positive given recent trends: between 2005 and 2011 spoonbill numbers steadily declined from about 550 nests to just 69.

Nesting by Roseate Spoonbills improved in 2012, although overall numbers remain far below historical levels in Florida Bay. Photo by Charles Lee.

In 2010, spoonbills began nesting at a long abandoned and difficult-to-access colony just north of the bay in mangrove wetlands. Access prohibited nest counts in 2010 or 2011, but 2012 provided the ability to count 164 nests, bringing the Florida Bay regional total to 348 nests.

Increased nesting effort in 2012 may be attributable to relatively high reproductive rates over the last seven years in the Northeast region of Florida Bay, near Taylor Slough. (While overall bay nest counts have been low, chick-fledging success in this region remained high). The birds that fledged during these successful years are now either sexually mature and likely nesting, or will be soon.

It is also promising that this colony is the largest in the region and is located in Taylor Slough, the major source of freshwater to Florida Bay. Improved success here leads to the conclusion that water management practices have become less detrimental to Florida Bay.

Wood Storks at Corkscrew Swamp Sanctuary

The 2012 season at Corkscrew Swamp Sanctuary in the Western Everglades marked the third in a row where Wood Storks did not nest in this historical colony, which until recently has consistently been the largest in the U.S.

A prolonged drought cycle combined with wetland losses in Southwest Florida have contributed to the poor nesting success. Prior to the late 1970's colony initiation occurred in November or December.

From 1978 on, initiation has shifted much later in the year, typically occurring in late January or early February. Seasons with late colony initiation at Corkscrew are less successful, resulting in fewer nest attempts and fewer chicks fledged.

Over the past few decades, early colony initiation has only occurred with significant wet season rainfall. The only time Wood Storks nested at Corkscrew in the past six years was in 2009 on the heels of Tropical Storm Fay, which deposited more than 11 inches of rain over five days.

High volume rain events cause local and regional flooding, which facilitate movements of aquatic fauna into locations which otherwise remain isolated and well drained.

Wood Storks continue to arrive in Southwest Florida in early October as they have historically, but absent these high volume rain events, they either nest late or not at all.

Photo by Mac Stone

Nesting by Region: Highlights

Water Conservation Areas

A large portion of the Everglades is now enclosed in three large and highly altered impoundments known as the Water Conservation Areas (WCAs). The largest of these—WCA-3—has for decades accounted for the majority of wading bird nesting effort in the Everglades. In 2012, the three WCAs combined had the second lowest number of nests in the last 13 years. Small dark heron nesting effort in WCA-3 indicated continued declining numbers of Tricolored and Little Blue Herons.

The recent trend of much larger numbers of Roseate Spoonbills nesting in the WCAs continued in 2012. While a bright spot in an otherwise below average year for the WCAs, it is important to note spoonbills utilizing the WCAs in the past two years are thought to be birds that previously nested in Florida Bay. Dependency on the WCAs can be unforgiving when water conditions and management constraints affect nesting success.

Everglades National Park

In the 1930s and 40s, most nesting effort (90%) was concentrated in Everglades National Park's (ENP) southern estuarine mangrove zone rather than in the WCAs. Restoration goals aim for 50% of wading bird nesting effort to again occur here. While 2012 nesting in ENP was remarkably higher than in recent years (26%), it is still far below restoration targets.

White Ibis showed the greatest increase compared to the low counts seen the previous year. Great Egrets and Snowy Egrets also showed increases of just over 20% from the previous nesting season. (Snowy Egret numbers system-wide, however, have declined dramatically since 2005). The exception to this increased nesting effort by species was Wood Storks, which experienced a 35% decrease in nests compared to last season. Wood Stork nest success was very poor with nearly all of the colonies experiencing complete failure or abandonment.

The 2012 nesting season marked the third in a row where Wood Storks failed to nest at Corkscrew Swamp Sanctuary, previously the largest colony in the U.S. Photo by Charles Lee.

Kissimmee River

Wading bird nesting in the Kissimmee Chain-of-Lakes and along the Kissimmee River was down about 17% from last year, for a total of about 1,400 nests excluding Cattle Egrets.[2] About half of the Kissimmee River floodplain has been restored, but infrastructure to create natural flow patterns will not operate until 2015 when the project is completed.

Under current conditions, wading bird use of the floodplain has been good during wet periods, but nest numbers will remain low until natural flow patterns are restored. Colonies on Lakes Kissimmee, Istokpoga, and Mary Jane hosted about 90% of regional nesting birds with Great Egrets and White Ibis most abundant.

[2] Cattle Egrets are not native to Florida and are not target species for restoration efforts.

Photo by Mac Stone

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Lake Okeechobee

Lake Okeechobee can support more than 10,000 wading bird nests when conditions are favorable, and several thousand in average years. In 2012 there were 16 colonies in and around the lake with close to the long term (median) average of about 3,000 nests excluding Cattle Egrets. Unfortunately, almost all nests for all species failed, likely because of the low prey densities as a result of extremely low lake and marsh levels throughout the preceding summer.

A rainy October raised lake levels enough to flood the marsh but not with sufficient time for fish and other prey populations to build up before the nesting season.

Audubon has noted chronic low lake water levels impact Snail Kites, and nesting effort on Lake Okeechobee in 2012 shows wading birds are impacted as well.

The dark plumage of Tricolored Herons (above) and Little Blue Herons make their nesting efforts more difficult to capture in aerial surveys. On-the-ground surveys indicate both species are declining in the Everglades. Photo by Charles Lee.

Great Egrets locate their prey by sight, unlike tactile feeders such as storks and spoonbills, and their populations continue to reach restoration targets. Photo by Charles Lee.

Everglades Restoration Goals

There were 26,395 wading bird nests in the Greater Everglades in 2012, which is only one third of the number of nests that occurred in the record year of 2009. Stunning nesting years such as 2009 give hope that even in a severely altered ecosystem, wading birds can succeed if conditions are favorable. Increasing wading bird numbers at their historical locations in the Everglades National Park mangrove zone is a major Everglades restoration goal.

The type of wading birds nesting in the Everglades is also important. Historically, the ratio of tactile feeders to visual feeders was much higher. Species able to visually locate their prey are less dependent on drawdown events that concentrate prey into shrinking pools are more successful under current conditions. Visually hunting species such as Great Egrets often meet their restoration targets for nesting in the Everglades, while species that feel for their food with their beaks, like Wood Storks, have suffered greater population declines.

Another goal of Everglades restoration is to return to more historical assemblages of tactile vs. visual feeders.

Photo by Mac Stone

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Audubon's Restoration Recommendations

Recent years have provided unprecedented progress toward Everglades restoration. A one mile bridge to elevate Tamiami Trail and allow greater freshwater flows into Everglades National Park is now virtually complete. The first phase of the C-111 Spreader Canal project is online and already increasing freshwater flows to Taylor Slough and Florida Bay, which will help nesting Roseate Spoonbills. While several other projects across the ecosystem are underway, future projects are critical to improve wading bird performance measures.

Audubon recommends the following to recover wading birds in the Everglades:

- Selection of the most ecologically beneficial design for the Central Everglades Planning Project, followed by authorization and subsequent funding.
- Passage of a Water Resources Development Act, or other authorization mechanism, to construct additional projects and maintain restoration momentum.
- Funding to construct additional 5.5 miles of Tamiami Trail to complement Central Everglades efforts and increase flows to the Southern Everglades.
- Adaptively manage built projects to maximize ecosystem benefits.
- Manage available water to benefit the environment and wildlife by more closely replicating the natural ecosystem.
- Equitably balance deliveries of water to the natural system with consumptive water use deliveries
- Continuation and re-implementation of research documenting restoration project effects, including the available prey base for nesting wading birds.

Wetland Restoration in Southwest Florida

Wood Storks require a variety of wetland types that concentrate prey at different points in the nesting cycle to sustain their rapidly growing young. Short-hydroperiod wetlands are shallower and exhibit lower water levels earlier in the dry season and their availability indicates to storks that conditions are adequate to initiate nesting.

Audubon recommends the following to recover Wood Stork populations at Corkscrew Swamp Sanctuary in the Western Everglades:

- Prevent the continued short-hydroperiod wetland loss that reduces available foraging.
- Restore remaining shallow wetland habitats, including wet prairies.
- Improve wetland health by reducing fire suppression and curtailing the proliferation of invasive species.

Restoration efforts should increase wading bird nesting in historical locations and allow for a greater response by tactile feeders that rely on high water levels followed by dry season drawdowns that characterize the Everglades. Photo by Charles Lee.

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