



Colonial Nesting Birds Monitoring in Biscayne National Park

2014

Importance: *Trends in nesting birds add insight to Biscayne Bay's status*

Colonial nesting birds such as great egrets, great blue herons, white ibis, snowy egrets, roseate spoonbills, and cormorants are very important as vital signs of the health of Biscayne National Park. The presence of colonial nesting birds, the size and distribution of their nesting colonies, and the reproductive success of their nests indicate that the surrounding habitat is able to support these energy intensive activities. These birds must acquire large quantities of high quality food during the nesting season as they select mates, build nests, lay eggs, and rear chicks. Colonies are susceptible to disturbance and predation pressure. Thus, a decrease in nesting effort and nesting success may indicate that the ecosystem is not functioning properly. Many of these colonial nesting species have already experienced declines and are state listed as species of special concern or threatened.

Objectives and Approach: *Monitoring six island colonies*

The objective is to track the status and trends in colony size, distribution, and active nests of specific colonial nesting birds species. The monitoring process involves taking monthly helicopter flights and flying over six island colonies inside Biscayne National Park. During flights, the South Florida/Caribbean Network (SFCN) personnel gather photographic data and also make observations of non-nesting birds at the colonies. Approximately 300 photos are taken per flight. The photo data are then processed and the number of active nests counted.



A Great Blue Heron (*Ardea herodias*) and Double-crested Cormorants (*Phalacrocorax auritus*) on Soldier Key in Biscayne National Park.



The six island sites regularly monitored for nesting colonies. West Arsenicker Key and Arsenicker Key typically have the highest species richness.

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Double-crested Cormorant	685	502	405	NS	NS	222	512	522	890	1203	234	485
Great Blue Heron	0	0	0	NS	NS	0	0	5	11	4	0	1
Great Egret	12	2	1	NS	NS	0	0	0	4	13	20	5
Great White Heron	4	0	0	NS	NS	15	13	13	17	5	1	0
Roseate Spoonbill	0	0	0	NS	NS	1	3	4	2	1	0	0
White Ibis	60	22	0	NS	NS	0	0	0	0	0	0	0
Total	761	526	406	NS	NS	238	528	544	924	1226	255	491

Left: Totals of active nests counted by species and month for the nesting season 2013-2014. Double-crested Cormorants account for the majority of nests counted in BISC, from a high of 99.7% in September to a low of 89.5% in July. Note: An active nest contains an egg, chick, or adults in immediate proximity with signs of occupation. The nesting process can take longer than a single month, hence an occupied nest may be counted in multiple months. NS indicates "No Survey" for that month.



Status and Trends: *Sixth year of monitoring*

The SFCN completed its sixth year of monitoring colonial nesting birds in Biscayne National Park. The results of monitoring have yielded valuable nesting data that show species-specific nesting pattern trends. The Colonial Nesting Bird Protocol including standard operating procedures (SOPs) and the summary data report are currently out for peer review.

Photos



Great Egret (*Ardea alba*) nesting.



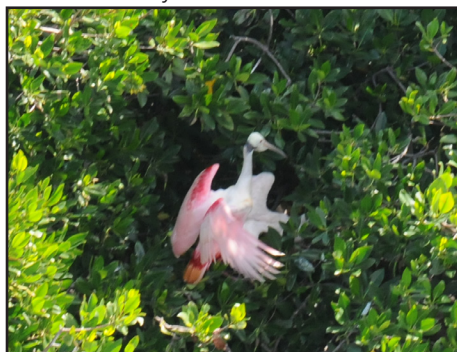
A Great White Heron (*Ardea herodias occidentalis*) peers out from mangrove at Soldier Key.



A Great Blue Heron (*Ardea herodias*) perched on a mangrove at Jones Lagoon.



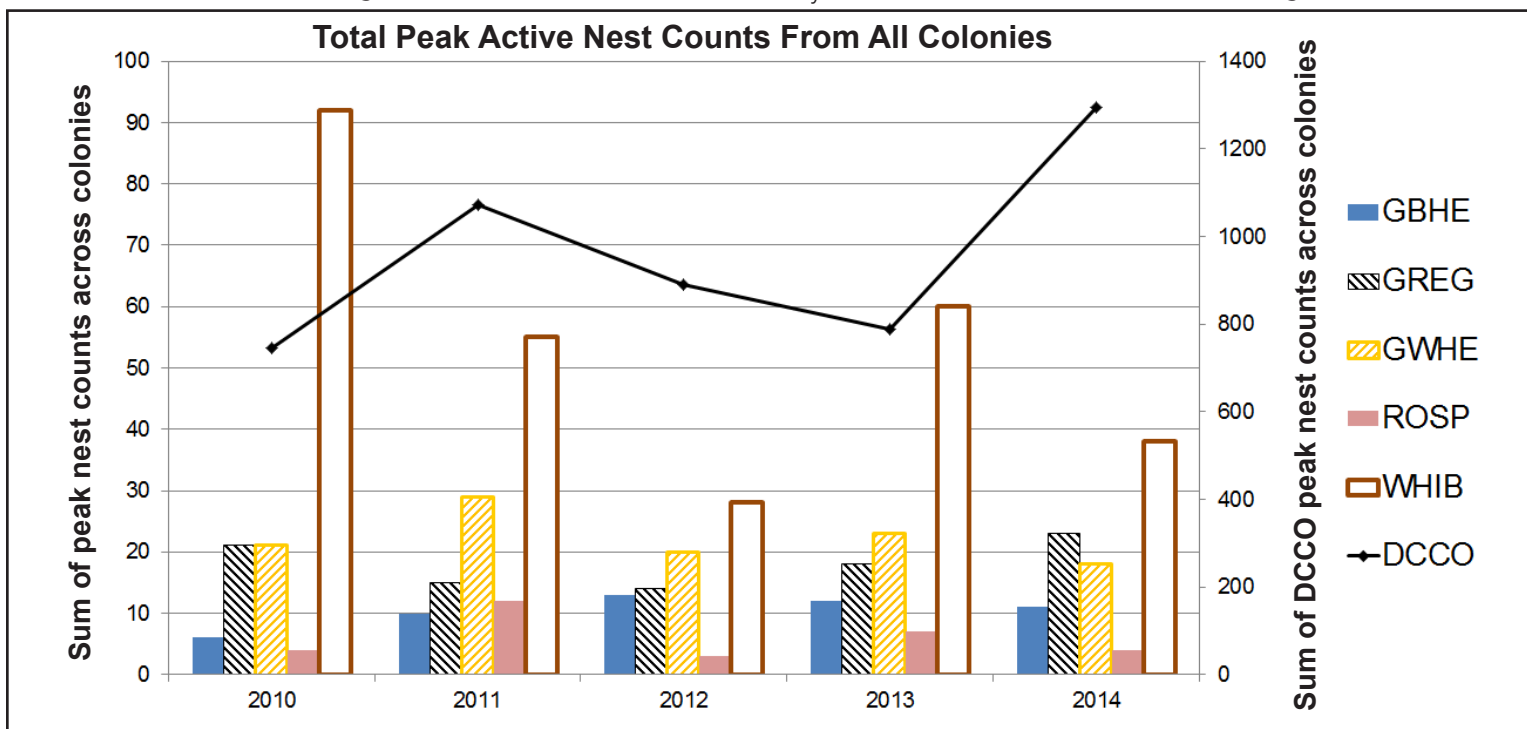
Double-crested Cormorants (*Phalacrocorax auritus*) roosting.



Roseate Spoonbill (*Platalea ajaja*) taking off at Arsenicker Key.



White Ibis (*Eudocimus albus*) nesting in from Jones Lagoon.



Total peak nest counts for focal species through the end of the nesting season, July, 2014. Key: Great Blue Heron = GBHE, Great Egret = GREG, Great White Heron = GWHE, Roseate Spoonbill = ROSP, White Ibis = WHIB, and Double-crested Cormorants = DCCO (black line).



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http://science.nature.nps.gov/im/units/sfcn/monitor/terrestrial_freshwater/colonial_birds.cfm

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