



Colonial Nesting Birds Monitoring in Biscayne National Park

2015

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

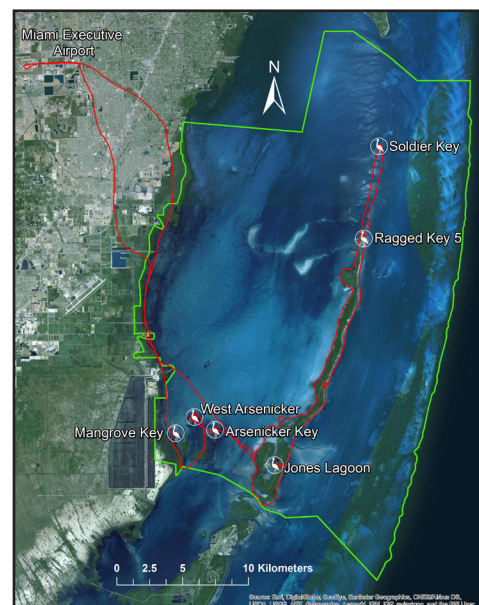
Colonial nesting birds such as great egrets, great blue herons, white ibis, snowy egrets, roseate spoonbills, and cormorants are very important as vital signs of the health of Biscayne National Park. Many of these colonial nesting species have already experienced declines and some are state listed as species of special concern or threatened. 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 may indicate the ecosystem is not functioning properly.

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 of nests 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. Results are reported by nesting season (July 2014 - June 2015).



A nesting pair of Reddish Egrets (*Egretta rufescens*), a Florida State Species of Special Concern. Photographed in June 2015.



The six island sites regularly monitored for nesting colonies displayed with January's census flight route in red.

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Double-crested Cormorant	629	649	368	NS	NS	230	495	316	412	414	650	764
Great Blue Heron	0	0	0	NS	NS	2	3	1	0	12	4	1
Great Egret	0	0	0	NS	NS	0	3	0	0	11	4	4
Great White Heron	0	0	0	NS	NS	11	6	10	5	16	8	3
Roseate Spoonbill	0	0	0	NS	NS	0	0	0	0	0	0	0
White Ibis	38	2	0	NS	NS	0	0	0	0	0	0	21
Total	667	651	368	NS	NS	243	507	327	417	453	666	793

Left: Totals of active nests counted by species and month for the nesting season 2014-2015. Double-crested Cormorants account for the majority of nests (>90%) counted in BISC.

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: *Fifth full year of monitoring*

The SFCN completed its fifth full nesting season of monitoring colonial nesting birds in Biscayne National Park. Especially noticeable was the absence of any Roseate Spoonbills nesting although an adult pair was seen at Jones Lagoon. Overall, the colonial nesting bird community had an average or less than average year compared to previous 2010 - 2014 seasons. However except for Roseate Spoonbills, the remaining focal species numbers were within the range seen in previous years.

Photos



April 2015, a Great White Heron (*Ardea herodias occidentalis*) nesting at Soldier Key. Note the next two photos.



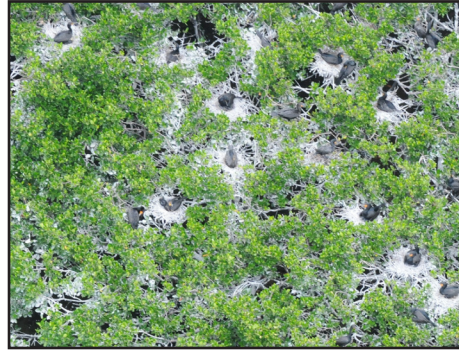
May 2015, the same Great White Heron nest with three chicks.



June 2015, the same Great White Heron nest with two juveniles.



A Great Egret (*Ardea alba*) displays breeding plumage while nesting on West Arsenicker.

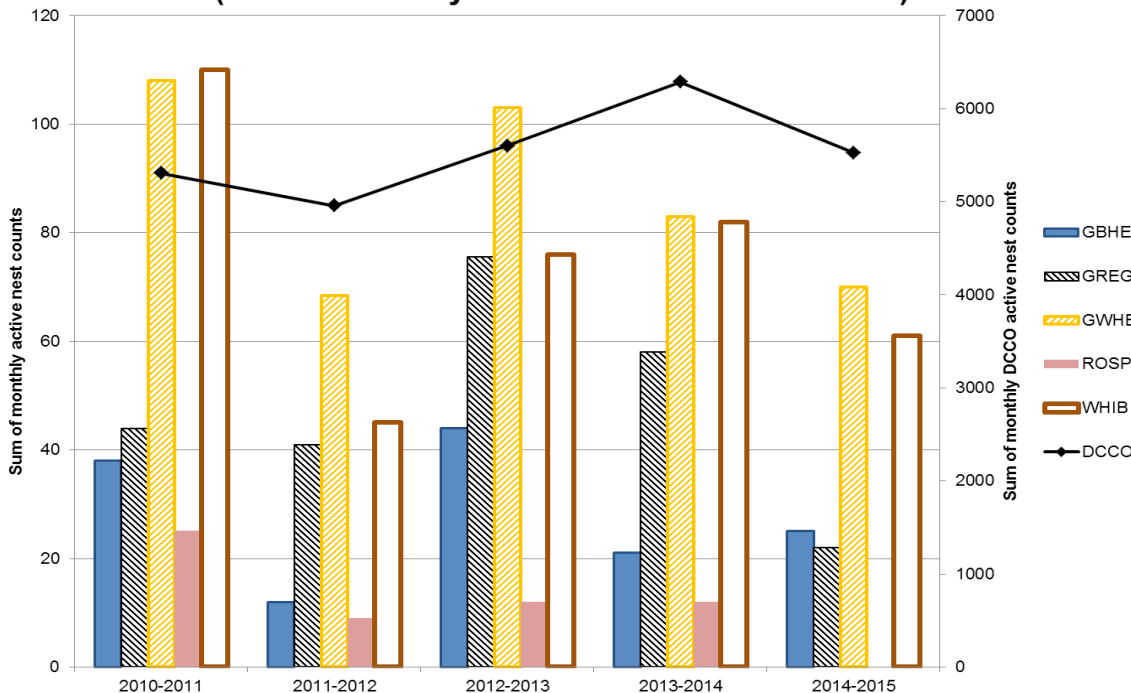


Double-crested Cormorants (*Phalacrocorax auritus*) nesting on Ragged Key 5.



A Great Blue Heron (*Ardea herodias*) nesting with two eggs in Jones Lagoon.

Annual Nesting Index (Sum of monthly nest counts across colonies)



The annual nesting index is defined as total nests counted across all months (July - June) and colonies. Overall nesting for the focal species did not show a trend. However, Roseate Spoonbills were not seen nesting this year which is unusual.

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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