



Colonial Nesting Birds Monitoring, 2016 Summary

Importance: Trends in Nesting Birds Add Insight into Biscayne Bay's Health

Colonial nesting birds such as Great Egrets, Great Blue Herons, White Ibis, Snowy Egrets, Roseate Spoonbills, and Double-crested 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 species of special concern. 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 raise chicks. Colonies are also susceptible to disturbance and predation pressure. A decrease in nesting effort may indicate the ecosystem is not functioning properly.

Objectives and Approach: Monitoring Six Island Colonies

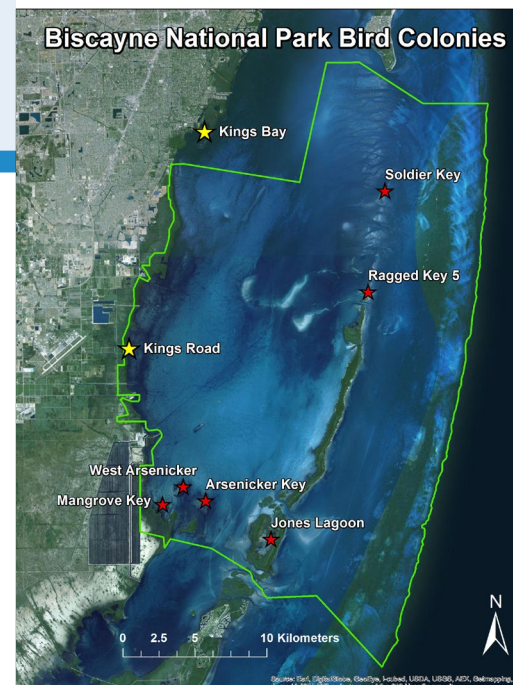
The objective is to track the status and trends in colony size, distribution, and active nests of specific colonial nesting birds species. The monitoring process involves monthly helicopter flights over known island colonies inside Biscayne National Park and an annual search for new colonies. During flights, South Florida/Caribbean Network personnel gather photographic data on nests and also make observations of non-nesting birds at the colonies. Approximately 350 photos are taken per flight. The photo data are then processed and the number of active nests are counted. Results are reported by nesting year (July 2015–June 2016).

Species	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Double-crested Cormorant	885	696	287	121	180	554	700	498	528	NS	NS	963
Great Blue Heron	1	0	0	0	3	3	1	8	8	NS	NS	2
Great Egret	0	0	0	0	0	0	0	6	12	NS	NS	11
Great White Heron	2	0	0	7	12	10	22	17	16	NS	NS	10
Roseate Spoonbill	0	0	0	0	0	0	2	2	3	NS	NS	1
White Ibis	22	1	0	0	0	0	0	0	0	NS	NS	2
Total	910	697	287	136	195	567	725	531	567	NS	NS	989

Totals of active nests counted by species and month for the nesting season 2015–2016. Double-crested Cormorants account for the majority of nests (> 90%) counted in BISC. 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.



A Great Blue Heron (*Ardea herodias*) and a Great White Heron (*A. h. occidentalis*) nesting in Jones Lagoon (January 2016).



The six original island sites monitored for nesting colonies (red stars). Note the two new nesting colonies (yellow stars). Monitoring results from these new colonies will be available in 2017.



South Florida/Caribbean Network
18001 Old Cutler Rd. Suite 419
Palmetto Bay, FL 33157

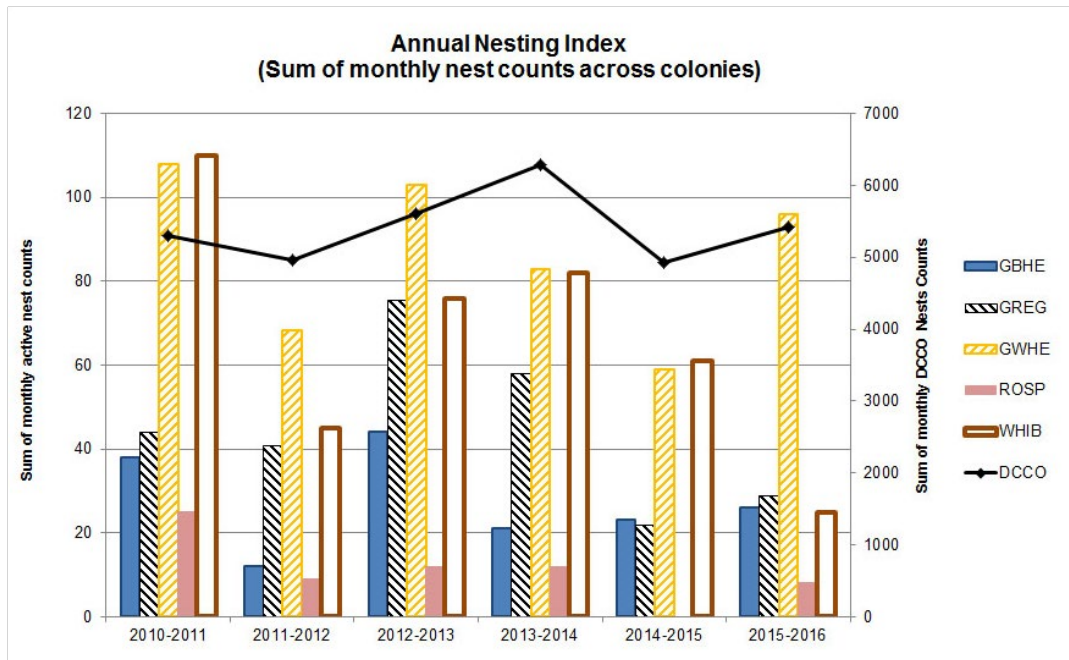
http://science.nature.nps.gov/im/units/sfcn/monitor/terrestrial_freshwater/colonial_birds.cfm

Status and Trends: Sixth Full Year of Monitoring

The South Florida/Caribbean Network completed its sixth full nesting season of monitoring colonial nesting birds in Biscayne National Park. Overall, nest counts were similar to the previous five years, with five of the six focal species peak nest counts and nesting indices falling within the range of variation seen in those years. The exception was White Ibises, which had a 48% decline in peak nest count and a 62% decline in nesting index. However, White Ibis typically nest over the summer, which can cause them to be counted in the upcoming nesting season (which starts July 1). Numbers were lower for the other species as well (Great Blue Herons 1%, Great Egrets 25%, Roseate Spoonbills 38%) compared to the mean peak nest counts of the previous five years. This year also marked the first time we observed Great White Herons nesting at all six colonies. Two new nesting colonies were found this year (see map on front). The nesting results from the new colonies will be included in next year's report.



Above: This figure shows an analyzed photograph that was created while processing nest counts. Only nests considered actively in use are circled. Key: Blue circles indicate empty nests, yellow circles indicate nests with an adult bird, magenta circles indicate nest with a chicks or juveniles, and cyan circles indicate nests with eggs.



Left: 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. Roseate Spoonbills were observed nesting again this year at Jones Lagoon.

Key:

GBHE—Great Blue Heron

GREG—Great Egret

GWHE—Great White Heron

ROSP—Roseate Spoonbill

WHIB—White Ibis

DCCO—Double-crested Cormorant



South Florida/Caribbean Network
18001 Old Cutler Rd. Suite 419
Palmetto Bay, FL 33157

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