

Blue herons are nesting among the bald eagles, but why?

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A Center for Conservation Biology census revealed that great blue herons in the Bay region have climbed from just a dozen colonies in the late 1960s to 407 colonies (14,126 pairs) in 2013. Credit: The Center for Conservation Biology

In February, the great blue herons of the Chesapeake Bay region will begin their nest building or repair chores and their mating rituals—perhaps in a tree they've been sharing with bald eagles.

On the ground, great blues can easily be identified by their blue and gray plumage, long legs, yellow bill, and graceful "S" shaped neck. In the air, these pterodactyl-like creatures with wingspans of up to seven feet are

quite a sight to see.

But in their nests, which often sit in isolated trees hundreds of feet above the ground, it is nearly impossible to observe them—unless you have an airplane and know where to look.

Bryan Watts and Bart Paxton of the Center for Conservation Biology have access to an airplane and know where to look. In May and June, the two logged 200 hours in the air conducting a census survey spanning 900 tributaries of the Chesapeake Bay region (which includes the James River to downtown Richmond).

The CCB census revealed that great blue herons in the Bay region have climbed from just a dozen colonies in the late 1960s to 407 colonies (14,126 pairs) in 2013. In the 1980s the average colony size of great blues was over 100; now it's about 35. So, over the past decade or so, even as the population itself has made a dramatic comeback, the size of breeding colonies of great blue herons in the region has been diminishing.

In addition, photographs taken by Watts during the CCB survey reveal an anomaly: great blues and bald [eagles](#) nesting in the same trees.

"We refer to blue herons as colonial [water birds](#) because they tend to nest together in distinct colonies," says Bryan Watts, CCB director.

"Like eagles, great blues build their own nests."

Sometimes a great blue heron colony forms around an eagle nest, and sometimes an eagle moves into a great blue colony. According to Watts, no one really knows why.

"We first started to see the great blues and the bald eagles nesting together in the mid-1990s," says Watts. "Initially, we thought that eagles

were nesting near great blues because they tended to like the same types of tree. But since then, it's become clear that it is more than that."

Great blues are the largest heron in North America. They live year-round in the marshes and wetlands throughout the Bay region. Herons are colony nesters—sometimes 100 pairs may nest in the same tree. But heron colonies nesting among eagles is a bit of a curiosity. Both species are large, so there is direct overlap between the types of trees that great blues use for nesting and the types of trees that eagles use.

"Both bald eagles and great blues happen to nest in very large trees with what we refer to as scaffolding crowns," Watts says. "These are trees that have a broad crown with large limbs which they need for their nests. Great blues are not as large as eagles – but they have a wide wing span."

Watts said great blues are generally not going to begin to nest and form a colony around long-standing, well-established bald eagle nests in a particular tree.

"But we do see eagles moving into a long-standing great blue colony. And so there may be something related to the stimulus of having a nest structure that attracts one to the other."

According to Watts, there are probably more than 50 eagle nests in great blue colonies just in Virginia. So, it's not just a random association.

"The other thing that isn't known is what kind of impact eagles are having on great blues," he says. "Eagles are predators and it's hard to imagine that if you have an eagle nest there with chicks in it and then you have heron chicks just next door that the eagle parents wouldn't reach over there and get some of those heron chicks."

So, mamma or daddy eagle might be procuring heron chicks for their

own offspring. Watts has photographs taken on the Chickahominy River that show heron wings in an eagle's nest, but he says that there isn't much research to back up the assumption that eagles are feeding heron chicks to their own offspring in significant numbers. Even if the breeding eagles aren't feeding their neighbors to the kids, other eagles may not be so innocent.

"As we know from last year's Ideation story on eagles, the number of juvenile eagles is really increasing," Watts says. "They are the marauding types – the ones out there scavenging – getting whatever they can. There are a lot of them out there and so they may be the ones actually doing a lot of the predation on the chicks."

Naturally, there are decided advantages to nesting in colonies. In order to repel predators and protect the chicks, there is strength in numbers. Watts said the colonies also serve as "information centers" for the graceful wading birds.

"It may be that Joe over here knows of a hot spot fishing area and he comes back to the nest with a lot of fish," Watts says. "And so everyone follows him back to that spot tomorrow. "

Anyone living or working near the water's edge, from the shores of the Bay to tidal marshes and trout streams, has surely a great blue standing sentinel, usually wading silently in shallow water. It's not something to take for granted.

"Eagles, osprey, red-tailed hawk, and great horned owls—all the major predators suffered deep declines in the DDT era," says Watts. "Hérons are included in that. The population got down to a low and probably bottomed out in the early 1970s."

Since the early 1980s, when the CCB began conducting broad-scale

aerial surveys, the great blue heron population has rebounded.

"I think all these water birds – great blues, eagles, osprey – are pretty good indicators of environmental health, so their population recoveries are a good sign," Watts says. "It probably reached a peak sometime maybe eight or 10 years ago. In terms of the number of colonies, there's been a dramatic increase in the number of colonies and a slower increase in the number of great blue pairs throughout the Bay."

In Williamsburg, there are colonies on College Creek just below Lake Matoaka, as well as a small colony on Lake Matoaka itself.

"In that particular situation they are nesting in Virginia pines right along the edge of the lake," Watts says. "Out on Jamestown Island they are nesting in the tall line of trees out on the marsh."

Great blues have such large wings that they don't like flying through the woods – so they either nest in an isolated row of trees or in a single tree on the edge of the woods.

"They usually nest along the edge," Watts explains. "they feed on much smaller fish than eagles and osprey so they are hunting in shallow waters along the shoreline and that's another reason why the Bay is such a great place. The Bay has thousands of miles of shoreline."

While it is interesting to observe [bald eagles](#) and great blue herons nesting in close proximity to each other – and though the population boom is a nuisance to some land developers – Watts says that he considers the region's great blue heron population another conservation success story.

"This is a species that was way down. And they've recovered. It's been a great ride; it's been a great success story for them."

It's been a great success for the CCB also – which pushed pretty hard to have this survey done.

"It was a major accomplishment," Watts says. "It's not easy to cover the entire Chesapeake Bay. In the mid-1990s, when we surveyed the entire Bay for osprey, we mapped all of the osprey nests in the Bay by traveling up the tributaries by boat. It was a two-summer event. This was a lot easier because we flew it."

What does the future hold for the Bay's herons? With the great blue colonies fragmenting, there are ever more colonies – albeit smaller in size.

"And they are much more widely distributed," Watts say. "It is hard – and costly – to cover them. So, we have data on this great blue heron recovery but it may be frozen in this time period."

The CCB survey covered colonies of 25 species of water birds including great blues and great egrets. It will long be recognized as a benchmark for the status of these species spanning not just a few creeks and rivers – but the entire drainage that is the Chesapeake Bay.

Provided by The College of William & Mary

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