

# BIRDS FROM ABOVE

The best way to locate and document breeding colonies of wading birds

**IS TO TAKE FLIGHT.**

Biologists with the N.C. Wildlife Resources Commission have done just that,

**WITH GOOD RESULTS.**

**Written by Erica Newman**

**Y**ou may have seen these graceful birds fishing at stream edges and lakesides with their spearlike beaks. Herons and egrets stand tall and poised, patient and motionless, waiting for a fish or a frog to swim by. Sometimes they fly up from a millpond, extending elegant wings and serpentine necks, croaking at whatever has disturbed their hunt.

Although they are solitary foragers, herons and egrets are highly social breeders. Groups of these birds nest near one another, sometimes two at a time, sometimes in groups of 50. On the Coastal Plain, they can nest together in colonies of 1,000 or more, often in combination with cormorants, wood storks, white ibises and anhingas. Wading bird colonies, also known as rookeries, are easily seen from a low-flying plane.

**Colonial waterbirds such as great blue herons nest in groups of as many as 1,000 individuals or more.**

The Coastal and Inland Heronry Survey Project began in the fall of 2007, when Sue Cameron called a meeting of N.C. Wildlife Resources Commission biologists to brainstorm about colonial wading birds. Equipped with copies of the 2006 Southeast U.S. Regional Waterbird Conservation Plan, we met with Cameron, the commission's coastal waterbirds biologist, and hashed out a plan to survey heron and egret colonies. This was to be the first survey of inland heronries, and an opportunity to update heronry inventories. The first part of this project was surveys by air, with ground surveys of new sites to follow.

The target species of this survey include great blue herons and great egrets, but we are also attempting to locate colonies of the smaller herons and egrets, such as snowy and cattle egrets, green herons, and black-crowned and yellow-crowned night herons, some of which are nocturnal and harder to find than the large, diurnal great blue herons and great egrets. The coastal group is looking for the tricolored heron and little blue heron, which nest later in the season. Some of these species are state listed as threatened or endangered. "This project will give us a chance to fill in critical gaps in our knowledge about the distribution of breeding herons and egrets and give us some indication of population trends," says Cameron, who is herself as willowy, tall and graceful as the birds she studies. She speaks with a combination of relaxed enthusiasm and technical expertise.

"Locating and monitoring coastal and inland heronries will allow the WRC and other agencies to prioritize land acquisition for conservation. Heronries have been surveyed regularly in coastal estuaries, but we lack complete surveys for inland heronries," Cameron says. And so, in accordance with its Wildlife Action Plan, the Wildlife Commission aimed to document heronries throughout the Coastal Plain and the Piedmont region over the course of three years.

The main threats to herons and egrets are habitat loss due to development pressures, and habitat fragmentation and degradation. The challenges of protecting these birds include buffering their roosting areas from disturbance and ensuring a clean environment for the health of the individuals. "Heronries are affected by disturbance," Cameron says, "and the birds themselves may be particularly vulnerable to aquatic pollution and habitat alteration as high-trophic-level predators."



Once we detect a heronry, we fly to the site and circle at higher altitudes until we have estimated active nest numbers and obtained a GPS data point to add to our database.

**Biologists Kacy Cook (left, top photo) and Erica Newman watch for nests as pilot Martin Nordenstam gives them a bird's-eye view of rookeries in the North Carolina Piedmont. The biologists note each nesting site and record the GPS data points. Among the nesting birds counted in the survey were great egrets, a species found throughout the state.**



The surveys take place from late April to mid-May, peak nesting season for herons and egrets. Cameron's group is responsible for the Coastal Plain and spent the first year's survey effort in the Lumber River basin and part of the Cape Fear River basin. For the Piedmont survey, I was joined by Kacy Cook, the commission's Uwharrie Mountains land conservation biologist, and Hume Davenport, a pilot from the nonprofit group Southwings, which provides flight time, planes and pilots to biologists and conservationists conducting aerial surveys. Davenport has conducted many aerial surveys and was scheduled to work with both the Piedmont and the coastal groups. "I'm as thrilled as you guys are to see heronries for the first time," he says.

### TAKEOFF

The first day of surveys is exciting, productive, sickening and new. Cook prepares a route for us to follow on the GPS unit, tracing out the major waterways of the Yadkin River basin. We can follow the route in real time and record which areas we have surveyed, as well as the locations of new heronries. Because we don't have experience doing aerial surveys, our initial plans lead us to make sharp turns for transecting routes. We are looking for round, gray nests in trees near or in water. The trees can be alive or dead, and the nests often appear above a wash of droppings that makes the foliage lighter and gives us a clue to bird activity.

Once we detect a heronry, we fly to the site and circle at higher altitudes until we have estimated active nest numbers and obtained a GPS data point to add to our database. All this data recording and bird watching occurs from a four-seater Cessna flying low to the ground and bumpily. "Let's see if we can defy gravity here," says Davenport, and we bounce higher into the sky for a better view. My stomach executes pirouettes.

While we are following waterways, we encounter unforeseen challenges. We fly through military-controlled airspace and are warned to keep an eye out for helicopters in training maneuvers. We do not see them but instead notice a red-tailed hawk flying beneath us. When I point animatedly, Davenport laughs and yells, "Fellow aviators!" into the headset. We get caught in three separate towers of vultures, and there is a lot of swerving on everyone's part to avoid a collision. I spend the rest of the afternoon a frosty shade



TODD PUSSEY



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of green. I tell Davenport that a little fresh air might help me, and he responds, quite seriously, that we can take the doors off the plane if I would like. We manage to find seven active heronries before the day is, blissfully, over.

By day two, I have gotten the ratio of caffeine to Dramamine right (one cup of coffee to one motion-sickness pill) and take on the surveys with a stomach of steel. This is particularly important for working with our second pilot, Martin Nordenstam, who speaks and swaggers like a Swedish John Wayne. He flies brilliantly, if roguishly. We fly very low over the trees, much lower even than on the previous day, and slowly, with little chance to recover from a stall. But this is what the survey design calls for, and since we are finding an average of eight new heronries a day, we are pleased with detection rates. “I do what I can to help you ladies out,” brags Nordenstam.

We fly over streams, ponds, rivers, wetlands, floodplains and lakes. We spend extra time at the lakes. “There!” Cook yells into the headset. Nordenstam makes the plane slide sideways out of the sky and circles us around a heronry on a lake island. Colonial wading birds prefer to nest on islands, where they are protected from predators such as raccoons and possums. They are also shielded to some extent from the development on the banks. Great blue herons, which are by far the most common wading bird species in the Piedmont, choose the tallest trees to nest in, whether they are pines or hardwoods, and nest high in the canopy. The birds will place up to five nests in each tree, or as many as will fit. Cook and I estimate as best we can at this speed whether we are seeing 35 nests or 45. I record habitat conditions and tree types, as well as which species are present, in a chaotic pencil scrawl on my clipboard as the plane rambles

and jolts along. We circle the colony in a tight corkscrew and add a GPS data point directly to our map while the stall warning squeals in the cramped cabin.

### TRADING PLACES

It is a role reversal, looking down on birds. In my work, I mostly watch songbirds, with binoculars upturned to the sky, or at the very least aimed above me to a nearby bird on a tree or shrub. It was surprising to me, as it must be to the herons, to have them looking up at us with something resembling curiosity. As we pass over a heron colony, I can see that the birds have their beaks cocked at a funny angle and are staring up at the plane. From a few hundred feet up, a heron’s nest is the size of your thumbnail held at arm’s length, and its white eggs are countable. The bird’s expression, on the other hand, is inscrutable.

Nordenstam expertly navigates us through the anxiety-producing controlled airspaces near Charlotte and Winston-Salem. Sometimes we are trapped in what seem like knots in the time-space continuum, trying to get permission to survey a known heronry near a city, and then trying to get permission to leave, or to try to survey again. Sometimes we are denied or told to wait, and then we are off track. I negotiate with Nordenstam about which survey transect to pick up when we can get permission to leave. A 100-percent survey of each river basin will be impossible, and though we can estimate population numbers based on the proportion of areas we were able to survey compared to the areas we could not, we are still trying to be thorough. “My hands are tied here,” Nordenstam says. “We don’t want to turn into a fireball when one of those outbound planes hits us.” No, of course not. I smile nervously. It’s all for the herons, I tell myself.

When we land, Cook and I give interviews to reporters from newspapers in Montgomery and Stanly counties. They are concerned with changing land use and economic development in their counties. We tell them what we can about clear-cutting and development, and how what we are seeing in terms of development of subdivisions is destruction of the environment on a large scale. We take them up in the plane with us and show them heronries, which provoke amazed comments. They can also see how the landscape is changing, and at what scale. “At the rate and with the practices we are using to develop land, we need to consider wildlife conservation to prevent



How Do Herons Capture Prey?  
See *Nature's Ways*, page 39.

its extinction,” says Cook. “Everyone needs a place to live and a place to work, but there are development practices that leave space for our wildlife, so it will always be there for us to enjoy.”

In a later conversation, Cook impresses upon me that what we learn can not only help local governments plan their land use in more ecologically sound ways but can also be used by private landowners to plan around the wildlife habitat on their property. As more of a “deep ecologist,” I believe that the herons should be protected for their own sake and not just for our enjoyment, because when economic pressures are applied, we may not be so keen to protect birds as we are to make money from land. “It’s true,” says Cook, “but with herons, we have long-term, enduring economic benefits from protecting them and their habitat, like clean water, clean air and open space.”

Our surveys continue for about two weeks. We find 35 new heronries and a number of single nests that we will check for more activity in future years. Some of the nesting sites surprise us, such as the 120-nest heronry right next to the Lowe’s Motor Speedway near Charlotte. We also fail to find a few known heronries and cannot yet tell if they have relocated or simply blinked out of existence. With the scope and thoroughness of this project, though, we may be able to tell if the overall populations of colonial waterbirds are holding up. Cook and I feel good about finding the new heronries. I feel nervous about the others.

As we land and taxi down the runway, a great blue heron flies above us with its steady, rubbery wing beats and feet trailing behind its body. It is a beautiful bird, large and serene, blue and gray, both subtle and striking. After seeing hundreds of birds from above, the sight of one more flying over us still makes my heart leap with joy. I look up and pause to appreciate a bird reclaiming its rightful relationship in the skies above us. ♦

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Although birds such as green herons (counterclockwise from top left), little blue herons, great blue herons and yellow-crowned night herons are solitary hunters, they all nest in groups.



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