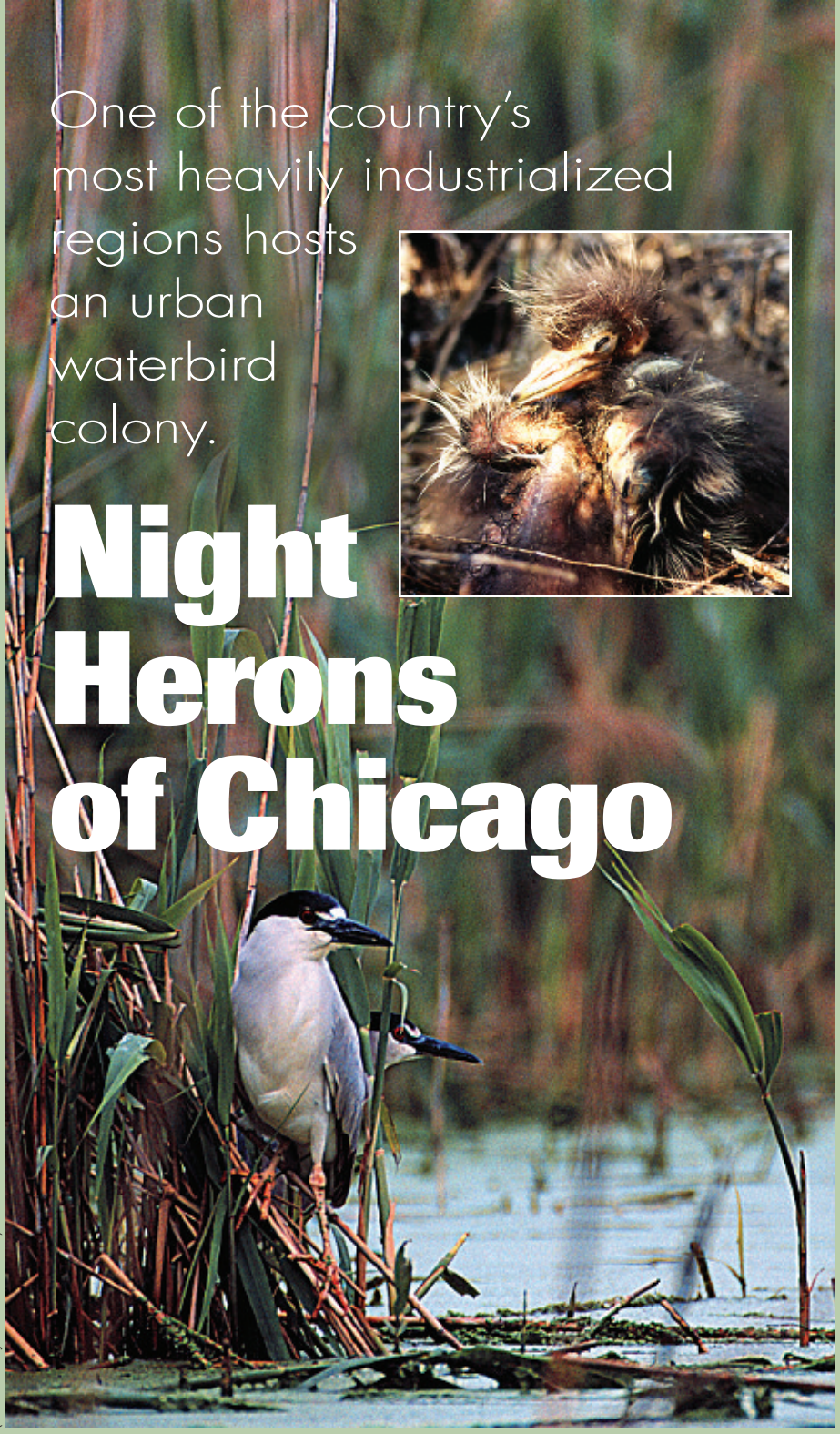
Story By Jeff Levengood
Photos Courtesy Illinois Natural History Survey

One of the country's most heavily industrialized regions hosts an urban waterbird colony.

# Night Herons of Chicago





(Photo courtesy of Michael Jeffords.)

**The wetlands at Lake Calumet provide habitat for a mated pair of adult black-crowned night herons and their chicks (inset).**

Wading through 2 feet of water and an equal amount of thick muck, the scientific team parted 10 to 12 foot high grasses, exposing a nest holding four gangly, shrieking chicks. Feigning ferocity, the nestling black-crowned night herons (*Nycticorax nycticorax*) resembled miniature pterodactyls.

Hundreds of nesting herons and egrets—and grebes, rails, coots, moorhens, ducks, geese and terns—find cover in the emergent vegetation of Lake Calumet's marshes. Located in southeast Chicago, these wetlands support a diversity of wildlife—and sit amid landfills, steel mills and manufacturing plants.

The Calumet region was once a vast complex of glacial lakes, wetlands and sand prairies. Even now, despite the extensive habitat loss and degradation expected in one of the most heavily industrialized and populated sections of the United States, the area remains among the most biologically diverse in the state.

A number of wetland-dependent breeding birds of concern nest in marshes adjacent to Lake Calumet, including the state-endangered black-crowned night heron. One of the largest remaining breeding colonies in the state, this population is of considerable interest to natural resource managers, environmental groups and the public. Although populations of this bird have increased nationwide since DDT and other persistent pesticides were banned, a lack of large, emergent wetlands and frequent, prolonged flooding of major rivers may be hampering recovery of Illinois populations.

Early printed references to black-crowned night herons nesting at Lake Calumet are spotty but date to the late 1800s. The colony declined in numbers after 1990, but has been more or less stable for the last eight years at between 300 and 400 breeding pairs.

Black-crowned night herons are stocky, short-legged herons that nest in trees, shrubs or emergent vegetation. They feed in rivers, streams, lakes and marshes from sunset to sunrise and will take advantage of any easily captured prey, although the focus of their diet is small fish and crayfish.

Night herons begin to arrive at marshes adjacent to Lake Calumet in mid March, with peak numbers occurring in early May. Males begin the nest-building process, in an attempt to attract a mate, using a clump of phragmites stems remaining from the previous year's growth. Plant growth throughout the incubation and brood-rearing periods helps hide nests from predators and nesting neighbors.

**Each week during the study, researchers from the Illinois Natural History Survey counted the number of eggs or chicks in nests and measured bill lengths to monitor growth.**

Nest-monitoring efforts show clutches range from two to five eggs, with the first eggs laid about April 20. Because these birds are asynchronous breeders—the nesting process starts at different times among birds and eggs hatch from a few hours to two days apart—the first hatched chicks are larger, resulting in fierce sibling competition.

The last clutches at Calumet's Indian Ridge Marsh are complete by mid to late May. Juveniles become flighted at about six weeks, although parents may continue to intermittently return with food and dispersal is delayed until the young are approximately eight weeks old. A dramatic decrease in the number of juveniles takes place by late July to early August, with few night herons left by the end of August.

As part of an effort to study patterns of contaminant exposure in this population, volunteer birders helped identify potential foraging areas in southeastern Chicago. Black-crowned night herons nesting in Lake Calumet's marshes forage throughout the southwestern Lake Michigan region. Each April, a large portion of the colony flies as far north as Montrose Harbor to forage on alewife during their inshore spawning run. The herons have developed unorthodox feeding methods in that area—diving from seawalls and piers or hovering over the water like gulls. The presence of large numbers of alewife coincides with hatching of heron chicks and this super-abundance of food during brood rearing may explain the persistence of this large colony.

Analysis of heron eggs, as well as fish and crayfish from known foraging locations, revealed that the birds continue to be exposed to low levels of environmental contaminants such as mercury, PCB and DDE, but no obvious effects of contaminant exposure—deformities or poor hatching success due to eggshell thinning—have been documented. However, the long-term impacts of simultaneous exposure to low levels of a number of toxic chemicals is unknown.

Through this research, conservation planners and managers have a better understanding of the ecology of this urban waterbird colony. Because of the Calumet Ecological Management Strategy, the future appears brighter for black-crowned night herons and other nesting wetland birds inhabiting Lake Calumet's marshes.

For the Calumet area, black-crowned night herons symbolize restoration of quality habitat and environmentally sensitive economic revitalization. The Calumet Ecological Management Strategy, led by the City of Chicago's Department of Environment, the Department of Natural Resources and Chicago's Environmental Fund, sets the framework for the Calumet Open Space Reserve. The intent of this "bioreserve" is to maintain or enhance populations of plants and animals, and provide outdoor recreation and nature education.

The black-crowned night heron project was funded by the Illinois Waste Management and Research Center, Chicago Department of Environment and Illinois Wildlife Preservation Fund, with in-kind services contributed by the Illinois Department of Transportation and Three Rivers Environmental Assessments.

Dr. Jeff Levengood is a wildlife research scientist and certified wildlife biologist with the Center for Wildlife and Plant Ecology, Illinois Natural History Survey (INHS). Along with INHS field assistants Maggie Kurcz, Allison Klement and Walter Marcisz, Levengood examined the breeding and foraging ecology of the black-crowned night heron colony at Lake Calumet during the 2002 and 2003 seasons.

**The Lake Calumet Area in northeast Illinois is a prime example of wildlife adapting to life in an industrialized area.**