

## Nature's Winged Warning System



The last ones.

Those words have been uttered countless times since humans began noting the extinctions of other life forms on earth hundreds of years ago. Tens, possibly hundreds, of thousands of species have died out since then, some quite possibly without ever having been seen by the humans who played a role in their demise. Tens of thousands of additional species today are on watch lists that often signify the first step toward extinction; in the United States alone, more than sixteen thousand species have begun to decline and require intervention.<sup>1</sup>

The extinction of a bird species has often come down to this scene: One or two aged survivors—where there were once thousands, even millions—clinging to life in captivity as the humans who are responsible for their destruction helplessly watch the countdown of nature's clock. This was the fate of the passenger pigeon, the Carolina parakeet and the dusky seaside sparrow.

And this was almost the fate of the California condor, a magnificent bird with a nearly ten-foot wingspan. The condor looks much the same today as it did in the Pleistocene Epoch, more than ten thousand years ago, when it soared over a landscape—including an ancient New York—that was populated by mastodons and giant sloths. Yet these huge, graceful creatures almost died off in one generation of modern human history. Condors came so close to extinction in the mid-1980s that the U.S. Fish and Wildlife Service caught the last twenty-two wild

birds and placed them in protective captivity until a breeding program got under way. The controversial last-ditch effort worked. The condor's story continues, at least for now, with captive-raised birds once again flying in the American West and slowly beginning to reproduce.<sup>2</sup>

But for so many others, there were no witnesses, just the belated realization that a species had vanished. No one knows who last saw an ivory-billed woodpecker, a bird of almost mythical stature and now widely considered extinct, but it has haunted ornithologists for seventy years with disputed sightings. In looking back at this and other recent extinctions of birds, the question might be asked, "Why didn't someone do something before it was too late?" Often, someone tried, but they could not marshal enough money and legislative clout to save habitat or attempt restoration of the species. Timing is everything in the fight to save a species. Many of the people who worked thirty and forty years ago to save bald eagles and peregrine falcons say that if they were to attempt those rescues today, politics and bureaucracy would have stalled their efforts and probably doomed both species.<sup>3</sup>

Biology also plays a role in rescue efforts. Birds have complex physiologies, exacting courtship rituals, and very specific needs for feeding and nesting. Even when researchers can duplicate these conditions in captivity—an extremely rare feat—birds may not respond to them, for reasons that biologists don't always understand.<sup>4</sup> For all that the bald eagle had been studied, no one could predict how the Hemlock Lake eagles would behave when Pete Nye and Mike Allen placed an eagle chick into their nest in one of the earliest attempts at using wild adult eagles as foster parents. Would they kill the chick? Abandon the nest? As with so much else in that project, the field research was rolled right into the actual rescue effort, in a learn-as-you-go approach to restoring a species.<sup>5</sup> Falconers have used peregrines for more than one thousand years, but no one had ever gotten them to reproduce in captivity by more than a few at a time, until Tom Cade and his team at Cornell University did so in the early 1970s.

Humans have long been very good at ignoring certain birds until they're almost gone, and we often pay the most attention to them when they interfere with progress. Witness the anger in the Pacific Northwest in the early 1990s when the U.S. Fish and Wildlife Service designated the northern spotted owl as Threatened, and dramatically reduced logging on federal lands that were also owl habitat.<sup>6</sup> For a version of this story closer to home—and one that features exasperation and bemusement by the affected parties more than anger—consider

the field in a Buffalo suburb that unexpectedly turned out to be one of western New York's last known nesting sites for a drab little bird known as the Henslow's sparrow. This discovery of a Threatened species surrounded by suburban sprawl indefinitely delayed a housing development, which was planned at least a decade ago but as of this writing in late 2014 has yet to be started.<sup>7</sup>

Of the six species that I focus on in this book—the peregrine falcon, the bald eagle, the short-eared owl, the common loon, the Bicknell's thrush, and the piping plover—half are on the DEC's list of Endangered species: the peregrine, the owl, and the plover. The bald eagle is listed as Threatened—one step below Endangered—and the common loon and the Bicknell's thrush are classified as Species of Special Concern. Special Concern means these birds, “warrant attention and consideration, but current information, collected by the Department, does not justify listing these species as either Endangered or Threatened.”

As of this writing, New York has, according to the DEC, at least seventy-seven territorial pairs of peregrine falcons, with a territorial pair defined as a male and female bird in suitable nesting habitat during the breeding season, usually also exhibiting courtship behavior and creating the pile of gravel known as a scrape, on a ledge that serves as the crude nest for peregrines. Those seventy-seven territorial pairs are believed to be at least equal to the number before the DDT years. New York's bald eagle population now stands at three hundred pairs; there were about twenty pairs in the late 1940s, before the DDT decades.

But no matter how well any one species has rebounded, all of these birds face grave pressures that could critically reduce their numbers in our lifetimes. And the danger is hardly limited to these six species, because all of these birds share habitat with other birds that could be similarly affected.

When they migrate to New York from their summertime Canadian nesting territories, short-eared owls need grasslands for their winter hunting. However, those grasslands are also prime targets for development as farms go up for sale. Very little is known about these engaging feathered hunters. It is certain, though, that the preservation of New York's grasslands—which are often the century-old byproduct of farming—ensures a diverse community of birds.

The common loon needs large stretches of clean fresh water, which it finds in New York's Adirondack Park. But humans also love those same waters, and human activity can disturb loons at their secluded

nesting sites. Loons face many other hazards including mercury contamination from airborne pollution; acidification of lakes; lead poisoning from fishing tackle; and a type E botulism outbreak that has killed tens of thousands of Canadian loons as they land on lakes Erie and Ontario during migration.

Piping plovers lead an incredibly precarious existence; their nests on a beach are so exposed, and yet so well camouflaged, that people can walk on them without realizing it. Long Island has the largest population of piping plovers on the Atlantic seaboard, but a peaceful co-existence between the piping plover and the human beach-goers vying for that same coveted shore has been elusive.

The Bicknell's thrush may face the most desperate plight of any bird in New York, and much of the rest of the country. This reclusive songster with the lyrical call nests on alpine summits in the Northeast, including the Adirondacks. Its population may be numbered in the tens of thousands. And it faces two critical threats. First, its summer breeding sites are becoming threatened as global warming reduces the spruce and fir tree forests in the Northeast. Second, deforestation in Haiti and the Dominican Republic has reduced its winter habitat to a fraction of what it used to be. Birds sometimes adapt to changes in habitat; can the Bicknell's thrush do so, before it is too late?

This book will attempt to answer such questions, while also telling at least part of the story of New York's proud history of bird conservation. That story includes some of the country's earliest efforts to survey birds and protect bird habitat, and also the historic rescues of the peregrine falcon and the bald eagle. These stories are legendary in the world of wildlife biology, but may not be as well known to a new generation of New Yorkers.

Finally, this book tells about the people who protect birds in New York. Many of them have quietly done ground-breaking field work at state and federal agencies and nonprofit wildlife groups for years with little public recognition. Bird work is almost always difficult, often dangerous, and sometimes simply heartbreaking. The popular image of a bird researcher strolling through a meadow on a spring day with binoculars could not be farther from the truth; instead, such research often unfolds in isolated, dangerous locations, and under extreme hardship.

In three years of accompanying bird researchers on field work, I saw people sit for hours in freezing cold, endure primitive living conditions for weeks at a time at research stations, band birds atop bridges and 100-foot trees, and hike remote trails at dawn in bear country. I

have yet to see an out-of-condition bird researcher; most look ready for master-level athletic competitions. As I scrambled to keep up on field research trips, I understood why I never saw any of them smoke, and why so many of them lift weights, rock-climb or run, so that they can continue the rigors of field work. That lifetime of care pays off. Tom Cade, now in his eighties, traveled through Alaska's Yukon region by canoe while in his sixties, and still travels to Central America on research trips.

When I started this book, I knew that I would hear interesting stories about professional bird researchers. An unexpected discovery was the many laypeople who contribute to bird work as volunteers or seasonal technicians. They include the members of the Mountain Birdwatch organization, the people who monitor peregrine falcon and bald eagle nests, and the amateurs who trained themselves to an astonishing level of knowledge for the greater good of bird conservation. Professional researchers acknowledge that they could not track bird populations in a huge state like New York were it not for volunteers who watch nests, conduct surveys, and report sightings, and the seasonal people who come back year after year for nominal pay.

The volunteers include people like Joan Collins, a Mountain Birdwatch surveyor who camps alone on a desolate slope to search for Bicknell's thrushes, and Bob Yunick, a retired chemist who has banded nearly two hundred thousand birds in forty years, and has taught master classes on bird banding to state biologists. Dozens of volunteers monitor peregrine falcon, bald eagle, and loon nesting sites; these amateurs visit places that full-time biologists could not possibly reach in one nesting season. The nest monitors continue a legacy that started in New York thirty-five years ago, when amateurs watched over peregrine falcon chicks in remote locations, as one of the greatest-ever rescues of a species unfolded here and fanned out all over the country.

I also pay tribute here to the pioneering women in New York's bird conservation history who entered the field a generation or more ago, when it was far less common for women to become wildlife biologists. Two women I met were discouraged in high school from becoming wildlife biologists, and fortunately, they ignored that advice. Another became the first person known in the history of ornithology to rear young bald eagles in the wild so that they could be released to help repopulate the species—and this was her first job as a biologist. Still another played an historic role in the rescue of the peregrine falcon, with almost no formal education in the sciences. These women

handled the same responsibilities as the men, under isolated and dangerous conditions; they endured the same difficulties, and they made major contributions to bird research. I came to know several of these women, and I know there were many others I did not meet who had equally compelling careers.

Now, let all of these stories be told, of the rescuers who came along a generation ago, of those who continue that legacy of bird conservation in New York today, and of the beautiful, mysterious creatures—descendants of the dinosaurs, and survivors into this modern world—that inspire such dedication.