



Smithsonian
National Zoological Park



Greening the Big Apple

by Jennifer Uscher

Bob DeCandido was smiling, clutching a neon-yellow boom box in one hand and an industrial-strength flashlight in the other. On a chilly April night, DeCandido and I had ventured into the lush darkness of Central Park's North Woods accompanied by a rowdy Boy Scout troop and several birdwatchers. We would pause every few moments as DeCandido, a ranger for the New York City Parks Department, held the stereo high above his head, pointed the speakers at the sky, and played the tape.

The sound that emerged was an eerie, plaintive trill, descending in tone. It echoed off the trees, resembling the whinny of an agitated horse. We waited and waited. No response. "It's like trying to contact aliens," whispered a frustrated birder. "How do we even know if we're using the right language?"

The alien we were trying to contact that night two years ago was the eastern screech-owl (*Otus asio*), a diminutive bird, no taller than a soda can, that is found in woodlands east of the Rockies from northeast Mexico to the boreal forests of Canada. No one knows exactly why these tiny, fearless birds respond to taped calls. They could view it as a threat from a competitor, or the come-on of a potential mate. It may be that they are just curious or lonely. If you're lucky, they'll call back to your tape, alight on a nearby branch, and allow you to shine your flashlight on their face. At this point, I had been on three of these Central Park "owl prowls" in as many weeks and had yet to see a single one of these elusive nocturnal predators. (We did at one point mistake a far-off police siren for a possible lovesick owl.) The anticipation of our ongoing search was heightened by the fact that we were witnessing a unique experiment in urban ecology.

After breeding in Central Park for decades, screech-owls vanished in the early 1960s, perhaps due to poisoning, removal of dead and dying trees in which they nested, or starvation during a particularly harsh winter. Due to the fact that screech-owls don't migrate in significant numbers, once they disappear from an area they are often gone for good. But Bob DeCandido, a biologist who works on wildlife reintroductions for the Parks Department, believed he could bring them back. DeCandido estimates that Central Park could sustain several breeding pairs because the ecosystem in the park appears healthier than it had been in the 1960s, with plenty of prey to sustain the owls—including rodents, earthworms, fish, and birds—as well as dead trees for roosting and nesting. Furthermore, screech-owls have been breeding successfully in Inwood Hill Park in northern Manhattan for many years.

A man with a contagious passion for nature, DeCandido became intrigued with birds of prey in his early 20s when he was surprised to spot owls and hawks during early-morning jogs in Pelham Bay Park in the Bronx. He then volunteered for an organization called The Peregrine Fund, which dropped him into the remote mountains of California's Lassen Volcanic Park, along with a 25-pound bag of rice, to study a pair of peregrine falcons (*Falco peregrinus*) for six weeks. During this stint, DeCandido grew a beard, lost a lot of weight, and developed a life-long commitment to studying and helping protect birds of prey. Now, he's out on the mean streets of New York City to further this quest.

Rats slithering down oily subway tracks, roaches scampering behind the walls, pigeons befouling the sidewalk—these are the images many have of New York City's wildlife.

While it's true that the city is hospitable to those tough, street-smart scavengers, it also hosts a surprising diversity of other creatures that one might associate with more pristine wilderness.

In Inwood Hill Park, located on the northern tip of Manhattan, wild turkeys (*Meleagris gallopavo*) forage in the brush while southern flying squirrels (*Glaucomys volans*) leap between tree branches, and little brown bats (*Myotis lucifugus*) skitter overhead. Bright green South American monk parakeets (*Myiopsitta monachus*)—escaped pets who've established breeding colonies in several boroughs—dine at backyard bird feeders and nest in the gothic spires at the entrance to Green-Wood Cemetery in Brooklyn. Black-tailed jackrabbits (*Lepus californicus*) hop through high grasses, while diamondback terrapins (*Malaclemys terrapin*) inch across the runways to lay their eggs at JFK Airport in Queens. A peregrine falcon tosses a pigeon to its five downy nestlings in a nest perched on the 14th-floor windowsill of a Wall Street skyscraper. Harbor seals (*Phoca vitulina*) and gray seals (*Halichoerus griseus*) sun themselves on rock shoals at the western end of Long Island Sound in the Bronx. Elegant, long-necked wading birds, such as black-crowned night herons (*Nycticorax nycticorax*), snowy egrets (*Egretta thula*), and glossy ibis (*Plegadis falcinellus*), nest on tiny islands in New York Harbor, indifferent to the passing trash barges and oil tankers. New Yorkers can witness most of these scenes for the price of a round-trip subway or bus fare.

How could this diversity of species call the same city home? New York is built on a series of islands where the Hudson River, Long Island Sound, and the Atlantic Ocean come together. The city has more than 28,000 acres of parkland comprising a great variety of habitats from woodlands to grasslands, ponds, marshes, and sand dunes. Enclosed on all sides by concrete high-rises in the middle of Manhattan, Central Park alone boasts 843 acres of forests, meadows, and ponds.

With more than 350 resident and migratory bird species found in such a concentrated and accessible area, it's not surprising that New York City hosts one of the world's largest and most devoted cadres of birdwatchers. Last year, birders in Central Park recorded more than 200 species, including thrushes, tanagers, woodpeckers, vultures, shrikes, flycatchers, and swallows. The city's parks are appealing to avian migrants who, after flying over expanses of concrete and highway, are drawn to these inviting patches of green. On a warm morning in May you can spot tiny, brilliantly colored warblers like northern parulas (*Parula americana*), American redstarts (*Setophaga ruticilla*), and common yellowthroats (*Geothlypis trichas*). As many as 30 warbler species drop by the city's parks to gorge themselves on bugs while returning from their winter homes in Mexico, the Caribbean, and South and Central America. In the excitement of straining to identify each one, you're likely to develop what Central Park birders call "warbler neck."

Screeching About Owl Reintroduction

Despite the city's birding fervor, not everyone has supported the screech-owl reintroduction. Far from endangered, screech-owls are one of the most common owls in the Northeast. When the Parks Department first announced its plans in 1998, concerned citizens from a group called the Woodlands Advisory Board objected to aspects of the project. They believed it was irresponsible to reintroduce the owls, as the cause of their original disappearance remained still unclear. The project, they claimed, was nothing more than a public-relations stunt.

But the biodiversity team could point to a promising precedent for reintroducing birds of prey in big cities. Since the 1970s, captive-bred peregrine falcons have been successfully reintroduced in New York, Chicago, Atlanta, and Baltimore, among others. Though falcons face different threats in the city than in rural areas (for example, crashing into

moving vehicles, colliding with the reflective-glass walls of buildings, or, in the case of fledglings, falling down chimneys), biologists believe that they do well in cities because of the abundance of prey and the absence of predators. Today, savvy urban peregrines nest contentedly on such prominent landmarks as Manhattan's Met-Life building and the Brooklyn Bridge.

The screech-owl reintroduction was just one in a series of attempts by the New York City Parks Department to bring back lost native plants and animals in an effort to increase the biodiversity of the city's natural habitats. Project-X, as the city-wide initiative is known, began in 1997 with the reintroductions of butterfly weed (*Asclepias tuberosa*), bird's foot violet (*Viola pedata*), Fowler's toads (*Bufo fowleri*), eastern box turtles (*Terrapene carolina*), and woodchucks (*Marmota monax*). So far, more than 36 different plant species and 23 animal species have been reintroduced to parks in all five boroughs.

"The Parks Department has done significant restoration to many of these habitats," according to E.J. McAdams, biodiversity coordinator for the Urban Park Rangers. "Migratory species are finding their way back, so we try to reintroduce non-migratory species that wouldn't have been able to come back otherwise." Yet the many failed Project-X reintroductions demonstrate that the odds might be against such long-lost species making a comeback. For example, 28 bobwhite quail (*Colinus virginianus*) released in Pelham Bay Park in 1998 were eaten by such predators as feral cats within a month. The ebony jewelwing damselflies (*Calopteryx maculata*) released in Central Park laid eggs on a lake in the northern end of the park, but they don't appear to have hatched, and the rangers now hypothesize the eggs or the nymphs themselves were eaten by birds. No one knows what became of the luna moths (*Actias luna*) or spring peepers (*Pseudacris crucifer*) that simply disappeared shortly after their release.

Though Project-X may have failed to re-establish these species, the publicity surrounding the projects may be doing something even more vital for urban wildlife: piquing the public's interest in their fate. The Parks Department believes that reintroducing the charismatic screech-owl to Central Park—the city's most visited park and a mecca for birdwatchers from around the world—would have not only scientific but aesthetic and educational value.

Eastern screech-owls rarely exceed eight inches in height, but like their much larger cousin (and primary predator), the nearly two-foot-tall great horned owl (*Bubo virginianus*), screech-owls have prominent wide-set feathered ear tufts. These "horns," along with the screech-owl's large, lemon-yellow eyes, lend them an elfin and mischievous appearance. They can be one of two colors: a silvery gray or a cinnamon red. They're hardy, highly adaptable birds and, despite their diminutive size, have a fierce personality. Screech-owls are sit-and-wait predators, stealthily eyeing their prey and then diving quickly to seize it in their talons. They'll easily attack, subdue, and carry home prey that weighs more than they do, such as the infamous brown rat (*Rattus norvegicus*). Unlike many birds of their size, screech-owls project a zen-like calm and confidence that comes from luxuriating in their high place on the food chain.

In August 1998, six young screech-owls, which were born in the wild but raised by wildlife rehabilitators in New Jersey, were banded and released in an evening ceremony in Central Park. Bob DeCandido held his breath as the owls flew silently into the trees in different directions amidst the glare of flashing cameras. These birds had already survived a harrowing childhood; five of them were siblings orphaned when their mother was cut in half by a chainsaw as she sat in a hollow tree. Three and a half years after their release, only one of the original six owls is known to be living in Central Park. One was found dead in 1999, apparently hit by a car, while another was discovered in shock and

returned to captivity. The fate of the other three is unknown. Still, DeCandido is encouraged by the rate of survival: “Sixty to seventy percent of screech-owls in the wild don’t make it past their first year, so we’re actually doing well.”

Throughout 2000 and 2001, I joined DeCandido on evening walks to search for the owls. On many nights we got not a single response. DeCandido admits that tape playback censusing is not always efficient—but it’s far easier than trying to spot owls during the day. Screech-owls spend most of the daylight hours sleeping on branches or in tree hollows, and their posture and bark-like feather patterns allow them exquisite camouflage. I’ve seen them affecting this roosting stance: eyes closed to mere slits, ear tufts raised to points, facial feathers aligned perfectly to simulate bark furrows. A fluffed-up ball of feathers, they resemble nothing so much as a sleeping Furby. When they do respond to the tape, it’s indescribably exciting.

On a walk in the late spring of 2000, the birders were milling about, chatty and inattentive after two hours of fruitless wandering in the Ramble, a wooded, hilly area in the middle of the park. I was still poised and ready, holding my breath, straining my ears, and grasping my binoculars. I perceived what at first sounded like a trick of the ear, perhaps a distant echo of the playback. DeCandido mimed to everyone to pay attention, and suddenly the crowd let out a collective, almost frightened gasp as we felt the whoosh of dark wings swooping over our heads. DeCandido scanned the nearby treetops with his flashlight and, sure enough, a screech-owl had landed in a branch only 15 feet above us. It continuously called back to the tape in a higher-pitched, sweet and curious purr. Its presence was at once ghostly and warm.

After a moment, the owl flew to another branch directly above the tape player, perhaps trying to pick out an imagined companion. Its 20-inch wingspan in flight was incredible—I could hardly believe a bird roughly the size of a man’s fist when perched can take on such proportions in the air. We walked to the main pathway, where DeCandido played the tape one more time. The owl actually followed us to our new spot, landing in a tree beside the path. ‘Don’t go’ it seemed to be urging. The owl appeared more eager to make contact than even we were.

Luckily, it would soon have new neighbors. The Parks Department expanded the screech-owl reintroduction project in the summer of 2001, teaming with William Giuliano, a wildlife ecologist at Fordham University who has studied and tracked screech-owls in Kentucky. Along with a graduate student, Chris Nagy, two undergraduate assistants, and the biodiversity team, Giuliano set about surveying the parks for suitable habitat, obtaining owls from rehabilitators in three states, preparing them for release, and then monitoring them by radio-telemetry.

Last September and October, another group of 18 owls that had hatched the previous spring, but were orphaned and raised in captivity, were released in three wooded locations throughout Central Park. But unlike the birds in the first release, each was fitted with a radio transmitter enclosed in a strap-on backpack slightly bigger than a nickel. The transmitter gives off a signal that allows it to be tracked from as far as a mile away. Researchers now can monitor and collect data on the birds’ mortality, nesting patterns, and foraging habits in a much more detailed and reliable fashion.

I met Nagy and the rangers for a release on the terrace in front of Belvedere Castle—the highest spot in Central Park—on a cool, humid night in late September. Ranger James MacDonald had spent the previous few hours trying to attach backpack transmitters to the recalcitrant owls, one of which bit him through a thick leather glove and would not let go. Somehow he was still charmed by the birds. “They’re the most endearing animals I’ve ever worked with,” MacDonald confided, calling them, “fuzzy lumps of malice and

personality.”

Nagy set down a powder-pink dog carrier, which had been used to transport three screech-owls flown in from Michigan earlier that day. He cautiously opened the top and instructed us all to back away and stay silent. Immediately, one owl darted out toward the tall trees lining the edge of the Great Lawn below. The two others remained in the carrier, disoriented, no doubt, by their hectic travels and this first, confusing offer of freedom. We waited ten long minutes, watching tiny ear tufts peek out of the carrier. I was starting to get impatient when they took off simultaneously, heading in the same direction as the first owl and barreling into the darkness in frenetic flight.

Within a month, seven of the 18 released owls had nibbled their way out of their backpacks, but Nagy managed to trap and refit several of them. Three birds from the fall 2001 release are known to be dead (one died from starvation, one from head injuries, and one from pesticide poisoning). A fourth sick bird is being rehabilitated and may soon be returned to the wild. However, the owls appear to be gaining confidence as they have expanded their hunting territories and are venturing out beyond the limits of the park. Nagy tracked an owl to the walls around the Metropolitan Museum of Art. Another owl spent a couple of days hunting in a construction site on Madison Avenue. The boldest one took a jaunt north to Morningside Park at 123rd Street. Though this park is nearly adjacent to Central Park, E.J. McAdams of the Urban Park Rangers theorizes that the owl must have navigated through at least a couple of busy city avenues to get there.

“The owls use the urban environment to their advantage,” says McAdams, pointing out that they are frequently found hunting near lamps in the park. “They seem to use the light source so they have a better chance of grabbing prey.” Surprisingly, the owls are also unfazed by human activity and noise, happily ignoring passing cars, bikers, and the deafening pop music from a nearby skating rink. They react to the sounds of other animals, however. The rangers once watched an owl scoping out prey by the East Drive when suddenly an ambulance came around the corner with its sirens blaring and its lights flashing. The owl didn’t miss a beat, eyes fixed on the ground to find prey. Later a horse-drawn carriage came around the same bend, and the horse let out a loud neigh. The owl turned around to watch the horse. “It’s fascinating to notice how they make those distinctions,” says McAdams. They’ve also learned how to mark their turf, even against much larger birds. DeCandido was pleased to see a young owl make a territorial whinny when it glimpsed a red-tailed hawk (*Buteo jamaicensis*) circling overhead at dusk.

Best of all, several owls have paired off, and the rangers have observed courtship behaviors, such as food sharing. In December, two owls were spotted flying together and then mating. It was thrilling to learn that the female of this amorous couple was the one that we had seen alone in the Ramble for the past two years. She had at last found a mate. If the owls breed this year, it will be a real feather in the cap for the project and a sign that a self-sustaining population of owls in Central Park—unseen ambassadors for the city’s native biodiversity—is possible. The Parks Department plans to continue tracking the owls for at least another year and is considering releasing more owls next fall.

In the city that never sleeps, nocturnal wildlife is back.

Strangers in Town

Nothing fires up the birdwatching crowd more than the sighting of an extremely rare bird. So when a pair of disoriented calliope hummingbirds (*Stellula calliope*) wound up spending last November and December dining on the salvia bushes in Fort Tryon Park in northern Manhattan, birders, photographers, and the media snapped to attention. It was the first ever calliope sighting in New York State.

The two immature males had traveled east from British Columbia instead of south to their winter range in Mexico. “People saw them as lost teenagers hitchhiking across the continent,” says David Burg, president of WildMetro, an organization devoted to protecting nature in cities.

As the weeks went by and frosts wiped out many flowers, concern for the pair grew. Burg consulted hummingbird experts to find out whether they had a chance of surviving a chilly NYC winter and organized a group of volunteers who put out nectar feeders, which the hummers never figured out how to use. He also considered trapping them so they could spend the winter in captivity in the Bronx Zoo. Then, in late December, the hummingbirds disappeared. Nobody knows whether the pair continued their journey or perished, but Burg is optimistic because calliopes have survived cold weather elsewhere.

Some came to think of the strange, beautiful sight of these birds as a gift that helped ease the city’s sadness after the tragic events of September 11th. “To have a visitation like that—it really came at a time when people needed that little spark of joy,” says Burg. “They were almost like fairy apparitions among the purple flowers.”

—Jennifer Uscher, a graduate student at Columbia University, writes about birds for such publications as *Wildlife Conservation*, *Popular Science*, and *Natural New England*. She can be reached at jbu3@columbia.edu.

ZooGoer 31(3) 2002. Copyright 2002 Friends of the National Zoo. All rights reserved.