GIFT OF THE BOBCAT

NEW HAMPSHIRE’S ELUSIVE WILDCAT IS MAKING A COMEBACK

BY CHERYL LYN DYBAS
Each night, it moves two to seven miles, mostly along the same route. Along the way, it visits known locales, much like the humans in whose shadow it lives. But its stomping grounds are a hollow log or two, a brush pile or thicket, and caverns hidden in rock ledges. It’s a bobcat, and only rarely does it cross paths with people. Or so we thought. In fact, bobcats are among us, quietly, stealthily making their way over hill and dale. Paw prints in snow or mud bear silent witness to their passage.

It’s on the prowl from three hours before sunset until midnight, and again before dawn ‘til three hours after sunrise.
Bobcats will hunt larger prey like adult deer (top), but they are also opportunistic predators that will gladly make a meal of squirrels and other small mammals near backyard bird feeders.

Most people will never see more than the tracks left behind by a stealthy bobcat. Shown actual size, bobcat tracks are about 1 3/4" across.

“The bobcat is the coyote of the wildcat world,” writes Jerry Kobalenko in Forest Cats of North America. “In a century that has witnessed more extinctions than any time since the Age of Dinosaurs, the bobcat is thriving.”

My own encounter came at dusk on a snowy December evening: Christmas Eve, 2011. Light snow is falling; the highway is nearly obscured. Mine is the only car on the road. I’m traveling with family members through the North Country. We enter an isolated cut in the mountainside, an opening that’s lined with Volkswagen-sized boulders and 60-foot-high granite ledges. Suddenly, our headlights spot a reflection where there should be none: oncoming, dead ahead. The beams meet a yellow-green glow, the eye-shine of a tawny, hunched-over creature that emerges from the swirling snow like a wraith: a bobcat.

We skid to a stop. For a heartbeat or two, the bobcat does the same, gazing at us with seeming curiosity. Then, with a flick of the short tail for which it’s named, it’s gone, vanished into a crack in the cliffs.

We sit in silence, savoring a rare experience, the gift of the bobcat.

“Bobcat observations are few and far between,” confirms Patrick Tate, the furbearer biologist at the New Hampshire Fish and Game Department. “This cat is an elusive species that can blend into its surroundings surprisingly well.”

In the decade or more Tate has studied Lynx rufus, the bobcat’s scientific name, he’s glimpsed free-ranging bobcats only twice. The most recent sighting was two years ago, in New Hampshire’s Pawtuckaway State Park. “I noticed three bobcats along a road,” he remembers. “Two kittens were lying on the edge, with an adult female nearby. The sighting lasted no more than 30 seconds.”

And then, like the Christmas Eve bobcat, they were gone.
Cats on the Comeback Trail?

Bobcats may be on the comeback trail, say biologists like Tate. As sightings of these phantoms happen more frequently in New Hampshire, researchers at the Fish and Game Department, along with scientists at the University of New Hampshire (UNH), are working to understand why.

One likely reason is that bobcats and humans now live cheek-by-jowl; bobcats are frequently spotted, for example, near backyard birdfeeders. The feeders attract squirrels and other small mammals, a staple of the bobcat’s current diet.

Found in most continental U.S. states, bobcats are twice as large as housecats. They walk with a stooped posture, characteristic stubby tails up. The carnivores - whose favorite meals are cottontail rabbits, but will dine on chipmunks – live six to eight years in the wild. Known mortality factors to bobcat are fisher, coyote, direct competition with other bobcats (fighting) and vehicle collisions.

More than two decades after a population low point, the bobcat may have returned, to the benefit of the ecosystems it inhabits, say scientists Nathan Roberts of Cornell University and Shawn Crimmins of the University of Montana. Bobcat populations are more widely distributed and more abundant in North America than they were some 30 years ago, the researchers discovered.

In New Hampshire, wildlife ecologist John Litvaitis of UNH is partnering with Tate in a four-year study funded by the federal Wildlife Restoration Program to find out how many bobcats the state has, and where they roam. The research is set to conclude in 2014.

“A lot of people are surprised to learn that bobcats still exist in any number here,” says Litvaitis. He and his colleagues are using several methods to learn about the abundance, health and habits of New Hampshire’s bobcats. Tate and Litvaitis enlisted trappers like Dan Dockham of Gilmanton to trap bobcats for detailed study. They worked largely in New Hampshire’s southwest and southeast corners, areas that have long had significant bobcat populations.

Once caught, each animal was weighed, measured and examined to determine its overall health. The biologists took small tissue samples for DNA analysis, then outfitted the bobcat with a radio-collar that uses GPS technology to track its wanderings. “With GPS data,” says Dockham, “we can identify the corridors where bobcats travel. These cats use wetlands and other natural features as ‘highways.’”

Beyond the radio-collaring study, Litvaitis is leading an effort to collect bobcat droppings, which also carry an animal’s DNA. From the results, researchers can extrapolate population numbers. In addition, the team is determining population density from images of bobcats snapped on remotely triggered cameras set up on known cat tracks. Litvaitis is also involved in an effort to evaluate trail cameras as a means of indexing regional population densities. The camera study relies on the efforts of cooperating citizen scientists, trained in the study protocol.

“Over the past four centuries, bobcats have shown a clear response to the presence of humans,” says Litvaitis. “Land-use changes and bounties, in particular, have had profound effects on the cats. In recent years, they’ve demonstrated an amazing ability to make the best of a rapidly changing environment. But more change is coming – expanding human populations and an altered climate. With some help, bobcats should continue to represent the wildness of New Hampshire.”

Past Is Prologue?

Early accounts of bobcats in New Hampshire are sketchy. Enough information exists, however, to suggest that their numbers and distribution have changed significantly over the past 400 years. In 1925, Ernest Thompson Seton published a book on furbearers such as bobcats. It included a range map of bobcats at the time Europeans first
colonized eastern North America. Seton wondered if bobcats were originally found only in southwestern New Hampshire, and whether they could have moved to the north and east as forests were cleared for subsistence agriculture by settlers.

Decades later, forest ecologist Clark Stevens of UNH pieced together a more detailed account of bobcats in the state, using published histories from several towns. In the early 1800s, “wildcats,” as bobcats were called, were fairly common, but by later that century, they had become scarce. More recently, Litvaitis looked at bounty claims made between 1931 and 1965. He found that the southwestern part of the state seemed to be where bobcat numbers peaked.

He also analyzed how bobcat diets have changed over time, using Stevens’ data and information on bobcat stomach contents from the late 1970s and early 1980s. “We found changes in all major prey species,” says Litvaitis, “probably in response to changes in land use, especially the decline of agricultural fields and meadows.”

From 1951 to 1954, cottontail rabbits were the top food choice in New Hampshire bobcats’ diets. By 1961 to 1965, that had become deer, and by 1979 to 1981, small mammals. A new day for bobcats was on the horizon – and not necessarily a sunny one. By the 1960s, bobcat numbers were in steep decline.

Bounty harvest numbers reflected this trend. Annual New Hampshire harvests of bobcats varied widely during the 1900s. After an increase from 1915 to 1930, when harvests rose from 93 to 358, they reached a high of 421 in 1959.

“Even more surprising than the rapid peak, was the rapid decline,” Litvaitis says. Only 25 bobcats were submitted for bounty payment in 1966. By 1970, that number was 10. The bounty program ended in 1973. After that, hunting and trapping seasons for bobcat opened and closed like a screen door banging in the wind, with both shuttered from 1989 to the present.

The Habitat Connection

What might have caused the fall of bobcat populations in New Hampshire? Could it have been trapping pressure; an influx of coyotes competing for the same prey as bobcats; or changes in the forest itself, and therefore bobcat prey?

The culprit that led to the bobcat’s past decline might have been the bobcat’s alter ego, the hunter-by-daylight, the coyote.

“There’s some speculation that expanding populations of coyotes had a detrimental effect on bobcats in New Hampshire,” says Litvaitis. Bobcats and coyotes consume similar prey, he says, “so the potential for competition is there.” Much of the bobcat’s decline began in the early 1960s, however, before coyotes were abundant.

A third explanation may hold the answer. Young forests in New Hampshire have followed a similar growth pattern to that of bobcat
In Native American lore, the bobcat represents clear vision in dark places, vigilance, patience and the ability to see through masks.

Beneficiaries. By 1960, much of this productive farmland was in decline; grouse, woodcock and cottontails—and bobcats—went with it. “That seems to be one of the most likely factors for changes in our bobcat population,” says Litvaitis.

Bobcat habitat is now patchily distributed. Populations of the cats may be separated by urban and suburban developments, and by major highways. Litvaitis and colleagues found that traffic volume is a better predictor of bobcat mortality in New Hampshire than almost anything else. Interstate highways “present formidable barriers to bobcats,” he says. “Bobcat populations are probably isolated from each other to varying degrees.”

The scientists are testing the effects of major highways on the genetic diversity and population subdivisions of New Hampshire bobcats. Studies of the “genetic connectivity” of species like bobcats can be used to identify important habitat links and wildlife corridors. “The information is needed for road planning,” says Litvaitis, “and can help in strategic land acquisition decisions.”

How Many Bobcats?

How big is the New Hampshire bobcat population?

“That’s the 64-thousand-dollar question,” says Dockham.

A possible answer, found the UNH researchers, may depend on the time of year. Estimating New Hampshire bobcat numbers in May or June, the biologists found 1,094 resident adults—547 males and 547 females—and 1,143 kittens, for a grand total of 2,237. That number dropped precipitously, however, when an 85 percent survival rate was assumed for adults, and a 36 percent survival rate for kittens, considered the norm. By October or November, there are an estimated 972 adults and 414 kittens in New Hampshire, totaling 1,386 bobcats.

“These estimates are of the potential number of bobcats the state could support, given the current habitat configuration, not an actual census of the population,” the scientists caution. “Without determining if bobcats are present in territories estimated to be occupied, we cannot say for certain what the actual population is in New Hampshire.”

Bobcat mysteries therefore remain. In Native American lore, the bobcat represents clear vision in dark places, vigilance, patience and the ability to see through masks. To survive into the next century and beyond, it will need those traits, as well as an ability to share territory with another animal of farmland and forest: Homo sapiens.

Cheryl Lyn Dybas, an ecologist and science journalist, has written for National Wildlife, Scientific American and National Geographic Traveler, among many others. She dedicates this article to her mother, Elizabeth Dybas, who first spotted the Christmas Eve bobcat.
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