

NR6/125.13/1999/Fall

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1999 FALL COMPENDIUM OF WILDLIFE APPRECIATION



Colorado's Wildlife Company

**LYNX:
RETURN
OF THE
SHADOW
CAT**

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What is a Lynx?

By Mary Taylor Young

What is this animal, this wild cat, known as lynx? The lynx has been a mystery in Colorado for years, leaving tantalizing traces—phantom tracks that disappear with the next snowfall, tufts of hair, perhaps a haunting scream, heard for just a moment. Even the name of the lynx is beguiling, spelled so contrary to convention, lacking vowels, fooling us with its sound.

The word comes from Greek, but its meaning is straightforward—wildcat.

The lynx is one of three species of wild felines native to Colorado.

The mountain lion is



bobcat

decidedly larger than the lynx and obviously different in appearance. But the bobcat is close in size and appearance, a cousin within the same genus. The bobcat's Latin name, *Lynx rufus*, means "red wildcat." Its spotted coat has a red-dish wash, hence the name "rufus." The current Latin name for the North American lynx is *Lynx canadensis*, meaning Canadian wildcat. Another scientific name used by some biologists recognizes the lynx's status as the wildcat's wildcat—*Lynx lynx*.

Both the lynx and the bobcat are about twice the size of a domestic cat, have short, "bobbed" tails, long legs, a ruff of fur around the face, and tufts of fur bristling from the tips of their triangular ears. The lynx's ear tufts are usually longer and thicker. Despite the similarities of appearance, interbreeding between lynx and bobcats is unknown.

Lynx and bobcats may be similar from ear tuft to bobtail, but down at the toes they differ. The paws of the lynx are exceptionally large (the synonym "platter" comes to mind), and they grow even bigger in winter when the fur grows thickly around the pads and toes. The paws of the lynx have more than twice the surface area of the bobcat's. The function of such large feet is simple—to act as snowshoes, providing better distribution of the cat's weight on snow. The lynx's foot supports only 100 grams per centimeter of snow loading pressure, compared to 300 grams per centimeter for the bobcat's smaller paw. With these furry snowshoes, a lynx pursuing a similarly-outfitted snowshoe hare moves across the snow after its prey instead of floundering, as would a predator of similar body size but outfitted with small feet.

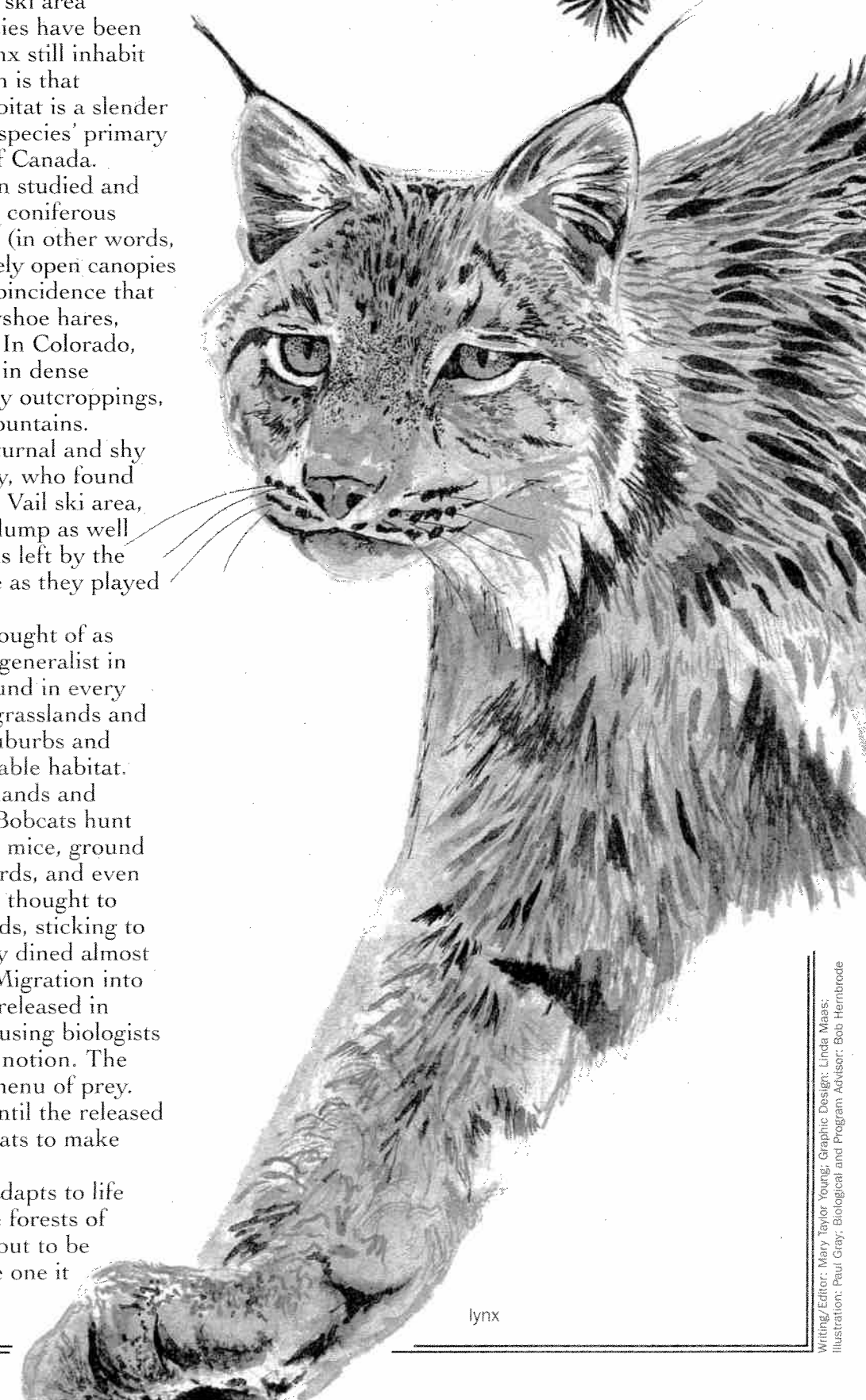
Like all cats, lynx are consummate meat-eaters, equipped with the tools of a hunter. The cat's forward-facing eyes aid it in judging its pounce upon prey. Within those large paws are curving, retractable claws, and the sharp teeth are long and pointed, to pierce and hold the flesh of prey.

Biologists, environmentalists, ski area operators and government agencies have been debating for decades whether lynx still inhabit Colorado. What they do agree on is that Colorado's high country lynx habitat is a slender finger extending south from the species' primary range across the boreal forests of Canada. In Canada, where they have been studied and trapped extensively, lynx inhabit coniferous forests with trees of varying ages (in other words, not just old-growth), with relatively open canopies and good undergrowth. It's no coincidence that this is a favored habitat for snowshoe hares, the lynx's prey animal of choice. In Colorado, evidence of lynx has been found in dense spruce-fir forest, often with rocky outcroppings, in high, remote regions of the mountains.

While lynx are generally nocturnal and shy of humans, Dr. James Halfpenny, who found rare evidence of lynx around the Vail ski area, reported they visited a garbage dump as well as a construction camp. The trails left by the cats revealed their playful nature as they played with feathers and other objects.

Bobcats have usually been thought of as more adaptable than lynx, more generalist in their lifestyle. Bobcats can be found in every habitat in the state except open grasslands and urban areas, even moving into suburbs and around farms where there is suitable habitat. They prefer piñon-juniper woodlands and low-elevation mountain forests. Bobcats hunt a variety of small prey, including mice, ground and tree squirrels, rabbits and birds, and even occasionally kill deer. Lynx were thought to be specialists in their habitat needs, sticking to high mountain forests where they dined almost exclusively on snowshoe hares. Migration into a variety of habitats by the lynx released in Colorado in 1999, however, is causing biologists to reconsider this preconceived notion. The animals are also eating a wider menu of prey. CDOW researchers must wait until the released lynx settle down and select habitats to make any conclusions.

What is a lynx? As the lynx adapts to life in Colorado, in terrain unlike the forests of Canada and Alaska, it may turn out to be an animal very different from the one it has long been thought to be.



lynx

Lynx Make Trax in Colorado

By Mary Taylor Young

Beneath the watchful gaze of researchers and dignitaries, as reporters excitedly snapped photographs, a bob-tailed cat with pointy ears and feet that looked three sizes too big crept out of a holding crate and bounded off into the wilds of Colorado's remote San Juan Mountains. The cat wore a collar, but this was no pet. The young animal was one of 41 lynx released by the Colorado Division of Wildlife between February and May of 1999, as part of a program to reintroduce this wild cat into Colorado's Rocky Mountains.

Lynx were probably never common nor highly visible animals in Colorado, which is at the southern edge of the species' range. A 1911 report, "A Biological Survey of Colorado," referred to lynx as "tolerably common" in parts of the state, but "its numbers are rapidly decreasing." There are only 18 known positive records of lynx in the state, 14 of these documented between 1878 and 1935. There are other possible sightings, but reports are difficult to confirm because state trapping records and federal animal damage control data did not differentiate between bobcats and lynx, lumping them together as spotted cats. The four positive records after 1935, all between January 1968 and February 1973, were taken in the central part of the state, within a 35-mile radius of Hoosier Pass south of Breckenridge. Prior to 1971, lynx were still classified as fur-bearers and could be trapped legally in Colorado. In 1973 the lynx was afforded protection as a state endangered species. The last known lynx in Colorado was illegally trapped on the Vail ski area in February of 1973. The trapper actually caught two lynx, one of which ran off, reportedly with the trap on its foot.

By the late seventies, biologists of the Colorado Division of Wildlife were wondering if there were any lynx still living in the remote high country of Colorado. In 1979 and 1980, possible lynx tracks were found in Eagle, Clear Creek, Lake and Pitkin counties. The next year, the tracks of a female lynx and kitten were found near Pagosa Springs. Between 1990 and 1993, CDOW unsuccessfully attempted to trap and radio-collar lynx. In 1992 another intensive

predator/prey relationships. In a biological game of crack-the-whip, lynx populations cycle up and down, controlled by peaks and valleys in populations of snowshoe hares. At a pivotal point in the hare's population cycle, there are more hares than food to support them, and they begin to die of starvation. Following behind them, like the last child in line in the game, comes the lynx, its numbers yanked inevitably downward in response as the hares die off.

While this population cycle determined when lynx should be trapped in Canada, many biologists believe snowshoe hares in Colorado are not caught in this cycle of abundance and scarcity, so it is unlikely to be a factor in lynx survival here.

The original release plan developed in conjunction with the Lynx Advisory Team called for releasing female lynx within six weeks of trapping. The strategy was to allow them to become established, then release males later. Biologists hoped the presence of females



in the area would cause the males to set up territories instead of dispersing. The first lynx were trapped in British Columbia in mid-December and received at the holding facility on January 30. Four of the first five animals released died of starvation, and the fifth was re-captured to be fed until it gained weight and improved physically. "We now understand that these animals were not in good physical condition," said Gene Byrne, one of the biologists on the lynx recovery team.

The team had expected some of the animals to die in the first months after release. Brought into strange territory, the lynx were more vulnerable to predation, starvation and other hazards. But with public concern rising as the deaths were reported in the media, biologists decided to hold the animals longer before

hoping they'll survive. The first year in new territory is decisive. "You need two things for recovery," said Byrne, "survival and reproduction. We won't know that till next year. If we can document those two things, we can say we're successful."

Why spend the money and effort to restore lynx to Colorado? Bringing back this feline predator helps restore the biodiversity, or ecological richness, of Colorado's mountain ecosystems, explained Byrne. But why not focus on larger predators like wolf and grizzly bear? "The larger carnivores such as wolves and grizzly bears will have the biggest problem dealing with the 4.5 million people that now occupy Colorado," Byrne continued. "If the public wants these animals, they can be recovered, but not without broad public acceptance. The same thing will occur that happened at the turn of the century—they will be eliminated by the acts of man. The Colorado Division of Wildlife is presently operating under a Wildlife Commission resolution (September 1989) that says we will not pursue the recovery of these species (wolf and grizzly bear) until such time that Colorado is included in a U.S. Fish and Wildlife Service recovery plan area, and a stakeholders group, mostly from the agricultural community, reviews the plan."

Another purpose of the lynx reintroduction, said Kahn, is to be ahead of any action by USFWS to list lynx as a threatened species and thus avoid the many restrictions, both for landowners and state resource managers, such status imposes.

Once the cats were released into the wilderness of the Colorado high country, how would biologists know what became of them? The released animals were fitted with radio collars which emit a signal that can be tracked on the ground or from an airplane flying over the rugged terrain. When an animal dies, the signal from the collar changes. Periodic flights keep tabs on the status and location of the animals.

Through summer, the tracking flights showed a surprising development—the lynx were covering ground. Dispersing from their release sites in south-central Colorado, some of the animals traveled nearly 200 miles over some of the roughest terrain in the state. One lynx successfully negotiated Interstate 70 and was located near State Bridge, 12 miles north of the interstate. Another animal that biologists were unable to locate for four months turned up in the Crystal River Valley south

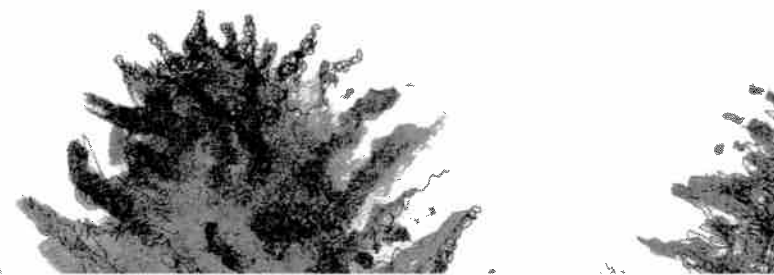
summer in the vicinity of where she was released on March 12.

The most surprising development was one far-traveling lynx that traversed the San Luis Valley, ending up on the shortgrass prairie of northeastern New Mexico, almost 200 miles from the release site. There, in habitat very different from the dense boreal forests usually thought of as lynx habitat, it was spotted by a train engineer. The animal subsequently died, though the remains were too badly decomposed and damaged by animals to give veterinarians any clues to the cause of its death, or the story of its journey.

Of the 41 cats released, nine had died by mid-August, including five that died from starvation in the winter and the animal found dead in New Mexico. As the animals explored their surroundings, searching for optimal habitat, their travels in strange territory increased the chances of them coming in harms way. Two were killed by vehicles as they tried to cross Interstate 70. Traffic isn't a danger that lynx born in the wilds of Canada would have recognized. In mid-June, a male lynx was found shot to death near Antonito, a violation of the legal protection afforded a state endangered species. The Colorado Division of Wildlife is offering a reward for information on that crime.

Despite the loss of nine animals, the survival of more than three-quarters of the released animals is cause for cautious celebration. The recovery team is tentatively planning to continue releasing lynx in the winter of 1999-2000. "We have a long way to go and it will take time to ultimately decide if we are successful," said Byrne, "but most of us feel that we have exceeded our expectations. Remember, we have been working on some species, such as peregrine falcons, for almost 30 years with a lot of success."

Few Coloradans will likely ever see a wild lynx. Lynx are nocturnal in habit, shy and secretive. The sites in the San Juan and Rio Grande national forests where they have been released are remote, rugged and largely roadless. But for many people, just knowing that these shadow cats once again inhabit the mountains of Colorado is enough.



trap and radio-collar lynx. In 1992 another intensive statewide search encompassing more than 2,500 square miles turned up only one probable set of lynx tracks, in the Gore Range near Williams Fork Reservoir. In 1993 state wildlife biologists searching the north edge of the Eagles Nest Wilderness Area in Summit County discovered tracks they thought were probably those of a lynx. In all, since 1979, 12 investigations have been conducted in Colorado with the goal of trying to document the presence of lynx. After intensive efforts using snowtracking (covering 5,833 miles), hair snags (at 62 locations), remote cameras (at 110 locations) and snares (686 trap nights), only 11 sets of tracks that had a high probability of being lynx were found. The CDOW has offered a \$500 reward for any positive information on lynx since 1993 and has received none. Nor were there any reports of road kills, accidental trappings or shooting of lynx. The Division concluded that if any lynx remained in Colorado, their numbers were so small that they did not represent a viable population, and are not detectable by known census methods.

With evidence indicating only tenuous survival of lynx in the state, and with the lynx a candidate to be put on the federal list as a threatened species, CDOW biologists began formulating a plan to reintroduce lynx to Colorado, with the goal of establishing a sustainable population in the southern Rocky Mountains. But there were few guidelines for such a project. Lynx had been released in New York's Adirondack State Park in the late 1980s but the animals were not well monitored and the project does not appear to have been successful. European lynx had been reintroduced in Switzerland. But mostly the Colorado biologists would be treading new ground, developing the plan as they went. With no proven procedure for introducing lynx, "The entire protocol has been an experiment," said wildlife management supervisor Rick Kahn, who oversees the lynx program. "We've had to be flexible and adaptive."

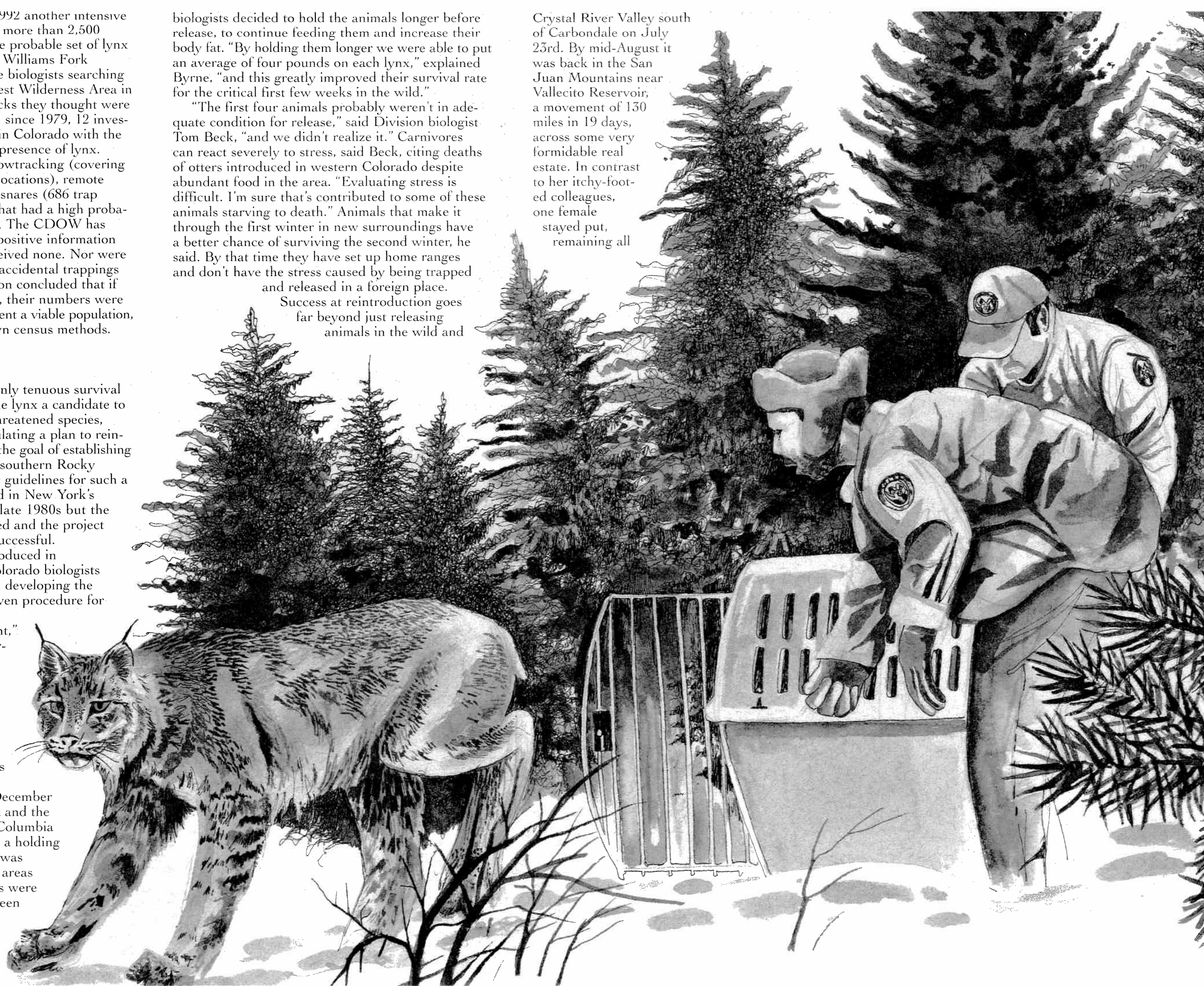
Project funding came from a combination of sources, including Colorado Division of Wildlife revenues and grants from the Great Outdoors Colorado trust fund and Vail Associates. Beginning in mid-December of 1998, lynx trapped in Alaska and the Canadian provinces of British Columbia and Yukon were transported to a holding facility in Colorado. The timing was right for trapping lynx in those areas because the species' populations were at a peak. The connection between lynx and snowshoe hares, the cat's favorite prey, is considered a classic model of

biologists decided to hold the animals longer before release, to continue feeding them and increase their body fat. "By holding them longer we were able to put an average of four pounds on each lynx," explained Byrne, "and this greatly improved their survival rate for the critical first few weeks in the wild."

"The first four animals probably weren't in adequate condition for release," said Division biologist Tom Beck, "and we didn't realize it." Carnivores can react severely to stress, said Beck, citing deaths of otters introduced in western Colorado despite abundant food in the area. "Evaluating stress is difficult. I'm sure that's contributed to some of these animals starving to death." Animals that make it through the first winter in new surroundings have a better chance of surviving the second winter, he said. By that time they have set up home ranges and don't have the stress caused by being trapped and released in a foreign place.

Success at reintroduction goes far beyond just releasing animals in the wild and

Crystal River Valley south of Carbondale on July 23rd. By mid-August it was back in the San Juan Mountains near Vallecito Reservoir, a movement of 130 miles in 19 days, across some very formidable real estate. In contrast to her itchy-footed colleagues, one female stayed put, remaining all



Trackin' Cats

Compare these life-size tracks made by the front paws of these Colorado cats to their average body weights:

Lynx – 22 pounds

Bobcat – 21 pounds

Domestic Cat – 8 pounds



bobcat

1 $\frac{7}{8}$ " toe to heel,
1 $\frac{3}{4}$ " wide

domestic cat

1 $\frac{1}{8}$ " toe to heel,
1 $\frac{1}{8}$ " wide

lynx

4 $\frac{3}{4}$ " toe to heel,
3 $\frac{3}{4}$ " wide

Source for track measurements:
A Field Guide To Animal Tracks
by Olaus J. Murie

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