

Captive Cat Goes Wild

Cuff the Lynx



ADF&G photo

by Robin O'Connor

Sometimes the only way the Alaska Department of Fish & Game learns about captive wild animals is when the situation reaches a crisis stage—neighbors complain, the animal escapes, or it bites someone.

In September, 1981, Fish and Wildlife Protection officers confiscated a male lynx kit from a hunter who had seen the animal sitting on the bank of the Chatanika River in Interior Alaska. The hunter assumed that the kit was abandoned or orphaned and brought him back to his Fairbanks apartment to keep as a pet. State game regulations prohibit keeping wild animals as pets, but it wasn't until the lynx bit him that protection officers learned about it. The officers turned the six pound lynx over to ADF&G. The kitten was young and not likely to survive on its own if returned to the wild, so Furbearer Biologist Herb Melchior and I decided to "overwinter" the lynx in captivity and release him the following spring after trapping season.

By keeping the lynx kit for awhile we could gain valuable information on its growth rate and development. We also wanted to determine if a lynx kit raised in captivity and subsequently

released would exhibit the "normal" behavior of a wild lynx. Our aim was to keep the lynx captive but undomesticated and release him in the wild with a radio-transmitting collar. Then his movements and activities could be compared with those obtained from tracking wild lynx.

I brought "Cuff" to a large outdoor enclosure on the University of Alaska's Fairbanks campus. The kit was feisty and very inquisitive during the first few weeks of captivity. When we approached he offered a low growl that was often in conflict with his apparent curiosity. When we concealed ourselves and peered into his pen, we often witnessed his playful exploration of any corner and crevice a single paw could squeeze into. He shimmied up spruce trees, batted the branches around, and jumped out again. He played with his food, rolling around with it before eating. Sometimes he would crawl cautiously among the spruce, stalking some imaginary prey. When he detected our presence, he quickly hid or licked his paws as if embarrassed at being caught at his rollicking antics.

As time progressed, he became more tolerant of my presence, although I was relieved that he re-

Herb Melchior photo



tained some of his wariness of other people. Spruce trees, alders, and grasses within the cage provided the kit with good "escape cover" to hide from passers-by. His soft, silvery-gray, spotted fur had the cryptic appearance common to many young animals and often made him difficult to see even at close range within the enclosure. I can readily understand why so few people see lynx in the wild.

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Six times during the winter we measured and weighed the kit. To minimize human contact and to keep him as wild as possible, we usually trapped him in a small cage within the larger enclosure to allow us to restrain and tranquilize him. We immobilized him with a drug causing temporary muscle relaxation and disorientation. On October 12, he weighed nearly seven pounds and measured 22.5 inches from the base of his upper incisors to the last tail vertebra. His deciduous "milk" incisors and canines had not yet been replaced by permanent adult teeth, which probably made it difficult to shear and tear large pieces of food. We vaccinated him for distemper and rabies, although there has never been a case of rabies reported in Alaskan lynx and only a handful reported in Canada. By March 4, 1982, he had acquired all of his permanent teeth, and by March 31 he weighed more than 17 pounds and was approximately 36 inches long. Throughout the winter our kit was larger and heavier than most wild lynx kits that other biologists have measured—probably due to his constant food supply and freedom from the exertions of hunting with the family.

Several X-rays were taken of the lynx in November and March to document bone growth and development. In mammals, the ends of many bones continue to grow until the animal reaches adult size and proportion. Growth takes place on the inner side of small plates of cartilage that are visible on the ends of growing bones. This cartilage is replaced by solid bone when growth is complete. The degree to which the bones have stopped growing, or "ossified," is indicative of the animal's age.

Another method of aging animals is by counting "cementum annuli." Many mammals deposit cementum on the teeth in a predictable, annual cycle much like growth rings on a tree. Cutting very thin sections of a tooth, staining the section, and mounting it on a microscope slide allows us to count the number of cementum lines deposited, which corresponds to the age of the animal.

Bone ossification and cementum annuli are used in aging many mammals, so I felt that it was important to know at which month these events took place in lynx. Several tetracycline pills were given to the lynx to mark the growing sections of his bones and teeth. Tetracycline marks specific regions of actively growing bone. If we can recover the lynx's carcass when he dies, these marks on his teeth and bones will give us a reference point to determine how much growth took place after the drug was given.

A captive cat requires occasional live prey.

The diet of the wild Canadian lynx is almost exclusively snowshoe hares, and an adult will consume one hare every day or two. The mother continues to provide food to her kits during the winter while they develop the skills and behaviors necessary for hunting on their own. Some researchers think that the mother "teaches" the kits to hunt, but our recent experience indicates that this may not be so.

In November, I presented Cuff with several live lab rats, which he stalked and "batted around" much like a domestic cat, but he did not seem to have the right tools and experience to carry through the actual kill. By December, however, the lynx was killing rats and mice. When we released the first live snowshoe hare into his enclosure in January, the lynx swiftly chased it and bit it on the back of the neck to kill it—the same technique wild adult lynx use. This suggests to me that young lynx don't have to "learn" to kill but may need to be exposed to live prey at a critical period in their development. Perhaps the actual hunting and searching for prey is something that is learned from being with the mother during the first winter—we hope to find out from our

study.

A captive wild cat requires occasional live prey and a combination of meat, hair, bones, and organs to fulfill his nutritional requirements. We live-trapped hares for the kit throughout the winter and supplemented his diet with a variety of lab mice, rats, red squirrels, guinea pigs, and ground chicken. Sometimes I found excess food cached under scrapings of spruce boughs in his cage. Frequently during midwinter, parts of a frozen carcass remained uneaten by the lynx. Unlike their canid relatives the foxes, coyotes, and wolves, cats are not equipped with the proper teeth for shearing frozen meat. I suspect that wild lynx do not scavenge on carcasses much during winter, but, rather, are heavily dependent upon live prey.

A radio-transmitting collar was attached to the lynx kit in spring, 1982, and he was released on a forested hillside of Denali National Park (formerly Mt. McKinley National Park), an area free from trapping and with a moderately high hare abundance. We have been able to monitor his location by using a special receiver and a hand-held antenna. The radio will transmit a signal for 15 months. Our receiver can pick up the signal from several miles away.

The data we collect on the lynx's movements and activities will be compared to studies of lynx in Canada, Newfoundland, and several European countries. We will be very pleased if he survives in the wild after being in captivity for eight months.

His collar will transmit a signal for 15 months.

Most wild lynx probably don't live much beyond five years, although occasionally we have aged carcasses at 10 or 11 years old. If our lynx survives the upcoming winter, we hope to trap and recollar him in spring 1983 and to continue monitoring his activities. When he dies, we hope to autopsy the carcass, measure body size and conformation, and section a tooth to compare the age we would have assigned from the annuli count with his known age.

We will never know if the lynx kit really was abandoned or orphaned last September. Frequently, young animals

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are left by themselves for a time while the mother searches for food. When you see a lone youngster, the mother is usually just out of sight or will be returning shortly. By handling the animal or taking it from the area, people often reduce its chance of survival. It is difficult to simulate in captivity the nutritional requirements and environmental conditions needed by a wild animal. This lynx was lucky that we had the time and resources to feed

him live prey.

It is against the law in Alaska to possess a wild animal except by special permits usually reserved for researchers. If you see a young animal that appears to be abandoned, it is best to report its location and condition to the local Fish and Game or Fish and Wildlife Protection office.

Our lynx is now a yearling in the wild—let's hope not too many of his "nine lives" have been used up yet!

Editor's note: Cuff's radio collar is working and Robin O'Connor has tracked and observed him in the wild on several occasions. The lynx appears healthy and Ms. O'Connor has seen him kill a small snowshoe hare on his own.



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—DOUG PIFER—