



WILD CAT

OF THE NORTH

Story and photos
by Robin O'Connor

Have you ever skied or snowshoed through a northern forest and discovered large, rounded tracks set at a trot on the surface of the snow? Curious, you followed the tracks and noticed that they, in turn, followed trails left by snowshoe hares. The tracks weaved through thick willow and alder, the snow was soft and deep, but you were persistent. Perhaps you saw an icy depression two or three feet long—evidence that a warm body had lain down long enough to melt the snow slightly. Looking further, you saw that the occupant of the depression had taken several bounds toward a well-traveled hare trail. There were few signs of a struggle, just some beads

of blood-soaked snow, a small gut pile, white fur, and a rabbit's foot, the sign of a lucky lynx.

The Canadian lynx (*Lynx canadensis*) is the only cat native to Alaska. This long-legged, short-tailed cat measures 36 to 40 inches long as an adult and weighs 20 to 35 pounds. The lynx can be distinguished from its close relative the bobcat (*Lynx rufus*) by the long tufts on the tip of each ear, a completely black-tipped tail, very large furry feet, and buffy-gray fur speckled with indistinct dark spots. In contrast, the bobcat has shorter ear tufts, black on only the top of the tail, smaller feet, and much more distinct spotting on the fur.

The lynx's sight and hearing are

sharp. One study indicated that a lynx can see a hare at 1,000 feet and a mouse at 250 feet. Its sense of smell is not keen and is probably not important in locating prey. The large feet of the lynx serve as snowshoes and allow it to travel swiftly over deep snow in search of prey.

Lynx occur throughout Alaska, except on the Aleutian Islands, the Kodiak Archipelago, the islands of the Bering Sea, and some of the islands of Prince William Sound and Southeast Alaska. They are found throughout most of Canada, the northern United States, and as far south as the Colorado Rocky Mountains. Basically, the range of the lynx is the same as that of its major prey, the snowshoe hare

(*Lepus americanus*), and when hares have expanded their range, so have lynx. The range of the lynx has remained relatively constant throughout the past century with some expansion when lynx populations were high. In 1965 (a year of lynx abundance and hare scarcity), an Alaska Department of Fish and Game biologist saw one lynx feeding on a caribou at the edge of the arctic ice east of Pt. Barrow. Usually, though, lynx inhabit the more open aspen and birch communities—with brushy understories of willow, alder, highbush cranberry, and wild rose, or riparian areas having an abundance of willow.

Litter size seems to be influenced by age and nutrition of the mother, but averages about four kits. The kits resemble domestic kittens at birth. Their eyes open about two weeks after being born, and they continue nursing until about five weeks of age. The young remain with the mother throughout the winter, and she continues to provide food for them. They accompany her in hunting and traveling, acquiring the skills and habits necessary to hunt on their own. By the following March, the kits' permanent teeth have erupted, most skeletal growth is complete, and they are ready for the solitary life of an adult.

Many trappers and residents of Alaska realize that lynx and snowshoe hare populations peak every nine to eleven years. Records of lynx furs purchased over a 206-year period by the Hudson's Bay Company in Canada reveal persistent, regular cycles of major amplitude during this entire period. Because snowshoe hares can make up as much as 95 percent of the lynx's diet, population levels of lynx fluctuate in response to the cyclic abundance of hares with the lynx peak lagging one



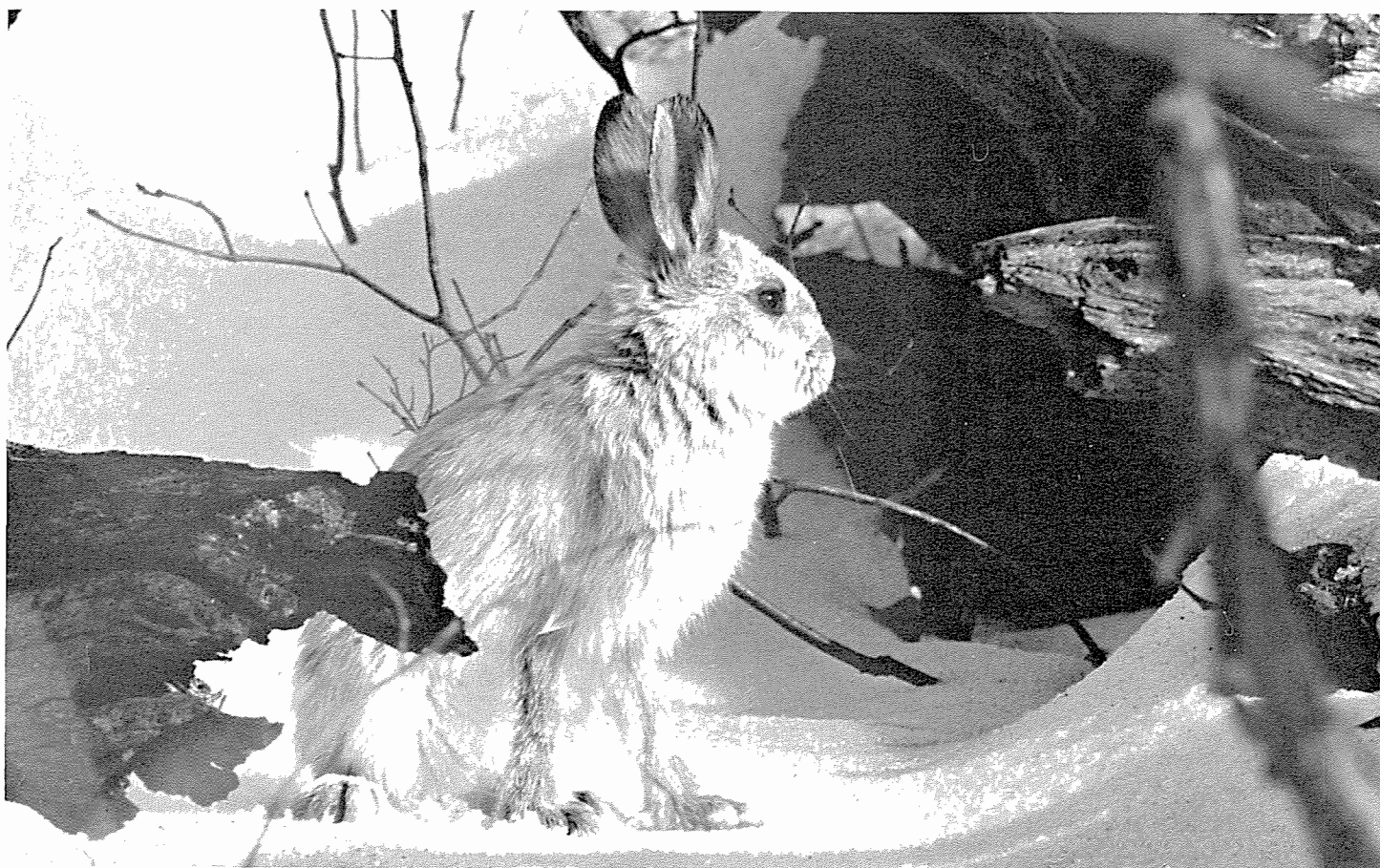
or two years behind the hare peak. When the hare population "crashes," the nutritional stress imposed on the lynx causes a decrease in reproduction and survival, and as a result, the lynx population "crashes" also. Population fluctuations are not synchronous throughout Alaska; the broad two-to-four-year peaks in lynx fur exports probably reflect lynx population peaks in different areas. Presently, lynx and hare populations in Interior Alaska are

increasing and should peak within the next few years.

The lynx is an economically important furbearer in Alaska. Trapping pressure on this cat is influenced by the market value of its pelts, the size of the lynx population, and sometimes the availability of other employment. The silky, luxurious lynx pelt is currently a favorite fur of European fashion designers. Tightly regulated

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The snowshoe hare is the primary prey of the lynx. (Leonard Lee Rue photo)



sales and export of some of the larger endangered or threatened cats has also increased the demand for lynx. As a result, fur buyers have paid trappers up to \$1,200 for a rare "blue" lynx pelt. The average price for the common lynx pelt last winter was about \$250.

What are the effects of trapping on lynx populations? Could we trap them to dangerously low levels? Some trappers believe that when lynx numbers are low, it takes too much time and effort per animal to make lynx trapping profitable, and they make fewer sets specifically for these cats. This reduced trapping pressure allows the lynx to multiply for several years, and the numbers bounce back to a level again worth trapping. They believe that this self-regulating system, therefore, does not diminish lynx to dangerously low levels. Others believe that by trapping lynx during their cyclic low, the population is reduced enough to curtail the following peak. I hope that current research will help us understand better the effects of trapping on lynx populations.

Two sources of information allow us

to keep track of yearly change in lynx populations. Since 1977, trappers have been required to have every lynx pelt "sealed." The pelt is sealed when an ADF&G representative attaches a locking metal tag to it. Measurements of the pelt are taken, and we record information on where, when, and how the animal was trapped. A sealed pelt signifies that ADF&G has a record of that individual animal. Since it is illegal to possess a lynx pelt that has not been sealed, we obtain information from nearly every trapped lynx. In addition, ADF&G sends out a yearly survey to trappers in Interior Alaska asking whether they think the populations of lynx, snowshoe hares, and upland game birds are increasing, the same, or decreasing and whether they are higher, the same, or lower than last year.

We would like to know what part reproduction plays in regulating the rise and fall of lynx abundance and how this is influenced by the availability of snowshoe hares. Nutrition has long been known to affect many phases of the mammalian reproductive cycle, including ovulation, fer-

tilization, implantation of eggs, prenatal and postnatal survival of fetuses, and lactation. I have been examining data from 3,761 female lynx carcasses that ADF&G purchased from Alaskan trappers between 1961 and 1971. There appears to be a correlation between snowshoe hare abundance and lynx reproduction. During years of hare abundance, females breed first, on average, at 10 months of age. In addition, more eggs are released from the ovary, more fertilized eggs implant in the uterus, and more kits survive. In contrast, when hares are scarce, many female lynx are 22 months old before they breed for the first time, litter size is smaller, and prenatal and postnatal mortality is higher.

The Alaska Department of Fish and Game has two additional research projects planned that will increase our knowledge about lynx. This fall we will be developing lynx census techniques for estimating lynx abundance. Because this feline is so rarely seen, we will rely heavily on information from tracks in the snow, trappers, and the activities of radio-collared lynx to

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—DOUG PIFER—

