Disappearing Winter

One of the greatest threats facing wolverines, lynx, and other chionophiles is climate change. Snow conditions are becoming less reliable in key portions of their ranges. When snowpack disappears, these animals lose the advantage of their specialized snow adaptations. This leads to greater competition with other predators in the season where they would otherwise have an edge.

For wolverine and lynx populations in the continental U.S., prime habitat is already hard to come by. These predators have disproportionately large body size, a smaller body size, a longer legs and big feet. Compared to most other wild cats, lynx’s tracks can be the same size as a mountain lion’s. These features may make them look awkward and lanky, but they are key adaptations for traveling through deep snow and give them a competitive edge over most other carnivores in the winter. The undersides of their large paws are also covered in thick, insulating fur to protect the pads of their feet.

Lynx have a close relationship with snowshoe hares, their preferred prey - wherever snowshoe hares are less common, lynx are less common too. As their name suggests, snowshoe hares are also incredibly well-adapted for winter, changing their fur color from brown to white with the seasons. Lynx do this as well, to a lesser degree, their thick fur becoming more silvery in the wintertime. Whenever snowshoe hare populations dip, lynx populations do as well, though these population dynamics are less pronounced in the lower reaches of these their ranges. But at these lower latitudes, prime habitat is also harder to come by. So these southern lynx generally have larger home ranges.

Built for Snow

Wolverines are the largest terrestrial members of the weasel family, about as big as medium-sized dogs. Their natural range includes the arctic, boreal and subalpine habitats of Northern Europe, Russia, and North America. They are well adapted for the infamously harsh winters of these regions. Their thick fur, which was once so highly coveted it lead to their extirpation in parts of their range, can easily sluff away frost. Pregnant females usually build dens by digging tunnels in the snow, where their young will be born between the months of February through April. This means that, even in their first days of life, wolverines depend on snow. They walk around on snowshoe-like feet with a high surface area and insulating fat, giving them a significant advantage over prey in the snow. When they can’t find sufficient prey, they rely on their powerful jaws to gnaw through frozen carcasses.

Wolverines are wide-ranging scavengers, traveling up to 15 miles a day in search of food. Their home ranges can reach up to 500 square miles. Males have a greater tendency to wander. In one extreme example, a male has been documented to travel over 800 miles. Males have a greater tendency to wander. In one extreme example, a male has been documented to travel over 800 miles. Males have a greater tendency to wander. In one extreme example, a male has been documented to travel over 800 miles.

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Another example of a chionophile in the Greater Yellowstone Ecosystem is the similarly elusive Canada lynx. Unlike bobcats, their closely related cousins who thrive throughout most of the continental U.S. and into northern Mexico, Canada lynx are found mostly in the more northern latitudes of North America. In Montana, they often inhabit lodgepole pine or subalpine fir forests above 7,000 feet. Compared to most other wild cats, lynx have disproportionately long legs and big feet. Despite their much smaller body size, a lynx’s tracks can be the same size as a mountain lion’s. These features may make them look awkward and lanky, but they are key adaptations for traveling through deep snow and give them a competitive edge over most other carnivores in the winter. The undersides of their large paws are also covered in thick, insulating fur to protect the pads of their feet.

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Let’s face it - some animals just aren’t cut out for winter. Some journey to warmer locations, whether that be nearby lower elevations or much further lower latitudes. Others lie low for a few months, awaiting the arrival of spring. Even most of those that stay active on the landscape merely tolerate winter. Only some can be said to truly thrive in winter. These are known as chionophiles, a term that translates to “snow lovers”. These are animals with unique adaptations specifically suited for frigid temperatures and deep snow. They are generally arctic or boreal species. In the United States, Alaska is, unsurprisingly, home to most chionophile species, but they can also be found in the higher latitudes and high mountainous regions of the lower 48. One great example of a chionophile is also one of the Great Yellowstone’s most elusive and mysterious creatures: the wolverine.

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While wolverines were likely never very common, their historic range spanned the northern continental U.S., and throughout the Rocky Mountains and the Sierra Nevada. Their range shrank with European colonization. Their ranges in the lower 48 states were likely killed off by the early 1900s. The current populations in the United States are the result of individuals that were moved or released from the Yukon into the lower 48 states.

Launch at Taft-Nicholson Center