



Species Spotlight

Fisher *Martes pennanti*

A porcupine slowly waddles its way the short distance from its den to its favorite hemlock tree for some winter foraging. Shrouded in a protective shield of nearly 30,000 quills, each tipped with a microscopic harpoon-like barb, most would-be predators in the area innately know better or at some point have got a mouthful of spikes during a foolhardy attempt to make a meal of one of these large members of the rodent family. But today is different - with a flash a fisher seemingly flies out of nowhere and slashes at the porcupine's face. Stunned but focused, the prickly prey tucks up face-first against the base of the hemlock and presents its arsenal of quills towards its attacker. This is enough to ward off most animals, but with lightning-quick speed the fisher jumps over the porcupine onto the tree. Possessing the rare ability to turn its rear feet almost 180 degrees, the large weasel faces down the trunk of the tree and again slashes at the porcupine's face. Having exhausted its bag of tricks to escape, the rodent begins to black out after several more fisher attacks. It's last sensation is being rolled over by the fisher, who is about to enjoy a well-earned meal.

What is it?

An important part of the lore of the Northwoods, fishers are a large member of the weasel family in the northern part of the US and into Canada. Adult females weigh about 4-6 pounds and adult males about 12-14. Fully grown males can be nearly 4-feet long, though much of that is its long tail. That tail is also the reason it is often referred to colloquially as a "fisher cat". Despite this, they have no relation to felines and they rarely dine on fish. The name "fisher" likely stems from a



With its sharp claws, agility, and speed, fishers are a very capable predator in the northeast. Ed Sharron photo.

lost-in-translation corruption of the French fur-trappers name for them centuries ago. To them, our native weasel's fur appeared similar to European polecat (a wild ferret) fur for which the French word is *fichet* or *ficheux*.

Fishers are very capable predators. Armed with agility, speed, sharp teeth and claws, and boundful energy, they lope throughout their territories through places where they know squirrels, mice, voles, birds, rabbits, hares, and even porcupines may be active, hoping to flush something out and chase it down with its speed. They can follow prey into tight spaces like underground tunnels or snow passages and take them down with a bite to the back of the neck. Their fierce reputation is often undeserved when compared to any other wild animal that hunts to survive, or even compared to a house-cat that toys with its prey before killing it.

Why is it important?

Forested ecosystems that include a healthy fisher population are a positive sign of a well-functioning, mature environment. Fishers also help control rodent populations, both large and small species, and have been reintroduced in some parts of the country to help keep in check forest-stand damaging porcupines. They increasingly appear to be filling, at least partially, a niche left vacant when top-tier predators (wolves and mountain lions mostly) were extirpated from the region.

How does NETN monitor it?

NETN's vital sign monitoring programs don't directly monitor fishers, but the forest health monitoring program provides data that can be a good predictor of suitable habitat for the animals. NETN staff also leads winter wildlife tracking programs with the public and area schools that frequently encounters the tracks of these animals in Vermont and New Hampshire.

How is it doing?

Fishers have made a strong comeback in recent years and these medium-size mustelids are repopulating old territory after centuries of absence in some cases. Even far from cities, it was essentially vacated from the Northeast by the 1930's and 40's due a killer combination of habitat loss and high trapping pressure for its valuable pelt. As forests have recovered in the region and trapping activities have abated, the fisher population has naturally rebounded. In the eastern U.S., fishers have grown their range by an impressive 119% since the early 1900's – one was even seen in New York City a few years ago. Some scientists think that fishers, among other mid-level predators, are benefiting from what is termed “mesopredator (medium-sized predator) release”. Researchers are pondering if expanding fisher populations in the region are resulting and benefiting from the absence of large carnivorous predators and their direct predation and competition. Interestingly, this could even be influencing changes to fisher's morphology and ecological niche-fulfilling role. One study in particular found fishers in the east are complementing their already diverse diets with more relatively large-bodied prey species, as opposed to populations with specialized diets (northwestern fishers) or diverse diets with small amounts of large-bodied prey (California) that have seen little range expansion over the last few decades. Furthermore, in a phenomenon biologists refer to as “directional selection”, fishers appear to be becoming bigger in the east than their western cousins, which can allow them to hunt the larger prey species that should be more available with the absence of apex predators. Random gene mutations may have produced a few fishers with slightly larger make-ups that allowed them to take down their prey more efficiently or target larger prey. Over time, as the bigger fishers successfully sired offspring, their genetic variations have become the new norm for much of the population. In at least one case, a fisher weighing 20 pounds has been recorded in the east.

Another trait that is benefitting the expansion of these animals is that they are highly adaptable.

Human developments present many challenges (road-crossings, dogs, hunting, trapping) but also many opportunities (bird feeders, farm fields, road-kill, and squirrel-laden parks).



Above: The classic 3-4 loping pattern of a large male fisher traversing his territory. **Below left:** The skull of a mature male fisher. The large sagittal crest atop its head provides purchase for powerful jaw muscles and is lacking in females of the species. The older a male gets the larger the crest becomes, allowing for take-down of larger prey.

Their comeback and range expansion into unexpected places like cities and busy neighborhoods speaks to their resiliency and adaptability to modern conditions. Whereas not long ago, to catch a glimpse of these animals was an extremely rare treat - today more and more people are having a chance to lay eyes on this amazing animal.

For more information

See NETN's forest health monitoring protocols, reports and resource briefs available from the Forest Health page of our website.