

The Outside Story



Paul

Porcupines: Waddling Through Winter

By: Steven D. Faccio

The porcupine is one of the most unique and recognizable mammals in the Northwoods. And thanks to its short legs and fat body, it's also one of the slowest. Of course, a porcupine really has little need for anything faster than first gear, since its quills provide excellent protection from most predators. But it still surprises me that a short-legged herbivore that doesn't hibernate manages to thrive in the deep snow of northern New England.

As noted naturalist, tracker, and photographer, Paul Rezendes points out in his book, *Tracking and the Art of Seeing*, "it takes a lot to excite a porcupine. It doesn't move fast, and it doesn't move far." This is especially true in winter, when porcupine home ranges are 80 to 90 percent smaller than in summer. If you've seen a porcupine trail in deep snow then you probably realize

that porcupines turn into snowplows in winter, creating deep troughs between their dens and favorite feeding areas. And just like we shovel our walks with each new snowfall, porcupines inadvertently "plow" their trails after each storm as they move between den and foraging areas.

Like shoveling, plowing through snow takes effort, and for an animal trying to survive the winter, it also uses up valuable energy reserves that may reduce its chances of survival. Researchers in Quebec found that in years with deep snow, porcupine survival declined, primarily due to increases in predation and starvation, both of which resulted from the porcupine's inability to move around. Essentially, porcupines face a balancing act in which they must decide whether it is best to forage in a very small area, risking starvation due to limited food availability, or travel through the snow in order to gain access to additional food sources while risking predation.

The primary predator of porcupines in the Quebec study, as well as in northern New England, is the fisher, which also preys heavily on snowshoe hare. But when snow is soft and deep, hare are much more difficult for fisher to capture, so they may shift their focus to porcupines, whose movements are limited and more predictable.

I recall several years ago following fisher tracks in deep snow. For an hour or two the tracks zig-zagged wildly through the woods, from brush piles to fallen logs, to blackberry thickets and dense sapling stands. Back and forth I meandered until suddenly the tracks straightened out and made a beeline through several hundred

yards of hardwoods to a rocky hemlock ravine where porcupine sign was abundant. It's as if the fisher was randomly searching areas of cover where a snowshoe hare or grouse might be found, before deciding to head over to porcupine-ville in hopes of finding the resident in a vulnerable situation.

As revealed in my tracking adventure, rocky outcrops are a key winter habitat feature. When temperatures begin to drop below freezing in fall, porcupines seek out the protection of dens, usually rocky ledges with crevices. While they will also use hollow logs, large tree cavities, and even abandoned beaver lodges, caves and rock crevices appear to be preferred, probably because they are warmer. Porcupines are faithful to their den sites, and may use the same den for their entire life (10-12 years). Prime dens may be occupied continuously for many decades, accumulating large mounds of porcupine droppings at the entrance, which some naturalists speculate may help deter other animals from taking up residence.

Although porcupines will frequent a variety of conifer species in winter, hemlock appears to be another important habitat feature, some might say critical. Several studies have shown that porcupines focus their winter feeding on hemlock far more than would be expected. Porcupines initially browse on the tops of the trees, eating the young needles and tender bark, before moving to lower branches. It's very common to find "nip twigs" (small branches cut at a 45-degree angle) scattered on the ground in hemlock stands. In addition to providing an important food source, hemlocks (and other conifers) also help to

reduce the amount of snow that reaches the forest floor, making it easier for short-legged porcupines to waddle their way through winter.

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