

BEST PRACTICES



The Adaptive Weasel

When winter rolls around, plants and animals have to adapt to survive. Trees and bushes lose leaves, bears hibernate, and frogs freeze. Here in Washington, weasels have adapted in high elevation homes to better survive snowy conditions by changing color.

Weasels are in the Mustelidae family which includes other smaller carnivorous mammals, such as mink, badgers, wolverines and sea otters. A common identifier of these mammals is that they have a “musk” or anal scent gland that produces a strong-smelling secretion used for marking territory and finding reproductive mates.

All weasels are obligate carnivores, meaning they subsist entirely off meat. Weasels are voracious hunters and will eat most any small animal they can get their sharp teeth and paws on. Their diet generally consists of small rodents. However, they are fast and strong enough to prey on the much larger snowshoe hares despite being outweighed by them. A weasel will often kill more than they can eat at one time, and will bury or cache their leftovers so that they will have food to eat later.

Species of weasels found in the Pacific Northwest include the long-tailed weasel and the short-tailed weasel. The long-tailed weasel can be found across the world, while the short-tailed weasel can only be found natively in North America and Eurasia.

A species of short-tailed weasel native only to the Olympic Mountains, the Olympic short-tailed weasel, does not change its color to white in the winter. They retain their brown coat and yellowish underbellies year-round.

The other two species of weasel turn white in winter, likely because they live in elevations where there is snow. Long-tailed weasels shed twice a year, once in spring and once in fall. During the fall shedding, they lose their brown coat and become snow white, like their favored prey, the snowshoe hare. This change in coat for both is triggered by the length of daylight. As days get shorter, the amount of dark pigmentation in their skin lowers, turning their fur white. As the months turn to spring, and the daylight is longer, dark pigmentation levels rise, bringing their darker color back. This solar-activated color change could also explain why weasels have light-colored bellies, as their bellies do not get much exposure to sunlight.

With the changing climate, this camouflaging transformation may be harmful. With less snowfall to hide in, weasels that change to white are at a disadvantage, finding themselves easier to spot by predators and prey alike among the browns and greens of winter underbrush. Species that don't change colors like the Olympic short-tailed weasel may have an advantage. Research has shown that the population of the white subspecies of weasel drops during years that experience less snow cover. This naturally selective pressure might mean that, over time, the weasel could lose the ability to change its brown coat to white to better survive.



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