

How do animals adapt to winter?

Animals are preparing for winter's long cold



By Katharine Fletcher

Winter's around the corner. We prepare our families for bitter temperatures and deep snow by raising our thermostats and buying boots, coats, mittens and hats. As well, we eat hot soups, stews and other tasty, nutritious food to keep our energy and fat levels sufficient for the onslaught of cold.

Animals, amphibians, birds, fish can't do this. How do these creatures manage to live with winter?

Migration

One coping strategy is migration. For instance, many birds simply say "I'm outa here" and leave the Ottawa Valley for such southern climes as Florida and Mexico. That's why we've seen so many birds such as redwing blackbirds and mallard ducks gather in large flocks, preparing to migrate.

Birds flock in order to have protection as they travel.

Still other species such as snow buntings migrate to the Ottawa Valley from the Arctic. It's far warmer here than further north, even though that might seem preposterous when our temperatures plunge to -40 degrees Celsius. Brr!

Adaptation

If animals remain here during winter, they must adapt to our conditions. And oh, what bitter conditions they face. Ground freezes and becomes covered in snow and ice; most plants freeze and die back, or lose their leaves; as well, surface water in ponds, rivers and lakes freezes. – Or at best, temperatures plummet so even if there is some open water, it is frigid. In other words, the animals' environment completely alters in winter.

As do they. Mammals grow dense fur. Several mammals also adopt camouflaging colours: rabbits and hares turn white, as do some weasels.

White-tail deer lose their rich chestnut-coloured summer coats, which by now have adopted a dusky grey-brown for winter – all the better to blend into the denuded trees of the deciduous forest. *Fascinating fact:* did you know that the hair deer grow is hollow, so as to trap more heat?

Meanwhile, some birds such as ruffed grouse will dive into the snow, creating a little “cave” beneath its surface. Inside, they use the insulation effect of snow to keep warm. However, they don’t stay inside such “caves.” Instead, they burst out of them so they can feed on twigs, buds and seeds in the forest.

Dormancy, torpor: slowing down

Many animals, amphibians and reptiles go into dormancy in winter: black bears, garter snakes, groundhogs all do this, dropping their heart rate and metabolism so they require little energy throughout winter.

Wood frogs have a special liquid circulating in their bloodstream which acts rather like antifreeze. They go into a state called torpor and because of this fluid, they don’t freeze. This chemical is particularly important for amphibians, which can live like this throughout winter, while buried in the mud at the bottom of ponds, for instance.

Fish avoid the surface water of ponds, rivers and streams because it freezes. They head to the bottom where they shelter under logs and rocks. Because cold water has more oxygen in it than warm water, critters have also made a special adaptation: turtles, for instance, absorb oxygen through their skin.

Activity and food

Other animals such as squirrels, wild canines and felines are active above the protection of snow. While deer and moose flounder in deep snow, wolves and bobcat can run across the snow’s surface so as to catch, kill and eat their prey. The predators’ feet have adapted, too: they grow hair between the pads of their toes and heels, so as to “grow snowshoes.”

Gathering and storing food is the chore of other animals such as squirrels and chipmunks. When you go into the woods this winter, search for mushrooms suspended in tree branches. You might be lucky and find one tucked into a pine, spruce or balsam fir bough. Squirrels do this so they can grab a meal in the safety

of the tree's branches, rather than venturing onto the snow's surface, thus becoming a more visible and accessible meal for the red fox!

Winter's reality

Meadow voles, mice, and shrews have high metabolic rates. They create tunnels beneath the snow so they can dash about and find grasses and tree bark beneath its insulated protection during winter. White-tailed deer browse on buds and twigs of American beech trees, stepping through the deep drifts.

Whatever their reality, predators and prey must adapt to winter's long season of freezing cold.

Pass me the hot chocolate... Like you and your children, I'm grateful I don't have to cope outside, throughout winter!

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