

## The importance of snow

By Larry Hyslop



A hidden, protected world exists beneath snow

All this snow in my back yard looks great. I enjoy the change in scenery plus knowing all this snow will soon melt and release much needed moisture into the ground. For many small animals, snow cover is a life-saver during cold winter temperatures such as we have endured lately. Their lives are much easier beneath snow and may well determine their survival through the winter.

Much of the help comes from a feature called the subnivean zone, a sort of snow cave. This zone is at ground level beneath a good layer of snow. This zone is not solid snow since vegetation creates small air-filled pockets. Covering snow insulates the subnivean zone, while heat rising from the ground ensures a temperature that stays near 32 degrees Fahrenheit even when air temperatures are -20 degrees.

The warmer snow at ground level tends to melt. The water migrates upward to re-freeze in colder snow, forming a crust that further seals in the subnivean zone below.

Mice, voles and shrews run about on the ground through tunnels connecting the various air pockets. They travel in relative comfort during their search for food, protected against cold and predators. After the snow melts in spring, balls of dead grasses can be found lying on the ground, the remains of rodent nests used during the winter.

Jackrabbits never tunnel into the ground. The most shelter they half-way build is a protected spot beneath a shrub called a scrape. But during winter, they tunnel down through snow, although it is probably more true to say that after a snow storm, they tunnel up to the surface from their scrapes. Either way, they use these tunnels to sleep in warm, protected scrapes beneath the snow.

Snow cover is also very important for sage-grouse. They expend much less energy when they can spend frigid nights buried beneath snow. Where the snow is deep enough, they simply tunnel down into the snow until buried. They may also fly along and dive down into the snow. If the snow is not deep enough for tunneling, winds may create snow drifts deep enough for tunneling. Then sage-grouse walk into the side of a drift until their tunnel collapses behind them. They spend the night in relative warmth, protected from winter winds. In the morning, they simply continue walking forward, to emerge from the other side of the drift.

Even though living high in the mountains, pikas do not hibernate. These small relatives of rabbits live off food harvested and stored during summer. They spend the winter in deep tunnels beneath rocks and snow.

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