

## Creature Feature Ruffed Grouse

Ruffed Grouse are uniquely adapted to the winter conditions they encounter in Michigan and farther north. These chicken-sized birds don't migrate, but instead stick it out through the coldest of winter days and nights.



In fall, pectinations, or comb-like rows of bristles, begin growing on a Ruffed Grouse's feet. These bristles help to distribute the bird's weight, allowing it to walk on the surface of the snow without sinking in. Extra feathers also grow in the fall. The feathers cover the grouse's nostrils on its beak and pre-warm the air entering its lungs.

Like many other animals, Ruffed Grouse turn to tree buds and twigs as a winter food source. Their sturdy, downward curved beak helps them effectively harvest their winter food. In 20 minutes, they can consume enough buds to last through the day. Once a grouse has filled its crop with food, it will move to a more protected area to digest its meal. This ability to collect food and digest it later allows the bird to minimize its exposure to aerial predators like hawks and owls.

When snow is scarce, grouse tend to roost in the protected layers of conifer branches. However, if enough snow is present, grouse will 'snow roost' by diving under the snow and creating a hollow where temperatures are much warmer than in the air above.



## Nature Notes

The **subnivean zone** is the space below the snow and above the soil.



On the coldest winter days, this zone provides an important refuge for small mammals.

The temperature of the subnivean zone can be as warm as 32 degrees Fahrenheit when there's at least 6 inches of snow. The snow traps the earth's heat and keeps it close to the ground. This means the subnivean zone can be 10, 20 or even 30 degrees warmer than the outside air temperature.

Voles, shrews, mice, and even red squirrels take advantage of this warm microclimate. Creating tunnels and dens, these animals access food sources and move around in a world that is virtually invisible above the snow.

Although we may overlook their subnivean existence, predators are keenly aware of the small



mammals under the snow. Weasels dive down the tunnels in search of a tasty snack. Coyotes, foxes, owls, and other predators will burst through layers of snow in hopes of grabbing a meal.

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