

# Surviving Winter's Challenges

by Edna Vizgirdas

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Winter is the most stressful time of year for Idaho's wildlife. Animals have three basic strategies for survival in winter -- they can hibernate, migrate, or tough it out. The key hardships are lack of food and cold temperatures; however, lack of food is generally considered to be the primary factor that causes many species to migrate or hibernate.

But don't let the reduced activity fool you! There's actually plenty going on in the woods -- both above and below the snow. Many animals remain active since they have adapted to winter's challenges. In this article, we'll focus on some of the adaptations that mammals in Idaho have to cope with winter's harsh conditions.

## Physical Adaptations

Snowshoe hares and lynx have large feet to spread their weight over the snow. The densely furred feet of Canada lynx can be up to 4 inches across and act like snowshoes, allowing the lynx to move more efficiently through deep snow. This adaptation helps lynx capture their favorite meal, snowshoe hare. Martens and other mammals grow additional fur between their toes in winter to give them effectively larger feet.

In our area, both snowshoe hare and ermine (also known as short-tailed weasels) turn white in winter. By blending in with the snowy landscape, white coloration helps snowshoe hares escape from hungry lynx and other predators. By remaining perfectly still, snowshoe hares are so well camouflaged that you can snowshoe within arm's reach from one and not even see it. The white coat of predators such as the ermine (and farther north, the arctic fox) helps them to sneak up on their prey. Its compact, cylindrical body shape also helps make the ermine one of the best mousers around.

Animals use fat as insulation to keep their bodies warm in winter. These layers of fat act as an internal coat and help provide energy when food is scarce during the winter months.

Specialized fat, called brown fat, is produced during the food-rich seasons and expended during winter. Brown fat is used by most hibernators for arousal and by many migrators as a fuel source.

## Behavioral Adaptations

In addition to physical adaptations, animals can have a variety of behavioral adaptations to winter. Some mammals, such as flying squirrels and deer mice, will occupy collective dens to conserve body heat, even though they may be non-colonial during the warm season. Some species of snakes will do the same thing. Beavers cache food before winter. Muskrats and beavers construct shelters, partly for protection from severe weather.

In deep snow, deer and elk follow in each other's footsteps to save energy. Moose have special joints that allow them to swing their legs over snow rather than push through snow as elk do.

Red squirrels, also known as chickarees, are one of the most conspicuous mammals in Idaho's forests. They don't hibernate, but store food for winter consumption in caches called middens. Filled with pine, fir and spruce cones, midden piles can be 15X 30 feet or larger. Red squirrels cut conifer cones from tree tops in fall and haul them to their midden, centrally located within their 1 to 4 acre territory. The fall cone-cutting frenzy can result in the storage of 20,000 cones. If you're in the forest during this 4 to 6 week period, you might get hit on the head with a falling cone!

In eastern Idaho, red squirrel caches are an important food source for grizzly bears. At higher elevations, squirrels cache thousands of cones from whitebark pine. In fall, grizzlies raid these nutrient and calorie-rich caches, helping them to prepare for hibernation. But of course this makes it tough on the squirrels that are dependent on their cone supplies for winter's meals.



A coyote searching for food; © Nick Kiriazis ([www.nickkiriazisphotography.com](http://www.nickkiriazisphotography.com))

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### Life Under the Snow

A blanket of snow acts as an insulator and a physical, protective barrier. The subnivean air space is a snow-free layer (around 1 inch) between the ground and the snowpack. Even when air temperatures range from 20 to 50 degrees below zero, the subnivean air space can remain a comfortable 20 to 30 degrees above zero.

Living beneath the snow provides insulation and protection from predators for small mammals. Shrews, mice, voles, and moles don't have enough surface area on their bodies for their fur to adequately protect them from the cold. The subnivean air space allows these animals to survive. It also allows for escape routes from predators including red foxes, coyotes, and weasels. The warmer air at or near ground level creates open spaces that eventually become a network of tunnels where many animals spend their winters – protected from the harsh weather and predators above.

Spend some time exploring Idaho's winter landscapes, and see if you can discover signs of our amazing wildlife. As the saying goes, there's no such thing as bad weather, only inappropriate clothing. So grab your winter woolies, and go wild this winter!



Snowshoe hare; © Ray Vizgirdas

## Invasion of the Snowys!

by Vicky Runnoe

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If you have spotted a large white owl recently, you are not seeing things. Idaho and many other northern states are hosting snowy owls this winter. These large mostly white owls are leaving their typical wintering areas in northern Canada and moving into the northern United States. Such a large movement of birds is known as an irruption, and is often associated with a decline in winter food.

Snowy owls feed mainly on lemmings so this irruption could indicate that the lemming population has decreased significantly. However, lemming populations have been large this year. So, why are the owls moving? High numbers of lemmings translates into a successful breeding season for the owls. This, in turn, creates competition for food at wintering areas. Young, inexperienced owls cannot compete with older adult birds, and are forced to move south to find prey. Observations of snowy owls in the northern states confirm that many are young birds.

Snowy owls spend the winter in open fields and marshes. They perch on the ground or exposed perches such as fence posts, while they search for rodents and birds. Because snowy owls see few humans in their Arctic habitat, they can seem quite tame. It is, however, very important to observe the owls from a distance. In addition to their long flight, young birds are not yet adept hunters and may be catching barely enough food to survive. Disturbance by enthusiastic observers can cause the owls to use precious energy needed to hunt and stay warm. Keeping your distance and using binoculars, spotting scopes, and telephoto lenses will help minimize disturbance to the birds.

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Snowy owls are on the wish list of many birdwatchers and wildlife photographers. That wish may be fulfilled right here in Idaho this winter season.

### Snowy Owl Fun Facts:

Snowy owl pairs fiercely defend their nests against predators, even wolves.

An individual adult snowy owl may eat three to five lemmings per day, or up to 1,600 per year!

The snowy owl can be found represented in cave paintings in Europe.

Young male snowy owls are barred with dark brown and get whiter as they get older. Females keep some dark markings throughout their lives. Young males tend to have a white bib, a white back of the head, and fewer rows of bars on the tail than females. Although the darkest males and the palest females are nearly alike in color, the whitest birds are always males and the most heavily barred ones are always females. Some old males can be nearly pure white.

Source: Cornell Lab of Ornithology