

# To Hibernate, Or Not To Hibernate....

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**Happy Squirrel by Scott Anna**

During the winter months in the North Georgia Mountains, one thing is for certain. The wildlife and critters that one usually sees during the other three seasons change. Reptiles such as snakes, frogs, and toads.

Pesky insects such as spiders, and mosquitoes; rodents such as bats, flying squirrels, woodchucks, and field mice, and, of course my favorite, the American Black Bear. Winter is cold, there is snow on the ground, and people live in warm houses. What do animals do?

Some animals sleep all winter! It is a very deep sleep called hibernation. They need little or no food, and may live in holes in trees or under the ground to stay warm but is usually hard for them to find food, like the woodchucks, snakes, and bear. Deer, squirrels and rabbits stay active all winter long! In the North Georgia Mountains, the lower portion of the Appalachian mountain range, some days during the winter months feel more like spring, than winter. Because of this, we often get a glimpse of the creatures we had seen during the previous summer.

Some birds fly south for the winter, this is called migration. During the winter months, they go to a warmer place to find food. Other birds such as the Canadian goose stay here all winter, after all this ***IS*** the south! The biggest problem for most animals in the winter is finding enough food. If an animal's main source of food is very scarce in the winter, like insects or green plants, it may

solve this problem by hibernating. This deep sleep allows them to conserve energy, and survive the winter with little or no food. Most hibernators prepare in some way for the winter. Some store food in their burrows or dens, to eat when they awake for short periods. Many eat extra food in the fall while it is plentiful. It is stored as body fat to be used later for energy. Hibernators have two kinds of fat: regular white fat and a special brown fat. The brown fat forms patches near the animal's brain, heart and lungs. It sends a quick burst of energy to warm these organs first when it is time to wake up.

True hibernators go into such a deep sleep that they are difficult to wake and may appear dead. Their body temperature drops and breathing and heart beat reduce speed significantly. For example, a hibernating woodchuck's heart rate slows from 80 to 40 beats per minute, and its temperature drops from 98 F to as low as 38 F. If its temperature falls too low, it will awaken slightly and shiver to warm up a bit. If an animal lives in an area where the winter is mild, it may hibernate only briefly, or not at all. However, even when the weather is severe, hibernators may wake up for short periods every few weeks to use their "toilet rooms" and eat, if food is available.

Other hibernating animals do not experience major changes in temperature, heart rate and breathing. Animals such as skunks, raccoons and some chipmunks are the light sleepers, easily awakened. They

may sleep during the most severe weather and wake to roam and eat during milder weather.

The largest hibernators are the bears. Although a black bear's heart rate may drop from a normal of 60-90 beats per minute down to 8-40, its temperature drops only slightly, allowing it to wake up quickly. These bears are also unique because, unlike other hibernators, they do not eat, drink, or excrete at all while hibernating, which can be as long as six months. Living in the north Georgia Mountains, we may get the pleasure of seeing these magnificent creatures during the winter months, due to the mild temperatures we often experience. Being that this is my first full winter here, I have not been able to see them, but have been told that in years past a very large male bear is a frequent visitor. Being an amateur photographer, I keep my camera ready to get that "perfect" shot!

Although Black Bears are widely credited with hibernating, they do not fulfill the requirements of "true" hibernators. Bears do sleep a lot in winter and consume a great deal of their body fat, but their body temperature, breathing rate, and pulse remain too high for them to qualify for true hibernation status.

For the black bear, hibernation is more an adaptation for escaping winter food scarcity than an adaptation for escaping winter cold. Most dens are nearly as cold as the surrounding countryside. Dens may be burrows, caves, hollow trees, or simply nests on the ground. Bears gather leaves, grass, and twigs to make insulating beds on which to curl up, leaving only their well-furred backs and sides exposed to the cold. They sleep alone except for mothers with cubs. Most bears use a different den each year.

The white-tailed deer are abundant, and are daily visitors to my cabin! There was a herd of 6 just yesterday! They scavenge around the squirrel feeders for a dropping of seed or corn, and then gallivant away. How is it that these beautiful animals keep warm? Why don't they learn a lesson from the hibernator's?

Humans: do we hibernate? I guess to some degree we do! When it is cold outside, what do we normally do? Stay inside next to a roaring fire, munching on popcorn and reading the book of the week. By doing this we are essentially hibernating! Our pulse and blood pressure go down! If not wrapped in your favorite blanket your temperature also goes down! We don't have far to go to get filled on food, the fridge is only a few steps away.