



## Nature Guides

### Groundhog Day and Other Hibernators

*Early February*

#### Featured Process: Groundhog Day (and Other Hibernators)

February 2 is Groundhog Day, with key prognosticators in both the US ([Punxsutawney Phil](#)) and Canada (Ontario's own [Wiarthon Willie](#)). Willie even has his own [statue](#) and [webcam](#). As you know, if they see their shadows, it's six more weeks of winter. If not, bring out the gardening tools. People in the Bruce claim 90% accuracy for Willie (it must be sunny a lot up there). He saw his shadow last year and the tip of the [Bruce Peninsula was a bit colder than normal](#). For most of southern Ontario last winter was [average in terms of temperature](#), but with [more precipitation](#).

Would a Groundhog see its shadow on Groundhog Day at your school? Step outside on February 2<sup>nd</sup> and find out.

Why February 2? Well, it's the exact middle of winter (half-way between the winter solstice and spring equinox), a time when folks traditionally checked to see if they had half of their hay, firewood and root vegetables left. In Britain, it marks the beginning of spring planting. It is also Candlemas on the Christian calendar, a day long associated with forecasting spring:

"If Candlemas Day be fair and bright,  
Winter will have another flight.  
If Candlemas Day be cloud and rain,  
Then winter will not come again."

Why a Groundhog? German farmers used to observe [European Badgers](#) to get a sense of spring activity (some thought they could foretell spring), and when they immigrated to the U.S. and Canada and found few badgers, they transferred the tradition to the very common Groundhogs, which begin to emerge in some parts of North America around the second week of February. In Ontario most don't emerge until March. See what Willie and Phil predict this year, and then follow the weather and decide if their prediction(s) come true or not. Team up with other schools across North America at [Project Groundhog 2010!](#)

A good children's story from the Groundhog's perspective can be found [here](#).

The [Groundhog](#), also known as a Woodchuck or Marmot, is the largest member of the rodent family and a true hibernator. They [build up](#) a thick layer of fat in the fall, and then retire below the frost line (sometimes as much as 5 m under the surface) in its [burrow](#), where it enters a profound sleep. Its heart rate will drop from 80 beats/minute to 4 or 5, respiration to once a minute, and its temperature may drop as low as 3<sup>0</sup>C. They will carry some of their fat into spring because when they emerge (more likely in March in Ontario), [fresh greens](#) may be weeks away.

In true mammalian hibernation, body temperature drops to near the surrounding temperatures (usually slightly above freezing), and heart, respiration and metabolic rates drop significantly. Energy use is 60–98% lower than normal. Periods of deep hibernation last from one to several weeks, with hours of arousal in-between, and arousal may take several days. Towards spring, arousal periods lengthen until hibernation is broken.

Other Ontario mammals that truly hibernate include the [Meadow Jumping Mouse](#), [Woodland Jumping Mouse](#), [Franklin's](#)

#### Top R4R Picks

Resources for extending the learning

► [Little Brown Bat](#)

Elementary

Ground Squirrel and the following bats: Little Brown,  Big Brown, Northern Long-eared, Eastern Small-footed, and Eastern Pipistrelle. Bats cluster in hibernacula, often caves, and small increases in temperature caused by even careful visitation may rouse the bats too often, leading to starvation and death. Please avoid known hibernation caves in winter!

### Other Happenings:

- The other evening I was driving along a farm road when an Ermine streaked across in front of me. *Ermine* is just a high-class name for the winter phase of the weasel (or more exactly the Short-tailed Weasel, not the Long-tailed or Least), a pocket-sized carnivore related to American Mink and River Otters (I guess royalty didn't want others to think they consorted with *weasels*). Ermine only weigh 30 – 140 grams, and can easily fit down a rodent's snowy breathing hole and along its tunnels, becoming, along with owls, primary predators of the subnivean (see late January),
- Great Horned Owls are calling and are beginning to breed (the first owl to do so). Barred Owls are also vocal, and will respond to call imitations. They are also sometimes seen in parks or wooded areas near or within towns, so keep an eye out.
- Get ready to participate in the Great Backyard Bird Count on February 12<sup>th</sup>–15<sup>th</sup> – an annual four day event of bird watchers of all ages counting birds to create a real-time snapshot of where the birds are across the continent and in Hawaii). All you have to do is count birds for at least 15 minutes on one or more of the days, fill out the data form, and submit it. Don't forget to take photos too. Here are some tips for educators to get ready for the count, as well as some free (until Feb. 15<sup>th</sup>) bird e-books to get students excited.
- Eastern Gray Squirrels mate this month and there's a lot of chasing going on related to territory and general amorousness. And keep an eye on those dreys for increased activity.
- Other mating mammals include Raccoon, Eastern Wolf, Coyote, Red Fox, Striped Skunk and American Mink. All develop young (*gestate*) for about two months, which will place births in April or May, when food is more plentiful, yet a maximum growing period still exists. Yes, everything *is* connected.
- There's a lot of *survival food* being consumed right now – berries and seeds that birds and animals may not prefer (e.g. the fat content is low), but that come in handy towards the end of a hard winter once things like Common Winterberry have already been picked over. Check on Common Maple-leaved Viburnum, and especially Staghorn Sumac this month, and see if the remaining berries and fruit begin to disappear.
- On average, the first week of February is the coldest week of the year. Track the temperature, and see how the weekly average compares to recent and following weeks. At the end of the month calculate the monthly average and compare it to the historical monthly average. This could lead to a discussion about the difference between weather and climate.
- The Pleiades (Seven Sisters) are high in the western sky, eternally being chased by Orion. The related mythology can be found here. The dust cloud through which this star cluster is traveling can be seen on infrared.

