


## Hibernation and wild mammals

The reason some mammals hibernate during the bleakness of winter is to survive when there is little or no sustenance. Hibernation is not sleep. Sleep is essential to all mammals, but hibernation is not necessary when there is sufficient food availability. Besides, hibernation is a dangerous state where, without necessary preparation, an animal may not recover. The move from normal activity into hibernation is triggered by hormonal changes and shorter daylight hours.

At this time the body metabolism slows significantly to reduce energy usage to an absolute minimum. To achieve this, the body temperature is drastically lowered, at the same time as reducing heart and breathing rates. These dramatic changes result in the metabolic rate dropping to only 1-2% of normal activity. Stored body fat, which has accumulated in the body throughout late summer, sustains the animal without the availability of regular food.

Apart from all bats, only two terrestrial mammals in the UK hibernate, the hedgehog and the dormouse. Survival rate for hibernating dormice is around 30-50%, resulting in 50-70% of the population lost during winter. A dormouse must double its body weight in autumn by eating high-energy nuts and berries. Individuals failing to build sufficient fat reserves typically do not survive. Other causes of death include predation, disturbance and mild temperatures. Warm winter weather can cause dormice to arouse from hibernation when food is scarce, depleting vital energy resources.

Hedgehogs fair much better than dormice in terms of hibernation survival providing they have put on sufficient weight. But premature arousal, caused by unseasonable mild temperatures, can reduce a hedgehog's fat reserves to dangerously low levels.

Bonfires are especially popular with gardeners at this time of year due to the autumn job of shrub pruning. This neatly coincides with hedgehogs searching for hibernation nest sites. Piles of shrub clippings (or unlit bonfires) act as magnets for hedgehogs for constructing hibernacula. The problem here is that it takes several hours for a hedgehog to arouse from hibernation. To prevent burning hedgehogs alive, two important rules apply to bonfires. Either build it and burn it on the same day, or if making a bonfire over time, move the contents entirely before igniting.
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