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Effects of Winter on Wisconsin's Wildlife

by Tami Ryan, wildlife health section chief

Wisconsin's winters can be harsh on our state's wildlife. As winter is upon us once again, there are some cold weather considerations to keep in mind when it comes to Wisconsin's wildlife.



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Wildlife in Wisconsin are well adapted to survive seasonal weather and temperature changes. The key to winter survival for most wildlife is through management of their energy budget. Wildlife manage energy in many ways, but primarily rely upon a combination of behavioral modifications (e.g. seasonal movement, habitat use and congregating), morphology (e.g. physical attributes) and physiological changes (e.g. organ function). Each wildlife species has adapted using a variety or combination of three basic survival strategies: migration, dormancy, and tolerance.

Migration allows wildlife, especially birds, to take advantage of locally available resources and more tolerable climates, but is also more energy-intensive. Wildlife may migrate short or long distances. Dormancy is a common strategy for several mammal and reptile species. By remaining dormant or inactive, wildlife can reduce their energy output and minimize their food intake. Wildlife can also tolerate winter conditions through a range of adaptations, such as fur coats and use of winter cover. However, during harsh winters it is common for many wildlife species to become stressed due to cold weather and limited food supply.

The winter of 2013/2014 was particularly stressful to some wildlife. DNR's wildlife staff received increased reports from concerned citizens regarding wildlife mortality events. Wildlife rehabilitators around the state also saw an increase in reports of dead or injured wildlife—presumably due to effects of winter weather.



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How does winter stress wildlife?

The numbers of individuals in a wildlife population naturally fluctuates depending on several factors. Wildlife mortality events occur annually—population numbers generally decrease throughout the winter season, only to rebound the following spring. However, during prolonged and severe winters, some wildlife populations may experience higher levels of mortality due to the effects of winter weather.

The biggest challenges for most wildlife include dry conditions, reduced food sources, and cold temperatures. In winter, prolonged freezing temperatures force wildlife to alter or limit their typical movements to conserve energy. Many food and fresh water sources become unavailable or inaccessible, and most resident wildlife expend large amounts of energy daily in order to maintain their body temperature. If that energy isn't replaced, they will begin to burn their fat reserves as an alternate source of energy.

Individuals in a population that are unable to build up adequate energy stores going into winter may die. Typically, the young, old, and unhealthy individuals in a population struggle to build up adequate fat reserves going into winter. By the end of a long winter, even healthy wildlife may have used up their reserved energy stores.

It is not uncommon to observe wildlife that appear emaciated or unhealthy on the landscape at the tail-end of winter. Wildlife that have struggled to find food will appear thin and weak, and may even act irregularly as they search for any available food sources. In a typical winter, wildlife such as white-tailed deer and turkey may have (often minor) levels of winter mortality. However, due to severity and an increase in citizen reports of sick or dead deer last winter, DNR wildlife biologists ask that citizens report any observations of winter deer mortality to their local DNR biologist. Citizen reports assist biologists in monitoring and mitigating health concerns such as chronic wasting disease.

Large-scale die-offs of wildlife may occur when particular weather conditions affect a specific

group of wildlife. During the winter of 2013/2014, the prolonged freezing temperatures allowed for record ice cover on most water bodies, including the Great Lakes. With limited access to open water, hundreds of diving ducks and other waterfowl were not able to feed, and were forced inland to seek food sources. Due to their foot placement, these birds are not able to take off from dry land, and many were stranded and subsequently starved.

In the spring, as temperatures rise and the snow melts, it is possible that wildlife carcasses may begin to emerge on the landscape. The carcasses of wildlife that die throughout the winter eventually freeze and are covered by snow. When the snow melts and the weather warms, those carcasses become visible and accessible to scavengers. This is a result of natural mortality events and provides an important food source for scavenging wildlife.



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How can you help?

It is important to remember that wildlife experience environmental stressors in many different ways and use different methods to adapt. Although it is best to avoid directly interfering with wildlife in most cases, there are ways that you can help Wisconsin's wildlife prepare for and survive Wisconsin's harsh winters. Providing year-round access to water, native food, and habitat are some of the best options.

When it comes to providing supplemental food, there are many precautions to consider. Food placed on the landscape has the ability to cause unnatural concentrations of wildlife. While this can alter natural movements and habits, it also promotes the spread of disease. Artificial food provided to wildlife can be very difficult for them to digest, and in some cases may cause severe illness or even death. Furthermore, the food does not always reach the individuals that need it the most, since dominant individuals can exclude less competitive individuals.



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Instead, consider planting native vegetation. Trees and shrubs that yield nuts and berries, along with seed heads from flowers, grasses and herbs provide the best benefit. Native vegetation can act as an important food source, and can also provide important habitat. Evergreen trees and shrubs, as well as standing dead trees or snags, give wildlife important nesting habitat and offer protection from wind and snow. Brush, rock, wood piles or fallen logs, and open water ponds also provide habitat and protection for a variety of wildlife.

One of the simplest things you can do to benefit individuals within a local population of Wisconsin's wildlife, especially birds, is to provide bird feeders and heated baths. In addition to native vegetation, bird feeders provide supplemental food. Access to clean fresh water sources not only allows birds to bathe and drink, but are often used by many other species of wildlife. If you maintain bird feeders and baths, be sure to regularly clean them using a 10% bleach water solution to avoid the spread of disease.

You can also help monitor the health of Wisconsin's wildlife by reporting sick or dead wildlife to your local DNR office. It is not necessary to report wildlife killed along roadways. If you observe five or more sick or dead wildlife in one area, please include the number of animals, species, if they were sick or dead, a specific location, and your contact information. For more information, visit dnr.wi.gov and search keyword "[wildlife health](#)."



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