

Idaho Fish & Game News

January 2012



Volume 24, Number 1

Winter World of Wildlife Survival is a Challenge

By Jim Lukens

Biting cold and driving snow sends most of us indoors to warmth and comfort. Outside, wildlife braves the elements, trying to survive yet another winter. That many animals survive may seem nothing short of a miracle. But the wildlife in Idaho have a host of adaptations that help them make it through the year's harshest months.

Surviving winter means coping with factors such as temperature, snow depth and the length of the winter. Some animals simply avoid winter altogether by migrating to warmer climates. Others avoid it by hibernating through the harshest months. Most animals, however, face winter head on, relying on thousands of years of evolution to survive. Over the years they have developed strategies to help them survive the cold.

Animals that have found abundant food through the summer and fall months already have the advantage of greater amounts of body fat. This extra fat will provide energy when food supplies dwindle. Storing food in caches is a strategy used by many small animals and birds. These caches are remembered for a surprisingly long time and can be critical to winter survival.

Beginning in the late summer, animals start to grow winter coats. Long hollow outer guard hairs trap air and provide insulation against the cold. The coats of many large mammals, such as elk, deer, and moose, are so efficient that the animals can actually get hot on warm winter days.

Some small mammals, such as the snowshoe hare and ermine, completely change their coat color to white, providing excellent winter camouflage. Birds fluff new feathers acquired during the molt of late summer and early fall; anyone who has worn a down vest understands the insulating value of down!

Animal behavior also changes as winter progresses. Elk

and deer move to winter ranges where food and shelter are more easily found. Birds that usually inhabit higher elevations during the summer begin to be seen at lower elevations. Wildlife frequent south-facing slopes that are bathed in sunshine for much of the day as well as windswept ridges, especially when snow blankets the north and east-facing slopes and valley bottoms. And a general slowing of activity is noticeable as animals move around less and spend more time resting. This is especially true during periods of extreme cold. Many animals both large and small simply stop foraging for food and stay in sheltered areas waiting out the cold. The

energy used to find food in such conditions would be more than the energy gained by eating. In such extremes, animals like moose, elk and deer lower their basal body temperature thus reducing their food requirements and the need to forage.

While many animals survive winter, some succumb to starvation, malnutrition, disease, predation and accidents. These are natural factors that have been present among animal populations since winter and wildlife first met. Unnatural factors, however, are becoming a more frequent threat to overwintering wildlife.

Disturbance by humans is an important threat faced by wintering wildlife. At this critical time the cumulative effects of winter stresses begins to take the greatest toll on wildlife. Energy reserves are low, and food is not yet plentiful. Even slight disturbances by humans can be enough to tip weakened animals toward death.

Winter's snow and cold will soon be gone, replaced by warmth and green. With their survival ability and undisturbed by humans, most wildlife will live to see the spring.

Jim Lukens is retired from Idaho Fish and Game. He wrote this while he was the supervisor for the Salmon Region.



Inside this issue

Page 3:

Human Activity Can Harm Wintering Wildlife

Page 4:

Winter Feeding No Simple Solution

Good Habitat Conditions are Vital to Big Game Winter Survival

A research biologist examines the marrow in a leg bone of an elk carcass, looking for clues to whether the starving calf was killed by a mountain lion or wolves.

"It's a dark red; it's gelatin," Fish and Game biologist Craig White said as he pointed to the bloody cross section of a leg bone. "That indicates it wasn't in great condition. Really poor marrow."

It is a sharp contrast to the solid, white, healthy marrow found in the bones of another elk carcass earlier in the day. Both are part of an ongoing study in the Garden Valley area designed to determine elk mortality.

The extended winter in 2008 took a toll on the elk calves being monitored in Garden Valley as well as deer and moose young throughout the state. It was an unusual year.

"The winter was not especially tough," said Dale Toweill, Fish and Game wildlife manager. "The problem with over-winter survival is more how long the winter lasts."

Deer, elk and moose have adapted over centuries for long periods of starvation. They live off their body fat. But in 2008, winter came early and lasted a long time, causing the animals to steadily keep losing energy.

In eastern Idaho and in the Panhandle, the cumulative snows attracted moose to roads and railway beds where they were killed by cars and trains.

"Even more unusual, moose calves were utilizing all the marrow in their bones, where the fat's stored, and breaking their legs when they get into tough snow," Toweill said. "That's an



indication of very poor condition."

"Moose should come back very quickly. I anticipate if we have a normal year and good production that the surviving cows will have good survival next year," Toweill said. "They'll enter the fall fit and healthy, and if we don't have another long cold winter, we should have good calf survival. With fewer animals feeding on available plants this spring and summer, they should provide additional food for animals in the coming fall and winter."

Most adult female mule deer monitored in 2008 by Idaho Fish and Game biologists survived, but less than one third of fawns survived. Elk fared better in some areas and poorly in others depending on habitat conditions.

"I think it's important for people to realize that although we generally focus on hunting and predation as main sources of mortality on wildlife; it's really habitat, and habitat is influenced by weather," Toweill said. "So if habitat is good in any given area, they'll concentrate there. But as the months go by, the amount of food there gets depleted very quickly. That's why it's so essential that we have good habitat well distributed across the landscape."

Good habitat includes places where animals can get out of the wind so they're not losing body heat; places to

avoid people and predators so they're not wasting valuable energy; and places to find something to fill their stomachs.

The good news is that though winter survival may affect population numbers from year to year, the long term trends are tied to habitat - if many animals die in a particularly long, hard winter, their numbers will return if the habitat is good.

Some animals, such as elk, are less sensitive to weather, and they are less likely to die except under the hardest winters. But their numbers will return more slowly because each female will produce only one calf. Whereas mule deer numbers can drop significantly in a hard or long winter, but they can rebound quickly because each doe can have twins.

Moose are in between. They are hardy and can survive harsh weather, but they can be affected by the occasional "big winter." They can rebound because the females will give birth to twins. But they are less abundant than deer or elk.

"Don't expect to see as many young animals after a tough winter," Toweill said. "But on the other hand, with good management, good habitat and favorable weather, the animals will bounce back. And we'll be back to abundant wild game during the hunting seasons very shortly."



Idaho Fish and Game News

Fish and Game Commission:

Chairman: Tony McDermott

Director: Virgil Moore

Published by Idaho Fish and Game

600 South Walnut

P.O. Box 25, Boise, ID 83707

(208) 334-3746

E-mail: idfginfo@idfg.idaho.gov

<http://fishandgame.idaho.gov>

Volume 24, Number 1



Outdoor Recreation and Other Human Activity Can Harm Wintering Wildlife

Winter can be a tough time for wildlife.

Fortunately, Idaho’s native big game animals are adapted to surviving the occasional extreme winters in the Intermountain West. Some individual animals die even during the mildest winters, like this year so far. Extended harsh conditions mean greater losses.

Weather is one of those things that can’t be controlled, but there are other factors humans can control that will have a direct effect on animal welfare and survival, both in the short and long run.

From a big picture perspective, how humans use the land will have the greatest long-term effect on wildlife. Habitat fragmentation by development of all sorts makes it more difficult for animals to get to the places they need to survive. From loss of areas suited for protection of newborn animals to blockage of important migration routes, everything humans do has some sort of effect.

Fortunately, more people are becoming aware of these problems, and they are doing more to resolve large scale problems.

Idaho Fish and Game is working to help educate the public about some activities that are having a direct immediate negative effect on wintering big game herds. Reports are streaming in daily to the regional office in Idaho Falls about humans using snow machines to get too close to wintering animals, and about loose dogs chasing big game.

“People need to realize that these animals have only so much fat stored up to get through the winter,” said Curtis Hendricks, a regional habitat biologist. “Letting dogs run free to chase the deer

and elk can have a serious impact on survival.”

Most people who try to get close to wildlife in the winter to view them have no idea of the harm they are inflicting.

“They assume because the animal doesn’t run away immediately that their presence is no big deal,” said Gregg Losinski, regional conservation educator.

In reality, the stress of having humans or dogs close burns valuable calories. Getting close enough to actually cause the animals to run away means an incredible amount of valuable energy has been wasted.

People who have homes along the wildland interface are urged not to let dogs run wild. Idaho law covers such wildlife harassment issues. Humans who chase wildlife with snow machines are also liable under state law for harassment of wildlife.

Anyone who sees dogs or humans harassing wildlife should call local law enforcement or contact the closest Idaho Fish and Game office.

Here are a few tips that will help wildlife and people to coexist:

- Drive with caution. Look for eye reflection along roadways. Travel at slower speeds.
- Pay attention to wildlife crossing signs along roadways. Wildlife often cross roadways at the same locations year after year. Idaho Department of Transportation has posted signs warning motorists of typical crossing locations.

- Store feed, hay, grain in a shed or building, making it inaccessible to wildlife.
- Wrap shrubs with burlap or fencing material to keep wildlife from feeding on needles, limbs, or bark.
- Do not feed wildlife when they show up in the backyard. If you feed one or two elk today there is a good chance more will join them tomorrow. What starts as a well-intended handout often becomes an expensive and dangerous situation for both the landowner and the elk population.
- Keep dogs kenneled or chained to keep them from harassing wildlife. If you live in mountain lion or wolf country, do not let your dogs run at-large.
- Keep a safe distance from wildlife.



Smaller wildlife, such as skunks, foxes and raccoons, also can become a nuisance.

Here are some additional tips to minimize chance encounters with these common species:

- Place garbage in covered containers and keep in a closed building until the morning of trash pick-up.
- Don’t feed pets outside at night. When night comes bring food dishes inside or keep them in the garage.
- Eliminate habitat for nuisance wildlife. Clean up wood, brush, fruit tree droppings, garden vegetables and garbage piles near home.

Idaho Fish and Game Policy

Idaho wildlife management policy is set by seven volunteer commissioners. The Idaho Fish and Game Commission’s policy decisions are based on research and recommendations by the professional staff of the Idaho Department of Fish and Game, and with input from the governor’s office, the state Legislature, hunters, anglers and the public.



Winter Feeding of Wildlife is Controversial, No Simple Solution

Few wildlife issues are as complex or as emotionally charged as feeding big game during the winter.

As soon as the snow begins to fly, questions start: "Should big game animals be fed?"

People feed birds in the winter; so why not deer? But the decision to feed big game animals during winter is anything but arbitrary.



Several players are involved in the process, including the Idaho Legislature, the Fish and Game Commission, the Fish and Game Department and regional winter feeding advisory committees.

Funding for feeding comes from a dedicated account created by the Legislature using a portion of big game tag fees. It takes 75 cents from each deer, elk and pronghorn tag sold and puts it into the account to buy feed and materials.

Local conditions vary widely across the state, and local residents are best at deciding the details of feeding operations.

The winter feeding advisory committees, established in 1994 by the Legislature, set criteria for feeding and help Fish and Game decide when to start operations.

The committees, made up of local residents, have been established in Fish and Game regions where winter feeding is common. These five-member committees act as liaisons between Fish and Game and the public, further define local criteria for designating a feeding emergency, assess information on animal

condition along with Fish and Game, and make recommendations about the need for emergency feeding.

The committees monitor animal condition reports and comments from local residents through the winter to determine whether there is a need or when it's time to recommend to Fish and Game that a feeding emergency exists.

Fish and Game regional supervisors make the final decision on emergency winter feeding.

Primary criteria include animal weight and condition (stored fat reserves) going into winter, snow depth, temperatures and quality of forage on the winter range.

The criteria are

assessed together, with no single criteria necessarily triggering the need for emergency feeding.

Examples of locally adopted criteria include snow depths of more than 18 inches on south facing slopes. But an 18-inch snowfall combined with balmy temperatures in December may not constitute a feeding need. Heavy snow crusting – a condition that can occur when heavy snow showers are interspersed with warm weather – as well as the number of deer and elk that have migrated to below 4,000 feet elevation by January 15 are monitored.

Other criteria include animal condition going into winter, as measured from road-killed animals and harvested animals at check stations. This is generally a reflection of the quality of summer range forage.

Winter range forage quality continues to be of major concern to the committee and Fish and Game.

But there are other considerations as well. Winter feeding presents some challenges, including the possibilities of increased disease transmission, short-

stopping of migrations, concentration of predators and damage to local habitats from concentrated browsing.

Nor does winter feeding always prevent some mortality, particularly among young animals, but can raise survival rates of adult animals.

The biggest factor in winter survival of big game animals is the body condition they carry into the season. Native wildlife, such as deer and elk, have endured Idaho's rugged climate for thousands of years, so it's evident that they are capable of surviving if left on their own.

The tricky part of the equation is that human society has affected their population numbers and habitat. Habitat that is modified or shrinks in size or availability, will not support as many deer or elk.

Many factors must be considered when discussing winter feeding, with money and manpower also important considerations.

Starvation happens primarily to animals that enter the winter in poor body condition. Deer research has shown that animals in good condition can survive the winter with very little feed. Supplemental feeding is virtually irrelevant to survival.

By far, improving summer, fall and winter ranges is the most efficient and cost effective way to help animals survive winter, and maintain healthy, abundant populations for all Idahoans to enjoy.

