

## Enjoy Winter Birds in Algonquin Park!

Even if you don't consider yourself a 'birder', it would be easy for you to appreciate many of Algonquin's winter birds! Some of these are particularly showy, while others demonstrate unconventional behaviours.



A male Evening Grosbeak at the Algonquin Visitor Centre feeders

The Evening Grosbeak certainly conforms to the former category. It can be a very conspicuous and memorable sight, due to its gregarious nature in winter and the birds' very loud and distinctive chirping call notes. But seeing a winter flock is not always a given. Grosbeak numbers can vary significantly over the years depending on the abundance of the caterpillar called spruce budworm, which is a staple summer food item. And their chief winter food – tree seeds – may vary from one region to another from year-to-year, so the grosbeaks may be absent from Algonquin when they have found a better winter food source elsewhere. (This winter, a flock appears to be frequenting the feeders at the Visitor Centre with some regularity; we encourage you to look for them there, as it may be a few years before a flock is seen again!)

If we could select a bird that exhibits particularly unusual behaviour, it would be the Gray Jay, due to the propensity of many individuals to take food from the hand. The origin of this behaviour may be explained in part by

the fact that the jay inhabits the same territory year-round. Food in its territory can be scarce for long periods, particularly during the winter; collecting food when it is readily available, in excess of current needs, and storing it for later use, allows the jay to survive during periods of food scarcity. The jays' instinct to find and store food is so strong that it can lose fear of humans in order to get this food.



Gray Jay taking food from a park visitor.

In order to see some of Algonquin's winter birds, you can drop by the Visitor Centre, which has an interpretive panel that allows you to identify the various species frequenting the bird feeders while you watch them. While you are there, you can look at a binder that contains the latest bird sightings, and pick up a copy of *The Birds of Algonquin Provincial Park* and the *Checklist and Seasonal Status of the Birds of Algonquin Provincial Park* too.



## Winter Recreational and Educational Facilities

As you may have already discovered, Algonquin Park can be a fascinating place to visit in the winter. You may not be aware, however, of the many different recreational and educational opportunities that are available to you. Some of the things winter visitors can enjoy include:

**Algonquin Visitor Centre** (including the bookstore and self-serve café) – open weekends and for extended periods during holiday seasons.

**Cross-country Skiing** – two superb groomed and trackset cross-country ski trails and a wilderness ski trail.



Algonquin has networks of groomed and wilderness cross-country ski trails

**Dogsledding** – arrange a trip on the dogsled trail.

**Interpretive Trails** – parking areas are ploughed at most of our self-guided interpretive trails.

**Skating** – on the outdoor ice sheet at Mew Lake Campground.

**Camping at Mew Lake Campground** – campsites on a first-come, first-served basis (including some electrical sites!) Comfort stations with drinking water, flush toilets, showers, washers, and dryers. Seven yurts are available by reservation only.

**Backcountry camping** – Interior camping reservations are not



Snowshoeing on one of the park's interpretive trails

required after (Canadian) Thanksgiving to late April.

Interior Camping Permits may be purchased along Highway 60, in person, at the West Gate (Daily, 9:00 a.m. to 4:00 p.m.) (705) 633-5583 or the East Gate (Fridays, Saturdays & Sundays, 9:00 a.m. to 4:00 p.m.) (705) 633-5572.

If it is inconvenient to travel to these offices given the detour required from your proposed Interior access point, you may purchase an Interior Camping Permit, using a

major credit card, by telephoning the East or West Gate during business hours.



Dogsledding opportunities are provided by private concessionaires

**For more detailed information on winter activities in Algonquin, pick up a copy of our winter brochure (pictured at left), available at the East and West Gates, and the Visitor Centre.**



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An Ermine in its winter coat that has captured a vole.

Photo: Jeremy Inglis

## When a warm blanket means survival

By Rory MacKay

There is nothing quite so comforting on a cold winter morning as having a warm wool blanket, eiderdown, or quilt to pull up over your shoulders. Most winter visitors to Algonquin Park avoid the harshness of an overnight stay or, if they choose to experience it, they use tents or yurts and sleeping bags or fluffy blankets to keep warm. For many of Algonquin's smallest mammals a warm blanket is essential for survival, but that blanket is made of snow. Some years the snow comes to the Algonquin uplands early, while maples and birch have un-fallen leaves and the ground is still unfrozen. Sometimes the early snow persists and sometimes not. Some years

the snow comes late, with frost reaching deep into the ground, creating a condition called freeze-out. When there is a freeze-out, short-tailed shrews, red-backed voles, meadow voles, and deer mice are exposed to the cold and perish, despite an abundance of food. There is another danger. Even if these small mammals could stay warm, the lack of over-hanging vegetation and little or no snow-cover also exposes them to the watchful eyes of foxes, owls and hawks, with dire consequence.

As winter advances and snow begins to cover the ground consistently, both the way it forms and its depth have an effect on the animals that live within it. A snowpack





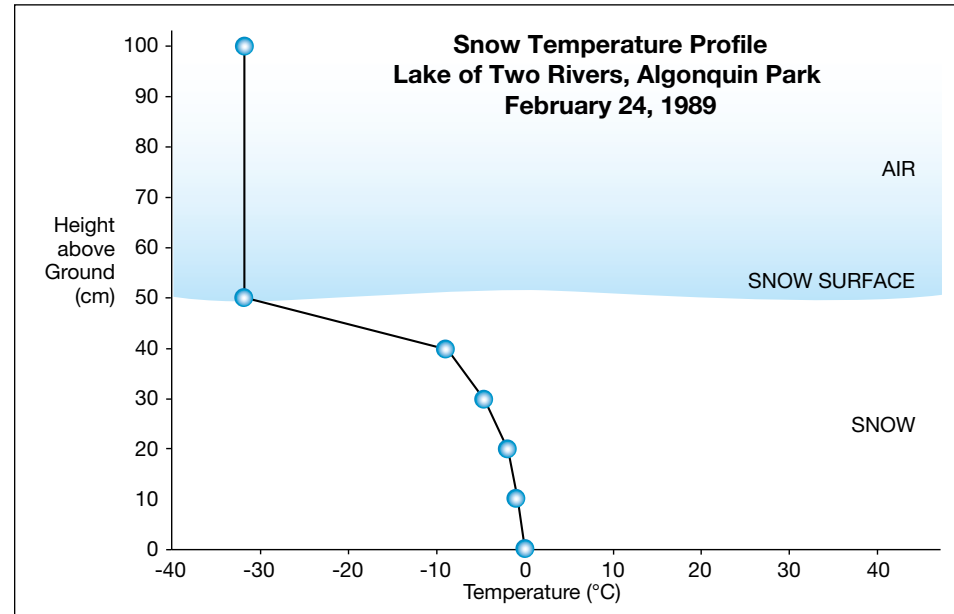
Amanda and Jonathan Stein studying an Algonquin snow profile.

may look uniform, but it is not. Snow forms as six-sided crystals within clouds. As it falls it experiences varying conditions of temperature and moisture, which shape the crystals into individual snowflakes, crystal columns, flat plates or bullet shapes, or even irregular lumps. The shape of the crystals reaching the earth's surface can change from one form to another within a single snow event. Each snowfall provides another layer, with its own characteristics of thickness and fluffiness. The more snow there is, the greater the insulation provided.

Snow itself is cold. But a fluffy eider-down and layers of fallen snow have one thing in common; the air spaces within. Whether trapped between downy feathers or between ice crystals, unmoving air is a good insulator against movement of heat. That is especially so when the snow is fresh and the flakes are large. That same principle is the reason behind multiple layers of glass in thermo-pane windows. A

thick blanket of snow provides an insulating layer between the air above and the ground below. (Ruffed Grouse and Spruce Grouse are known to plunge into snow drifts to take advantage of the insulating properties of snow under extremely cold conditions, and may startle an approaching person on snowshoes when they suddenly emerge with a flurry of wingbeats).

As the weeks and months progress, snow layers begin to age under the effects of the warmth of the winter sun, pressure from an overlying snow layer from a later storm, or changes within the snow itself. In the latter case, water molecules migrate throughout the snowpack, changing sharp-pointed snowflakes into small lumps of ice, through a process called destructive metamorphosis. Because of temperature differences, water vapour at the base of the snow pack migrates upwards and makes the snow above more dense. This forms a type of granular snow, or depth hoar, in the few centimetres above the ground surface.



Sometimes also known as sugar snow, it is easily tunneled through by small mammals. But no matter how easily it is to move through, it would not be a suitable place to live if the bottom of the snow pack were as frigid as the cold air above. It turns out, however, that the bottom of a snowpack is a relatively warm environment.

Winter visitors to Algonquin Park know that there can be big swings in air temperature from the relative warmth of a day with cloud cover to a frigid, starry night when all heat from the surface is radiated out to the cosmos. What happens under the snow? Well, once a depth of 25 centimetres has been reached, the snowpack has the capacity to buffer extreme changes of temperature occurring from hour-to-hour or day-to-day above the snow surface. To verify that fact, this writer ventured out before dawn on a winter's day, some two decades ago at Lake of Two Rivers, when the thermometer had dropped to below minus minus thirty degrees Celsius. Using a shovel and a dial-type thermometer with a long probe, I measured the temperature of the 50 centimetre snowpack at different points in a vertical profile (something you

might want to try!). The air temperature a half metre above the snow surface was -32 degrees Celsius. The temperature at the snow surface was the same. Temperatures were taken at intervals of 10 cm depth until the ground, where the temperature in the snow was 0 degrees. While the temperature at the ground surface could still be considered cold, the difference of temperature from snow surface to the ground was the same as the difference between a frosty morning in May and a warmish July afternoon. The warmth beneath the snow came from heat energy absorbed by the earth and rock during the summer and slowly released through the winter.

So, under a deep layer of snow, the small mammals of the Park can escape the winter cold. Because of the relative warmth down below, it is likely that those small mammals use less food energy just staying warm, when there is a good snow-cover. Feeding is restricted to the vicinity of the ground-snow interface, but there voles and mice can find seeds and some plants stay green and nourishing, despite the near darkness. The bark of shrub and tree roots may be eaten when other food is

scarce. Once a depth of 40 to 50 cm has been reached, so effective is the insulating property of snow that even on the coldest nights the temperature at ground level can be warm enough for winter-active insects, spiders, snails, springtails and the short-tailed shrews that feed on them to get along quite comfortably. Meadow voles and deer mice have their routines under the snow; sleeping for several hours in single or group nests, exploring a new tunnel, heading to a food cache for a nibble, and then sleeping some more. Short-tailed shrews live somewhat similar lives, alternating between active hunting for food and sleeping.

However, the sub-nivean life is not idyllic. There is competition between individuals and between species for food. Sometimes carbon dioxide builds up in tunnels as a result of bacterial and mammalian activity; those areas are avoided until conditions become more favourable. While small mammals are hidden by the snow from watchful eyes, there is still danger from predators. Owls have ears that are very sensitive and can determine direction very well, finding prey even under the snow if a vole or shrew is making sounds. The disc of feathers on an owl's face appears to amplify even the smallest of sounds. Similarly, foxes have big ears. It is not uncommon to see a fox listen, then pounce, break through the overlying snow, and carry off a meadow vole. Often the voles with which the

shrews share the snowpack become part of the shrews' diet.

Some predators from above follow their prey right under the snow, utilizing the runways of the voles and shrews. Short-tailed weasels (Ermine) and long-tailed weasels are slim, with a face little wider than their neck. Long vibrissae or face bristles, enable those hunters of the sub-nivean world to feel their way along the snow tunnels in search of prey, even at night. Brownish above and cream-coloured below during the summer, both turn white during late October and November, returning to their summer pelage in April. Through winter, the black of their tail and eyes are their only colouration. Mice, voles and shrews make up 75% of the Ermine's prey. An Ermine, hunting in winter, leaves small paired tracks which stop at every stump, crevice or hole. The Long-tailed weasel, being larger, is capable of taking larger prey, such as chipmunks, squirrels and snowshoe hares, but voles and shrews in their snow tunnels also contribute significantly to its diet.

So, as empty as the stark winter landscape may appear at first glance, under that thick blanket of snow there is much going on. It is often not until the spring melt-- and the exposure of countless small mammal highways beaten down in the undergrowth and grasses -- that one can see a true indication of the amount of animal activity during an Algonquin Park winter.

## Looking for Internet access?

The Visitor Centre now offers free WiFi internet access... and while there, don't forget to check out The Friends of Algonquin Park bookstore, or enjoy a light snack or meal at the Sunday Creek Café.



Check Algonquin's Information Guide (tabloid) for the Visitor Centre winter operating schedule.

The Raven is available online and a limited number of complete sets of the previous year's Raven are available at the Visitor Centre and the main gates along Highway 60.

[www.algonquinpark.on.ca](http://www.algonquinpark.on.ca)