

Winter in Algonquin

Snowshoeing is an excellent way to explore Algonquin in winter, and can take you to some spectacular places. Snowshoes work by distributing your weight across a larger surface, rather than your standard boot. The result is that you don't sink as deep into the snow, making it much easier to walk. If you are snowshoeing in Algonquin, you are in good company; Park Rangers from a century ago actively patrolled Algonquin on snowshoes. The snowshoes below belonged to Ranger Stephen James Water's (b.1854) and were used in the 1890s. Snowshoes may be a fun way to get around for us, but in Waters time, they were an indispensable mode of transportation, as he wrote in his journal from January 24, 1894:

"Left camp on Little Nipissing at six a.m. Snowing. 5 Teams caught up to us, walked after them for 10 miles, had dinner, started ahead for Burnt Lake to fix stove, snow pelting down as hard as ever. Reached Lake at dark, had no light to fix pipes, walked up the lake to Depot 4 miles, snow knee deep, 2 hours to walk 4 miles, got there at 8 p.m. Teams did not get in until 12 p.m., 1 foot of snow fell."

Many items from Ranger Waters were donated to the Algonquin Park Archives in 1998 by Fred and Owen Swann of Huntsville, Ontario. Ranger Waters was their Great Uncle.

Algonquin Park is a great place to snowshoe, and you may explore just about anywhere in the Park. Please respect restricted areas, and do not snowshoe on groomed ski trails. See our Winter Brochure for more details.

Snowshoes belonging to Ranger Stephen James Waters used in the park in the 1890s.



Join us for Algonquin Provincial Park's 5th Annual

Winter in the Wild Festival

February 13, 2016 • Family Day Weekend

All activities during the festival are free with the purchase of a valid Park Permit with the exception of food.



Join us this Family Day Weekend for

Snowshoeing

Tracking

Winter Bird Walks

Tours of the Collections Room

Ice Skating

Cross-country Skiing

Winter Camping Demos

Roasting Marshmallows

and more...

Winter in Algonquin is unforgettable and Winter in the Wild highlights the best of what the season has to offer the whole family.

Events are subject to change. Please check online for a current list of events: algonquinpark.on.ca



The Visitor Centre offers **FREE WiFi** internet access ...and while there, don't forget to check out The Friends of Algonquin Park Bookstore and Nature Shop, or the Sunday Creek Café.

algonquinpark.on.ca

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The Raven

A Natural and Cultural History Digest

Moose Numbers: Up in the air?

by David LeGros

Here in Algonquin Park, the animal that visitors want to see most desperately is the Moose. We often get questions about Moose: where can I see one, what time of day is best to find them, what do they eat and how many are there in the Park? These are all great questions, and most have simple answers: Moose can often be found near wetlands; early morning and late afternoon are the best times to see one; but they can be seen anytime; and they eat a variety of vegetation – from aquatic plants to twigs. That last question, how many Moose are in the Park, is much more difficult to answer, and the answer changes regularly.

When it comes to wildlife, most pieces of information are hard-won. Unlike humans, who would voluntarily participate in a survey or a census, animals will not share their information so freely. But why do we need to know anything about them in the first place? For starters, monitoring the health and overall number of animals in a population is important to know; is it declining, stable or increasing? How many males, females and juveniles are there, and what kind of reproductive success are they having? In some cases, where wildlife populations are hunted, having good estimates of their numbers is extremely valuable in determining how many



Bull Moose grazing on aquatic vegetation in fall.
PHOTO: DEGR00T



may be harvested sustainably. In other areas, where wildlife isn't hunted, these populations offer biologists a look at a more natural situation. Moose live in our vast Park which makes it difficult for us to get to most areas, and Moose can conceal themselves easily in the forest. So how can we get an answer to our question: How many Moose live in the Park?



A Moose researcher recording data from the cockpit of a helicopter, high above the Algonquin landscape.

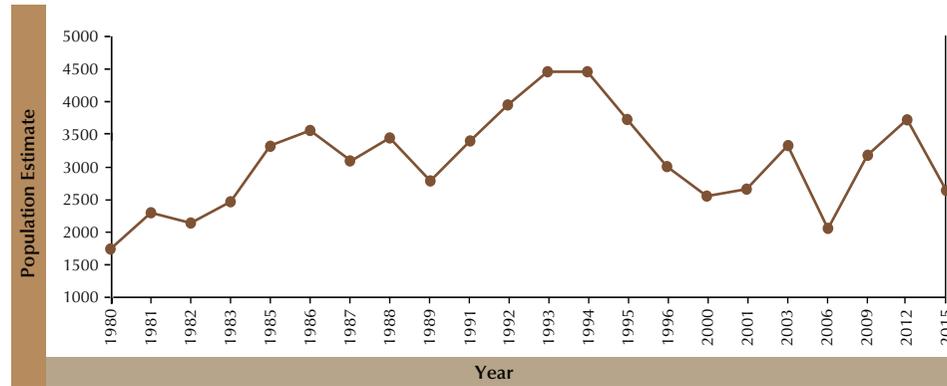
In Algonquin, we participate in Moose surveys, which is part of a provincial monitoring project. The Ontario Ministry of Natural Resources and Forestry has developed a standard guide to conduct Moose Aerial Inventories (MAI), which involves using some sophisticated and highly coordinated techniques to go out and count the Moose on the landscape. Because the methods are standardized, they can be used anywhere in the province, and contribute meaningful data that are easily compared from one region to the next.

The manual is 109 pages long (bet you didn't think there was so much to know about counting Moose!), but the most important things we need to know about the MAI is that it is done in the winter, from a helicopter, and that surveys are done on very specific grids. Currently, inventories are conducted every three years. Surveys are done in January and February, when Moose are most visible and not hidden by leaves. Tracks are easily seen from the air, and can be followed to count Moose. Weather is very important; ideal conditions to conduct the survey are within 6 to 72 hours after a snowfall, so only fresh tracks are followed and sunny skies at mid-day are best. As you may

imagine, these conditions do not always present themselves, so during the MAI season, there may only be a handful of good days to go out, which means a solid plan is needed.

Algonquin Park is a big place, about 7725 km², which is bigger than the province of Prince Edward Island. This means that biologists could not fly over every part of it in just a few days. For the MAI, Algonquin is divided into 2.5 x 10 km plots. Within each plot, there are 5 flight lines, 500 m apart. These are flown by helicopter, up one line, over, and down the next, and the observers make note of what they see and where. Moose do not use the whole park evenly, meaning that some areas have greater numbers of Moose than others. Biologists have ranked each plot for Moose; low or high value, based on habitat features, food availability, and previous year's numbers from that plot. Even though most of the Park has plots and ranked habitat, in the end, only a random selection of each type of plot will be flown, and then the data will be extrapolated for the rest of the Park.

Once up and flying and the observer sees a Moose, it is not just a matter of checking a box and marking the location with GPS coordinates; there are some details to record. Some of the clues used to determine the age and sex of the animal are fairly subtle, such as shape and size of the dewlap or bell (larger in bulls), colour of the face (cows have pale faces, dark on bulls), presence of a vulva patch (a white patch of hair below the tail) in females and perhaps a calf in tow. To be sure, it is recommended to base the identification on several characteristics, rather than just one. Determining whether the Moose is an adult or juvenile is most important, but with the bulls, biologists can make further estimates based on the shape and size of the antlers. Male Moose grow a set of antlers each year, and usually shed them by early winter so it is possible that Moose seen during the MAI will still have antlers. For Moose, antlers reflect their health, body condition, and social status. Females use antlers



Algonquin Moose population estimates generated using MAI data.

to assess mate quality. When a bull is young, it may have small, narrow and forking antlers until the age of 3 ½. By the time it is 5 ½ to 9 ½ years old, it has very large, broadly palmate antlers. This is the "prime" of a bull's life. After this, he begins to decline in condition and the antlers become narrow and with few forks. All told, being able to collect all these data on the survey is quite the feat – the Moose are often running or trying to hide in thick bush, the skilled pilots trying to keep the Moose in the researcher's sight, sun in their eyes trying to see subtle details on a Moose, all while on a nauseating helicopter ride!

In the early winter of 2015, an aerial survey of Algonquin's Moose was conducted. Due to weather, researchers were only able to fly for a handful of days, but

did count good numbers of Moose. When the numbers were plugged into the population estimate formula, we had an estimated 2655 Moose, with 0.59 Moose per km².

Now that we have a confident estimate of the number of Moose roaming Algonquin's forests by February 2015, what does that really tell us? Like all wildlife populations, Algonquin's Moose are subject to fluctuations over time. In the early days of trying to estimate the Moose population back in the 1950s, there were roughly 500. In contrast to low Moose numbers at this time, White-tailed Deer numbers were exceptionally high. It is important to remember that from the late 1800s to the 1950s, the Park actively killed wolves. Few wolves meant that deer numbers could grow rapidly. White-tailed Deer can also transmit a parasite, known as Brainworm, which can disorient and blind Moose, eventually killing



Even in winter, Moose can be hard to spot from the air. Note the size difference between the cow (below) and calf (above).



Differences in face colour can be useful in telling males from female Moose. Note the dark face (and antlers) of the bull versus the light face of the cow.

them. When deer are abundant, competition and disease usually prevent Moose from becoming abundant. By the 1960s, the Park had changed its ideas about wolves and no longer killed them. Wolves preyed extensively on deer, allowing Moose numbers to increase. Wolves do prey upon Moose, but show a preference for deer in Algonquin.

The Moose population in Algonquin Park has decreased from its peak of 4400 in the mid-1990s, to 3642 in 2012, to about 2655 by early 2015. Looking at the population estimates from years past, we can see that numbers rarely stay the same; they rise and fall over time. The number of animals living on a landscape is dictated by ecosystem interactions such as weather and climate, predator-prey abundance, parasites, habitat quality and food

availability and a host of other conditions, known as carrying capacity. In Algonquin, the peak of 4400 Moose was likely the maximum number the Park could support. While 2655 is lower than the all-time high, the density of Moose in Algonquin is among the highest in the province, and these recent numbers are in range with the 20-year population average.

Currently, Moose are declining over much of North America and the cause is not yet fully known. Parasites and shifts in habitat, exacerbated by climate change are thought to be main drivers, as well as over-harvesting by people and predators. In Algonquin Park, we have a largely un-hunted Moose population which provides us with an unparalleled opportunity to study natural populations and provide insight to a changing world.

Checklist and Seasonal Status of the Birds

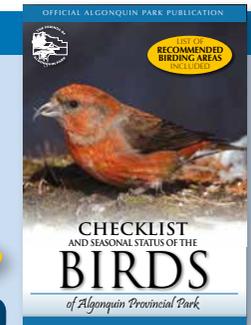
Newly revised 2015 edition. This publication features a list of all of the bird species that have been recorded within Algonquin Park, as well as their status (e.g. common, uncommon, rare) and the time of year when they are normally found. There is also information on recommended sites to go birding and to find some of Algonquin's specialties.

ONLY \$3.50



SHOP ONLINE: algonquinpark.on.ca

Or at Algonquin Visitor Centre Bookstore and Nature Shop, the East Gate or West Gate



TONY DEGRFOOT (left), JUSTIN PETER (right)