

Citizen science: studying wolves

Conservation writer **Lynn Houghton** is on the trail of the elusive cloud wolf in Canada's remote Manitoba, helping scientists to track the movements of the pack in order to understand more about the wolves' behaviour



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Where the map coordinates 57° 07' 22.4" N and 91° 39' 52.0" W intersect you'll find a remarkable and very isolated frozen expanse. In winter this vast landscape is punctuated by fierce storms that can obliterate visibility, with winds reaching speeds of up to 70km per hour and temperatures dropping overnight to -50C.

The king of the Arctic, the polar bear, thrives in this harsh environment, living on the ice of Hudson Bay for eight months of the year and only occasionally making an appearance on dry land. But this is also the territory of another apex predator, a subspecies of *Canis lupus* or grey wolf called the cloud wolf. And this is why I am here in Manitoba, central Canada.

There are also humans in Manitoba's Arctic north. It has been home to the Swampy Cree and Moose Cree for at least 6,000 years. They have lived in harmony with this unforgiving place, in stark contrast to Europeans who came in the 16th century to exploit Nature for profit.

A small group of us – citizen scientists for the duration of this trip – have arrived to stay for six days to immerse ourselves in this Nature and also to collect data on the wolves and their environment. We will be based in a compound on the Kaska coast 4km south of Hudson Bay, with the boreal forest lying around and directly behind us. Nanuk Lodge is on the Opoyastin (Cree for 'resting place') islet, and from here we will explore the surrounding salt marshes and forests.

Between two biomes, the Arctic and the boreal, completely different species live cheek by jowl: polar bears, Arctic foxes and snowy owls alongside moose, red foxes and wolves. Surrounded by nearly 2,500,000 hectares of wilderness – with no roads or villages to speak of – many of the animals we encounter might never have seen a human before.

Daily tasks will include setting camera traps to monitor movements and behaviour of localised wildlife, particularly after dark. Wolf scat, if found, will be carefully packaged and brought back to the forensic lab on site. Depleted numbers of ungulates such as moose and caribou are impacting these predators. Sometimes a drone is used, for instance when viewing moose, who graze deep in willow thickets.

There is no doubt that eco-tourism is one of the draws to this outpost, and it is a growing trend, according to

sociologist Matthew A. Wilson of the University of Wisconsin. However, since there are so few people along the Kaska coast, and even fewer researchers or scientists, volunteers like me really can add to the wildlife knowledge base. When there are few others on the ground, citizen scientists can make an impact.

The Opoyastin cloud wolf pack numbers thirteen, including six pups born this spring. Their territory ranges along this coastline of the Hudson Bay lowlands. Wolves can cover large distances due to their physical stature, long legs, blocky feet and powerful muscles, allowing them to travel tirelessly up to 8km per hour and many kilometres per day in all kinds of climatic conditions.

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According to Jad Davenport, Head of the Wolf Programme at Nanuk Lodge, "One of the things that makes the wolves in our area different is that they are untouched by humans. We are surrounded by several million hectares of remote, uninhabited wilderness, so there is no hunting or trapping pressure on this pack." Guides have spent endless hours observing the pack, their interaction with each other and their environment. These accounts of animal behaviour help to identify pack individuals and better understand their relationships with one another.

During one of our first outings, we analyse print size and the patterns of direction of travel we find near the compound. One of our guides, Michael Gerhartz, tells us that wild animals 'talk' to us and share their story by leaving clues. On the same day, a solo wolf is seen not far from the lodge. Using powerful binoculars, we can see that she has a gaping wound on her leg. Is she a 'stranger' who has been attacked by the pack, or is she a pack member who has been injured while hunting?

What I won't ever forget is hearing her howl. It seems to connect to something wild inside me. The vocalisation is unexpected, mournful, even spine-tingling, and encompasses a range of unusual colours. I am mesmerised and somehow feel included in her world.

Biologists studying grey wolves have found that a howl can be heard for a distance of up to 11km in the forest, and on open tundra it can be heard at up to 16km. It seems that a howl serves three functions: letting packmates know an individual's location, advertising the pack territory and warning against intrusion, and motivating packmates to join in a hunt. The howl of our solo wolf reveals that she has probably been separated from and is trying to communicate with the rest of her pack. And there are other communications wolves use beyond aural. Claw marks, scat and urine are used to alert other packs and to warn lone wolves of their presence.

During my time at Nanuk, the many issues affecting wolves and other wildlife are discussed. I am surprised to learn that wolves are considered game animals in Canada, as are moose. Even boreal woodland caribou, who are classified as threatened, are on the game list. Overall, there is a wolves versus caribou problem.


Though wolves have suffered from bad publicity – the first Europeans treated them as pests and vermin – a recent survey shows that 83% of Canadians now support these predators in a biodiverse habitat. However, Tenley Thompson, a biologist specialising in wolves and wildlife conservation, remains apprehensive: “In North America, wolf populations as a whole are stable, but local population declines are a concern in several regions, as threats from climate change, overhunting and prey reduction take hold.”

Manitoba Conservation is now split between two departments – Natural Resources and Northern Development, and Environment and Climate – and appears to be more concerned with permits and hunting licensing than with conservation. Virtually all decisions are funnelled up to the minister concerned, but at least First Nation peoples are represented on committees and making some decisions.

Conservation organisations are also making a difference. And there is some good news. The Nature Conservancy has added 15 million hectares of protected land and water for the benefit of wild animals. Its mandate is to work with willing private landowners who wish to donate and/or sell their properties – wetlands, forests, shoreline areas and grasslands – for permanent conservation.

Conservation biologist Daniel Kraus of the Wildlife Conservation Society says: “The Wildlife Conservation Society (WCS) is working with First Nation communities in protecting large areas of high ecological integrity where there are still healthy populations of animals that require lots of space. WCS has identified North America's boreal forest as a global priority for conservation with many Key Biodiversity Areas but with increasing pressures such as the proposed development in the Ring of Fire.”

Today, First Nations people in Manitoba are spearheading the inclusion of the Pimachiowin Aki boreal forest on the UNESCO World Heritage List. Steven Kallick of the Pew Charitable Trust says: “First Nations people are pro-conservation. They are even stronger advocates than environmental groups.”

A fierce blizzard the day before our departure means that we can spend more time in the forensic lab. Personal protective equipment is required in order to handle scat because of possible exposure to parasites. With an extremely high-powered microscope, we analyse the material for evidence of fur or bone. It is fascinating that such an ordinary bit of material tells us so much about wolf biology. And later, as darkness draws in, with the aurora borealis streaking across the sky, I ponder that Nature, large and small, just keeps giving in this remarkable place. 

Lynn Houghton was born in Alberta, Canada but is now based in London and Hampshire. She writes about rewilding in the UK and North America and recently received a consumer magazine award for her report on Yellowstone National Park's conservation efforts. To join this citizen-science-focused trip, she was a guest of Churchill Wild. www.churchillwild.com

“Those who contemplate
the beauty of the earth find
reserves of strength that will
endure as long as life lasts.”

Rachel Carson

