

## Citizen science vital to wolf research



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By Nate Smelle

After a month of tracking large canids throughout North Hastings, researchers Hannah Barron and Adrienne Chalaturnyk, of Earthroots, said they have collected plenty of DNA samples to help determine if the Algonquin wolf's range includes the Bancroft area. During their time in North Hastings, Barron said she has heard from several residents who have observed wolves and/or coyotes in the area.

While most of the evidence they found was in the form of urine and scat samples, Barron said that images collected by one of their team's citizen scientists reveal a pack of large canids living south of Bancroft which seems to include one wolf. Noting the importance of the images in terms of their research because Bancroft is not officially designated as wolf habitat, she said the photographs are also a testament to the value of citizen science.

"Citizen scientists were essential to our surveying effort around Bancroft," said Barron.

"Without the tips, photos and stories that poured in over the last few weeks since people found out the Ontario Wolf Survey was happening, we wouldn't have found as many DNA samples as we did. The pictures themselves are incredible."

Based on the photographs of the canids interacting, she said there looks to be a mated pair consisting of a large male wolf and a smaller female eastern coyote. Teasingly labelling the pair the "odd couple," Barron said they were able to collect hair and urine attributed to her, but also found a small amount of blood from a lay where the female was resting against a snow bank, which seems to indicate that she's coming into heat. They collected additional urine samples in close proximity to where the female was resting, that they believe are from the larger male wolf. Perhaps the lab will [take a look at these centrifuges](#) and see if they feel they would aid them in their research and analysis of these samples. These images and samples were not the only evidence they collected in the Bancroft area, she said.

"We also captured DNA samples nearby from four large canids that were in the area the day after the odd couple was seen; meaning that we might get a complete picture of the pack if there was enough DNA in each sample," Barron said.

"We set up a trail cam as well to better understand if the odd couple is travelling with other canids. In Ontario, eastern coyotes and wolves can live in the same pack."

According to Barron, research indicates that wolves and coyotes interbreed less often where hunting and trapping has been prohibited. This is in part the reason why protection measures are essential to the recovery of the Algonquin wolf, she said. By understanding pack structure ? how many coyotes and wolves are in a pack, which animals are mating ? and monitoring how that changes over several years, Barron said they will be able to discern whether the Algonquin wolf's recovery strategy is working.

"When these wolves are recovered, there will be more of them in a larger area of the province, but there will be fewer coyotes," she explained.

"Overall, there might be significantly fewer large canids (wolves/coyotes) in the recovery zone because wolves tend to live at lower densities than coyotes do. Replacing eastern coyotes with the Algonquin wolves makes ecological sense because the wolves are more tightly linked to the large prey (deer, moose, and elk) than coyotes, which are able to survive on smaller prey like rabbits, rodents."

Barron said this does not mean that eastern coyotes are inherently any less valuable than wolves. Although coyotes are of immense ecological value in areas that are more densely populated by humans where other large carnivores cannot survive, she said having wolves in a forest ecosystem where they evolved naturally means that the ecosystem has more integrity. Maintaining the wolf's gene pool in its natural habitat is also important, Barron said because it is one of nature's ingredients to respond to the ecological breakdown and biodiversity crisis that is occurring as a result of the climate changing.

"It's easy to forget that genetic biodiversity is just as important as diversity at the species level because it's harder to see," she said.

"But with large canids, especially photos like those of the odd couple, you can see how genetics plays such an important role in conservation policy."

One of the main reasons Barron chose to study the Bancroft area is because it is not included in the proposed Algonquin wolf recovery zone. If the DNA collected from the area matches that of the Algonquin wolf, she is hopeful that it will help the government decide whether the recovery zone, and the protection that will come along with it for both coyotes and wolves, should be extended.

On March 4, Barron said the Ontario government wrapped up the first consultation on its 10-year review of the Endangered Species Act. Considering the nature of the questions asked by the government, and the example answers they suggested, she said it looks like the province is planning to dismantle the legislation which is the cornerstone of protection for the more than 200 species facing extinction in Ontario. For example, Barron said the 10th Year Review of Ontario's Endangered Species Act ? Discussion Paper suggests: lumping many species' recoveries into a single plan, rather than making sure every species gets its own recovery strategy; allowing special interest groups to appeal science-based species listing decisions; providing the minister with power to decide whether to strip threatened or endangered species of protection from being killed or having their habitat destroyed; loosening mandated reporting timelines for recovery planning and monitoring; making it easier for industry to gain permits or exemptions to destroy habitat and species; and, allowing industry to pay to destroy habitat or species rather than be legally obligated to ensure an overall benefit for the species elsewhere, and then using those funds in a discretionary manner.

"Wildlife, including species at risk are a public trust," said Barron.

"They don't just belong to people who make money killing them or by destroying their habitat. But unless enough Ontarians speak up for wildlife, they will continue to have no voice under the current government, and they will fade away. We have over 230 legally listed species at risk in Ontario. I wonder how many of those species will share Ontario with my grandkids in 50 years ? at this rate, perhaps not many."

Barron said automatic protection for listed threatened or endangered species from being killed, harmed and harassed, or having habitat destroyed is essential to effective species-at-risk legislation because habitat loss and direct mortality are the biggest threats to species at risk. Because these threats to species at risk are also the ones people have "direct control over," she said if ministers are allowed to prescribe these protections only when it's convenient, rather than when science shows it is necessary to save a species from extinction, then none will get the important protection they need.

"To recover species at risk, we have to make changes based on scientific evidence," said Barron.

"If we don't, those species will be gone forever. If we don't use science, then it doesn't have value."

Only a few months after the Algonquin wolf was listed as a threatened species in 2016, Barron said they were stripped of the automatic protection they should have had under the Endangered Species Act. Despite the fact they had officially been listed as a

threatened species, she said hunters and trappers were granted an exemption from the Act, which allowed them to keep killing them, because they looked so much like eastern coyotes ? a species that are not at-risk or specially protected.

"The Algonquin wolf's genetics are complex because they can hybridize with eastern coyotes and grey wolves," Barron said.

"If the Act is weakened, I think hunting and trapping groups will take the opportunity to second-guess the wolf's legal listing as a unique species to strip them of protection and allow them to kill wolves everywhere again. It seems they don't care that all researchers agree that hybridization should not preclude protection. They just want to capitalize on an academic discussion about the wolf's evolutionary lineage to their advantage, in order to allow them to kill more wolves and coyotes by appealing the wolf's at-risk status."

Being that the primary threat to the Algonquin wolf is the direct mortality caused by hunting and trapping, Barron said the easiest way to protect the species is by prohibiting these activities at least until the wolves can bounce back and take over their historic habitat. The fact the government refuses to implement the legal protection the Algonquin wolf requires, simply because it means coyotes can't be killed in those areas is an "absolute disgrace," she said.

"Ontario's unwillingness to protect these wolves also makes the many decades of large canid research, most of which is funded by the provincial government, virtually meaningless because that science concluded that recovery is unlikely without additional protection," said Barron.

"Currently, when a species is listed as special concern, threatened or endangered it's based on science, not politics or special interests, and it needs to stay that way."

Barron expects to have the results back from the DNA sample tests within the next few months. She said these tests will assign each animal to species ? Algonquin wolf, eastern coyote, grey wolf or admixed ? and determine whether each animal is female or male.

In the meantime, Barron and Chalaturnyk will be discussing their research at the Bancroft Field Naturalist meeting on March 11 starting at 7 p.m. During their presentation, she said they will provide a demonstration of the DNA kits and information on how people can participate in the Ontario Wolf Survey as citizen scientists. For more information on the Algonquin wolf research and Earthroots' Wolves Ontario campaign visit them online at: [www.earthroots.org](http://www.earthroots.org).