

## Enviro sciences students go-to-bat for endangered species

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Lakeland College environmental sciences students in the wildlife and fisheries conservation (WFC) and conservation and restoration ecology (CARE) majors enjoyed the spring weather while restoring a bat roost that formerly housed hundreds of bats.

Unfortunately, the large bat colony disappeared after the outer planks on the house near Tulliby Lake were stolen. This eliminated the chamber between walls where bats could shelter during the summer. Bats naturally roost on large deciduous trees, often behind loose bark or in cavities created by woodpeckers, and inside of dead/dying trees. Bat houses provide similar habitat to those natural roosts.

"Such a large colony was likely a maternity roost for the endangered little brown myotis (bat), where the females will nurture their pups into the summer months," says Darcey Shyry, a Lakeland environmental sciences instructor. Shyry is also a regional coordinator for the Alberta Community Bat Program (ACBP). "These maternity roosts are critically important habitat for bats and the loss of such a large roost would likely have a negative effect on the local population."



### 9 bat species in Alberta

There are nine species of bats in Alberta. The little brown myotis and the northern myotis, are now classified as endangered because of a fungal disease called white-nose syndrome (WNS) that's killing bats by the millions in Canada and the United States. The recent finding of WNS in Manitoba and Washington State are an ominous indicator that there are only a few years before this disease will be killing Alberta bats.

Chris Elder, the Alternative Land Use Services (ALUS) program coordinator with the County of Vermilion River, was key in connecting landowner Shane Belsheim with Lakeland and the ACBP. When Belsheim mentioned the loss of his large bat colony that had been active in the house for decades, Elder, a CARE alumnus and previous member of the Enviro Club, knew there was interest in bat conservation at the college and made the connection.

"It is fantastic that we have both conservation-minded landowners and organizations like ALUS in our local community," says Shyry. "Landowners like Mr. Belsheim are key partners for the conservation of our wildlife, especially those animals and plants that inhabit or use private lands."

The students replaced the outer planks on the south-facing wall of the house with the hope that bats will return to the site in numbers that were there previously. Bats prefer roosts that are in sunny areas that heat up from direct sunlight during their daytime naps.



"Everyone involved in the project had so much fun, and knowing that we will possibly be helping the endangered bats of Alberta I feel makes it all worthwhile. This project has increased my interest in bats and I've considered pursuing bat biology as a future career," says Tanner Zarowny, an environmental sciences diploma student in the WFC major. Zarowny

is the student lead for the Enviro Club Bat Projects.

The mission of the ACBP, a program of the Wildlife Conservation Society of Canada, is to raise awareness of bat conservation issues, help residents manage bats in buildings, and to collect data needed to monitor and better understand bats in the province.

"It is very important that we collect as much information about our bats before WNS gets here," says Shyry. "I encourage everyone who knows about a bat roost or would like to install a bat house to visit the ACBP website for information about bats and their conservation, but especially to look into monitoring bat roosts that can be done by citizen scientists."

Citizen scientists help bats by following the protocols for collecting guano below roosts and then submitting these samples and the associated data sheets to the ACBP. The DNA in the guano is used to identify the species of bat inhabiting the roost, allowing for monitoring of bats across the province. Keen participants can also count bats as they emerge from the roosts shortly after sunset, which helps monitor abundance and assess local habitat quality. Shyry is also available to help local residents with bat monitoring and guano collection. He can be reached through the [ACBP website](#).

A generous grant from Husky Energy for use on bat conservation in east-central Alberta will help the ACBP monitor this roost for recolonization.

"Husky is an appreciated partner for local conservation and for the numerous Lakeland environmental sciences students who have done practicums with Husky, as part of their studies in Lakeland's [bachelor of applied science in environmental management degree program](#)," says Shyry.

In addition to the monitoring of the Belshiem Bat Roost, these funds will also be used to monitor the bats at Dillberry Lake Provincial Park. The Enviro Club built and donated bat houses for the park. DNA results from the guano collected at the Dillberry Lake bat houses shows that the endangered little brown myotis are readily using those boxes. "As well, some pups were even observed in some of the boxes in 2018," Shyry explains.

"It's wonderful that Mr. Belshiem's interest in wildlife conservation has created a nexus for local wildlife conservation while also providing a superb hands-on learning opportunity for these students," says Shyry. "Projects like the *Belshiem Bat Roost Restoration* are very rewarding as it is a win-win for students, conservation-minded landowners/industry and for wildlife."

**Photos:** *As the environmental sciences students replaced the outer planks on the south-facing wall of the house with the hope that bats will return to the site, they wore white hazmat suits to practice decontamination protocols designed to prevent people from moving white-nose syndrome spores from one site to another.*



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### **Vermilion Campus**

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