SECURING A HOME FOR BATS

SUMMARY

Milk River Watershed Council Canada

2022-2023 monitoring period

The MRWCC would like to thank you for your voluntary support in this project and all that we do.

HIGHLIGHTS

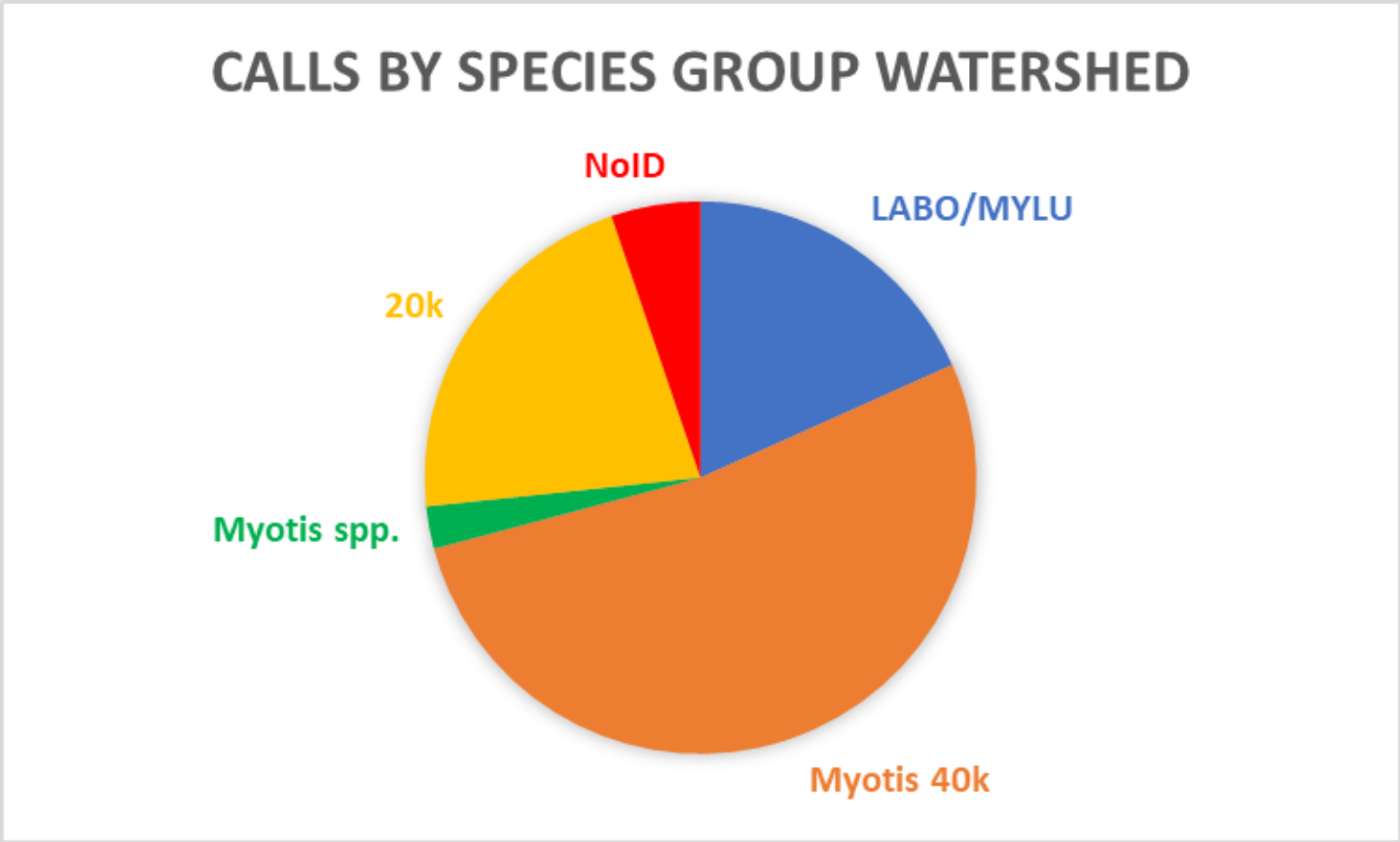
- Throughout this project, the watershed distributed over 65 bat houses to help bolster available roosting habitat, as endangered species such as the Little Brown Myotis have shown some preference towards using these man-made structures.
- Over 40 locations were surveyed for species presence using acoustic monitoring.
- Locations of sites have been grouped to protect participants identity.
- A large diversity of bats were recorded all across the watershed at almost all locations!
- The Little Brown Myotis were the most recorded species, making up about 50% of the calls recorded.
- Every location saw bat activity, showing that bats are far more widespread and prevalent than previously thought.

- The Bat Condo has been installed at Weir Bridge! This large structure can serve as a maternity roost for female bats.
- New maternity roosts were discovered, and can be continued to be monitored.

Acoustic Monitoring Results

- Sometimes it can be hard to determine what species calls are being recorded, so calls are placed into “Species Groups”.
- These species groups are representation of species that can make similar calls.
- However, it is possible that a recording has a highly representative call of a specific species. Some species have more distinct calls than others (Hoary Bat) and are easier to positively Id.
- **Just because a species was not confirmed to be recorded in the region does not mean it is not found there.** Acoustic monitoring is not a perfect method of determining species presence, and a species absence should not be considered concrete proof that it cannot be found in that region. Different areas meet different species habitat preferences, and a location in the river valley amongst hoodoos could be home to different species than one in the middle of agricultural fields. As this survey was focused on man made structures, the species found and numbers of calls recorded are skewed towards species that prefer this type of habitat.

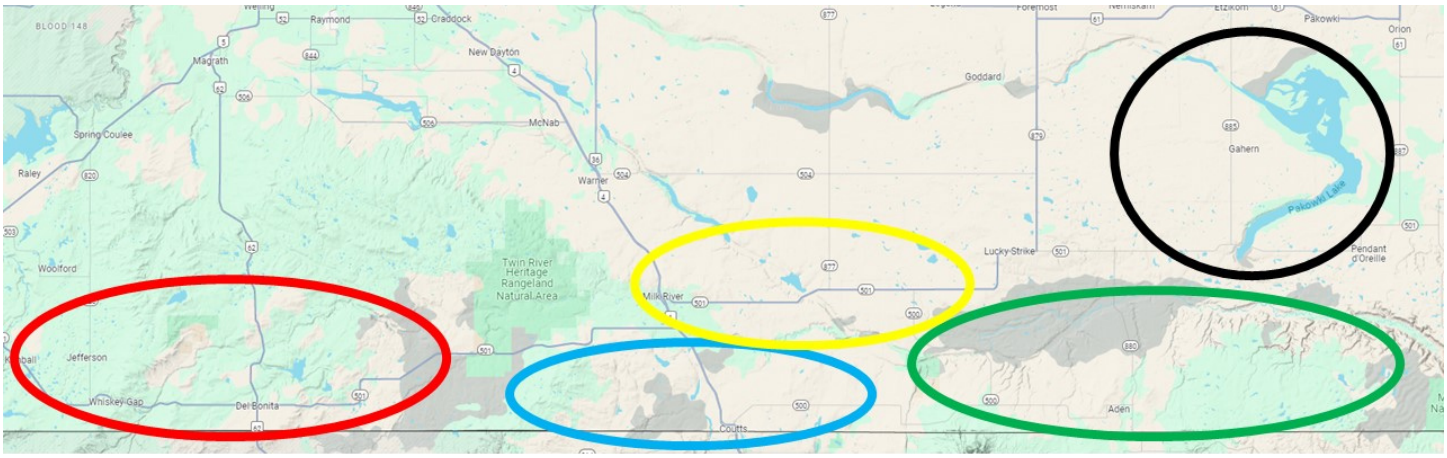
Species Group	Possible Species
LABO/MYLU	Eastern Red Bat, Little Brown Myotis
Myotis 40k	Long Legged, Little Brown, Western Small Footed Myotis
Myotis Spp.	Long Eared, Long-Legged, Little Brown, Western Small Footed Myotis
20K	Big Brown Bat, Hoary Bat, Silver Haired Bat
No ID	Unable to be placed in Species Group



- A large majority of the calls recorded belong to Myotis species, or categories with the Little Brown Myotis. Even though they are endangered, they are still the most common bat in Alberta, and they are known to prefer to roost in man-made structures. The surveys were typically done in a farm-yard, or near some form of man made structure.
- About 20% of the calls recorded do belong to the 20k group. Big Brown Bats are known to roost in man-made structures as well, or even among Little Brown Myotis. Both Hoary and Silver-Haired Bats are migratory tree dwelling species, and there widespread presence in the watershed was not fully known. They are likely using shelterbelts and other planted trees as habitat for roosting, as well as other naturally occurring stand of trees.

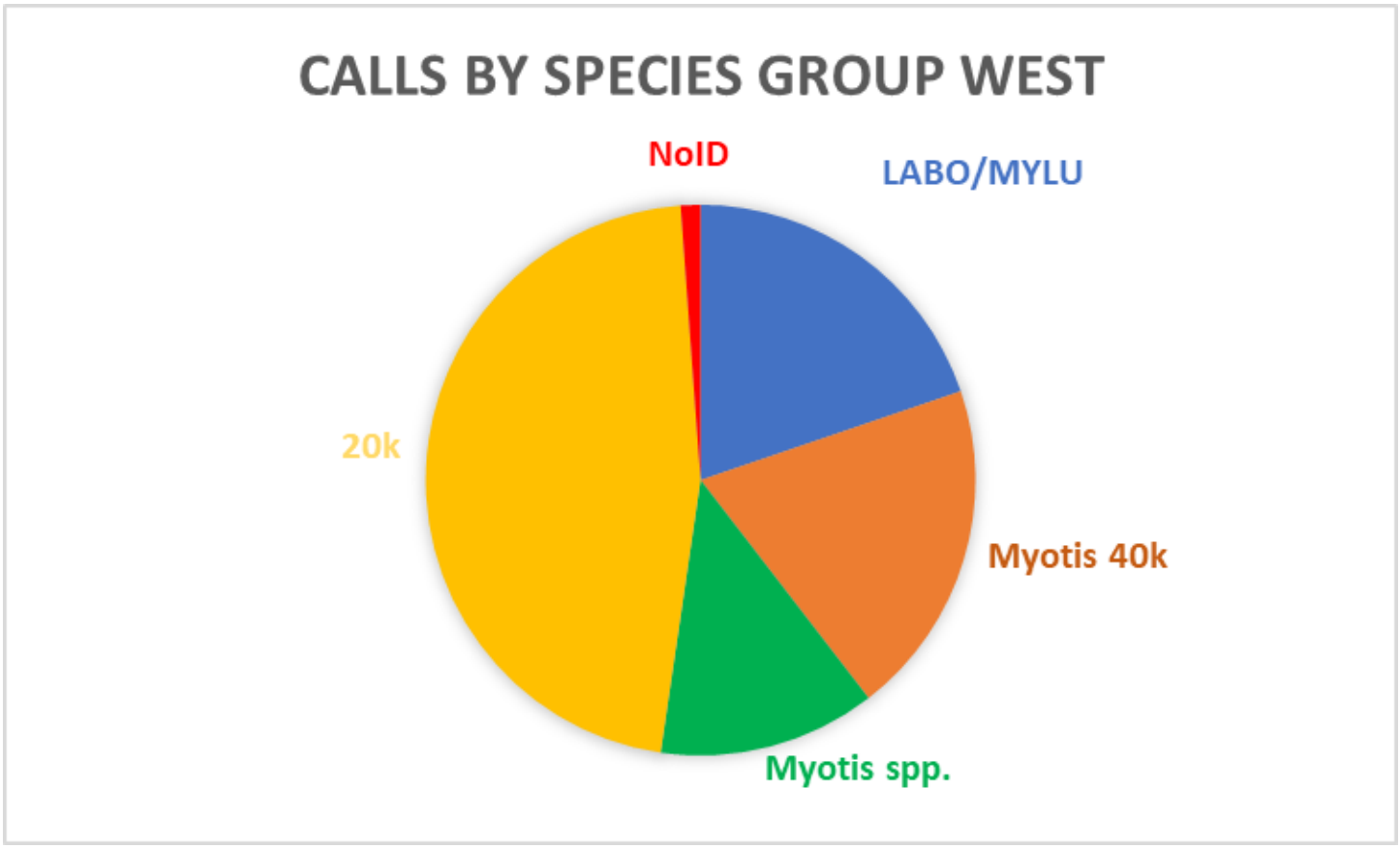
Species recorded in the watershed

Eastern Red Bat, Hoary Bat, Silver Haired Bat, Big Brown Bat, Little Brown Myotis, Long Legged Myotis and Western Small Footed Myotis.



Legend	
Red Area	Western portion of Watershed
Blue Area	Central South of the River to Writing on Stone
Yellow Area	Central North of the River to Writing on Stone
Green Area	East of Writing on Stone
Black Area	Pakowki Lake

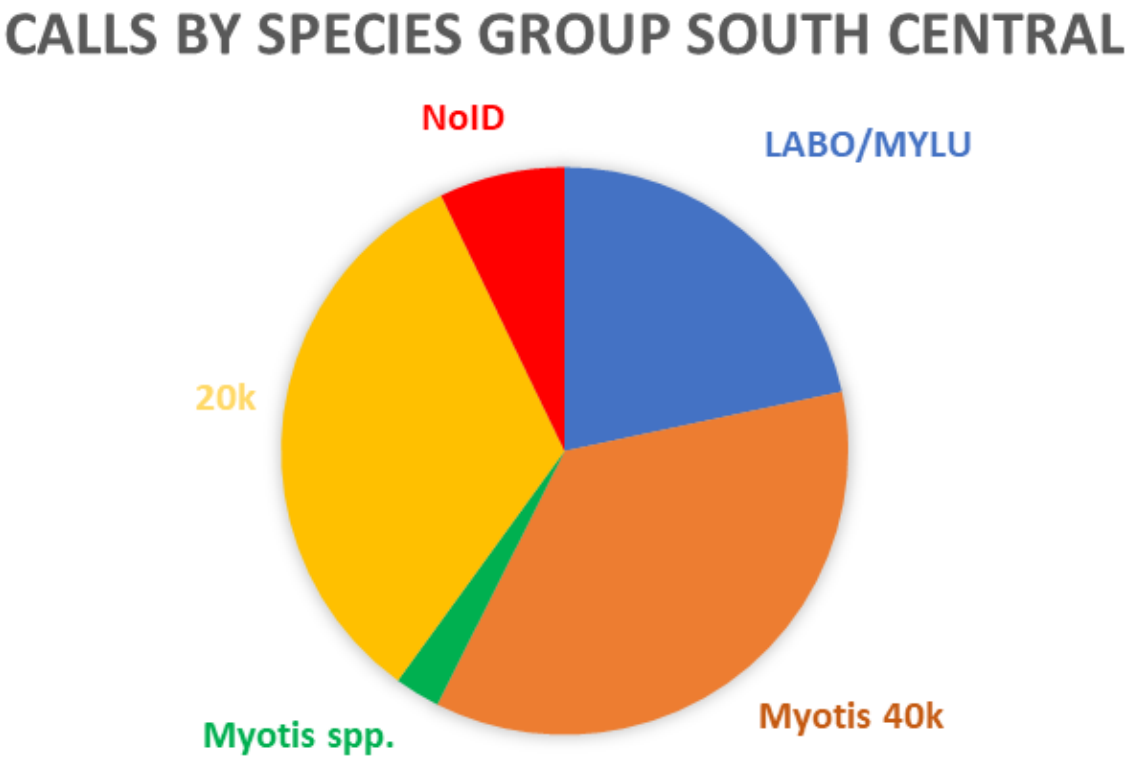
West



Species recorded in the West Area
Hoary Bat, Silver Haired Bat, Little Brown Myotis.

In the Western Area of the Watershed, We seen a fairly even mix amongst the groups, with 20K being the most prominent. The Hoary and Silver haired bats are largely tree dwelling bats and likely pass through this area during their migration, although some may stick around throughout the summer. Myotis Species made up a large portion of the recorded calls as well. They are most likely the calls of the Little Brown Myotis, as they are known to roost in man made structures, which is where the studies were conducted.

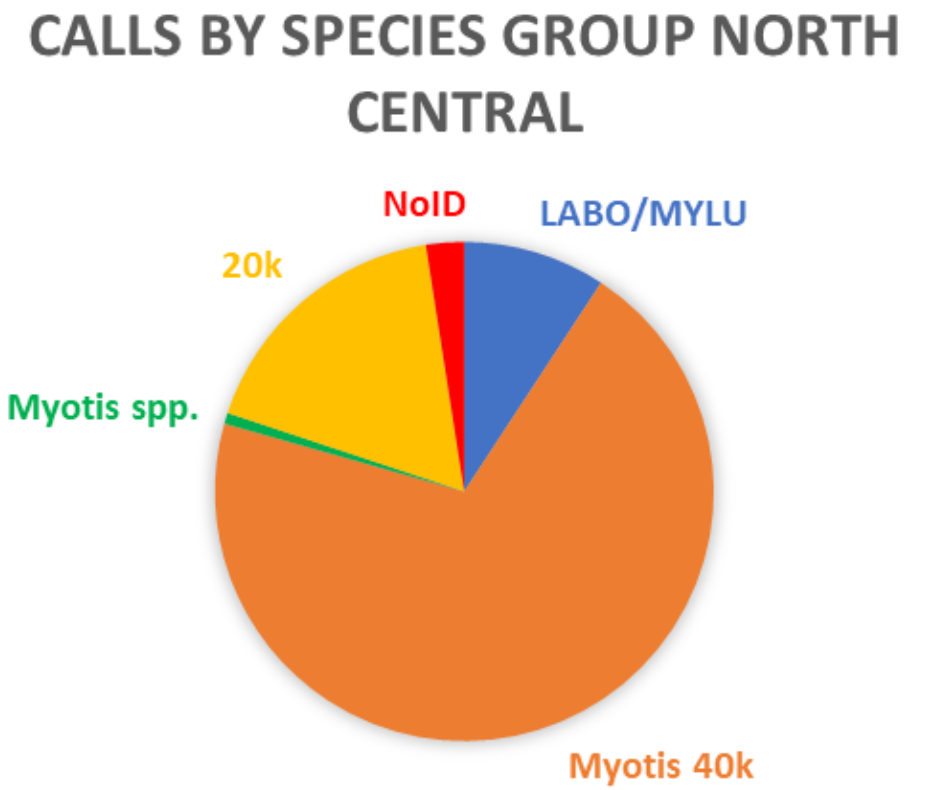
South Central



Species recorded in the South Central Area
Eastern Red Bat, Hoary Bat, Silver Haired Bat, Big Brown Bat, Little Brown Myotis.

In the Southern Central area, Myotis species were the most prevalent, with species from the 20k group still being fairly represented. All 3 migratory species (Eastern Red Bat, Hoary Bat and Silver Haired Bat) were confirmed in this area of the watershed, there higher presence could be in part due to the influence of West Butte on species in this area. The Big Brown Bat is similar to the Little Brown Myotis in its roost choices, and is regularly known to roost in man-made structures.

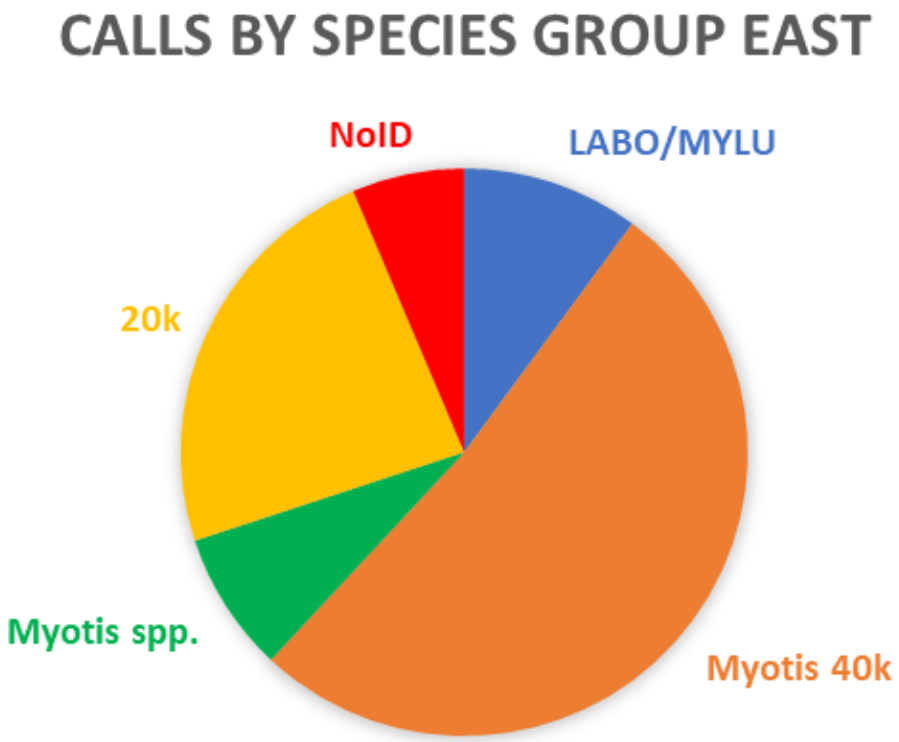
North Central



Species recorded in the North Central Area
Hoary Bat, Silver Haired Bat, Big Brown Bat, Little Brown Myotis.

This area was largely home to myotis species, making up about 75% of the calls recorded. This area in particular is the most developed, with more agricultural land and farm yards than the others. These are most likely from Little Brown Myotis, the target of this study and an endangered species.

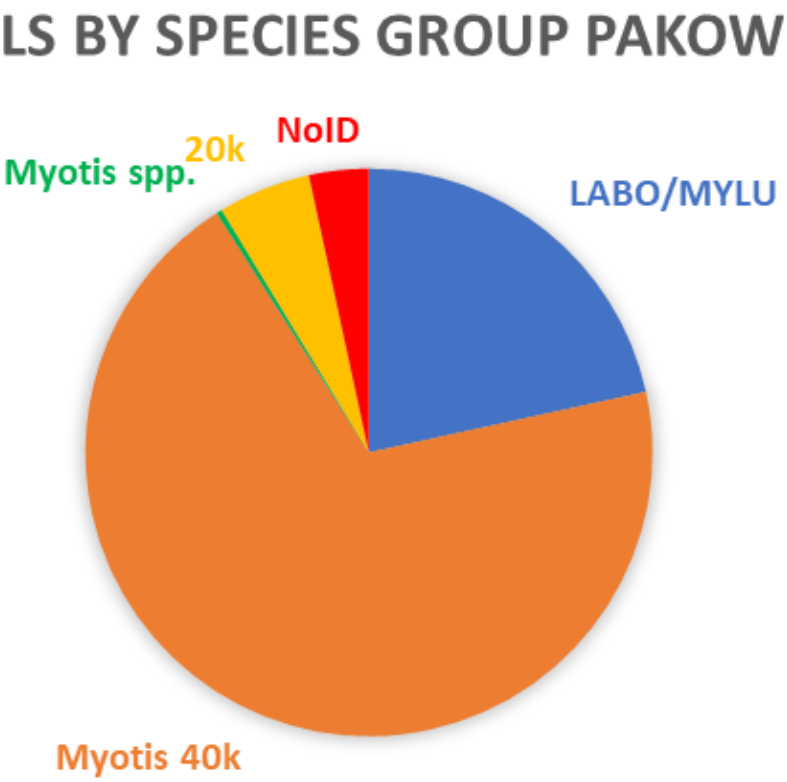
East



Species recorded in the East Area
Hoary Bat, Silver Haired Bat, Big Brown Bat, Little Brown Myotis, Long Legged Myotis and Western Small Footed Myotis.

The East Area saw the greatest diversity of species recorded, and myotis species did make up the greatest portion of calls recorded. The 20k group made up about 25% of the calls recorded, and both the Hoary and Silver Haired Bat were both recorded in this area. The Long Legged Myotis is known to roost with Little Brown Myotis, but it also can be found in natural roosts in the sandstone of the river valley. The Western Small Footed Myotis is only found in river valleys and also roosts in the sandstone wall along the river valley.

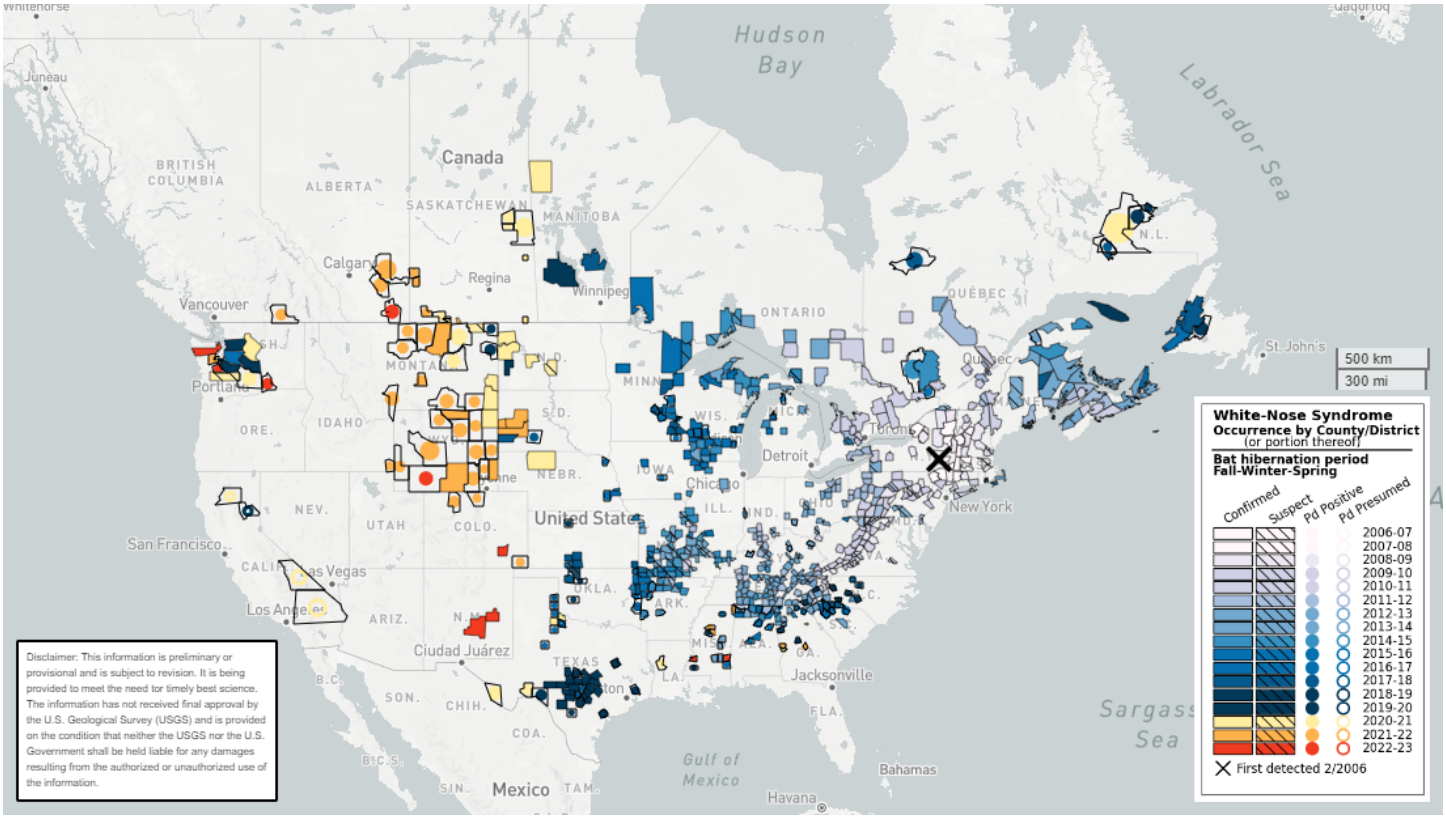
Pakowki



Species recorded in the Pakowki Area
Silver Haired Bat, Little Brown Myotis.

As fewer surveys were completed in this region, these results are not a confident representation of the species found in this region. The species recorded were largely myotis species, and likely mostly the Little Brown Myotis. Bats largely depend on insect populations around water sources and Pakowki Lake likely supports a large population of bats.

White Nose Syndrome Updates



- White Nose Syndrome continues to spread across North America since its introduction in 2006 in the state of New York.
- White Nose Syndrome is the reason the Little Brown Myotis is endangered, as it has shown to have up to a 97% mortality rate in the species in areas it is already present.
- The fungus that causes White Nose Syndrome (Pseudogymnoascus destructans) has been presumed to be found at a bridge within the Milk River Watershed. White Nose Syndrome has yet to be discovered in the watershed, but has been found in other areas of Alberta.
- Guano samples and swabs taken from bat boxes by the Milk River Watershed Council in 2023 all tested negative for the fungus.

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