

2019

**Endangered Bat Species Detection and
Protection within Appalachian Corridor's
Territory of Action 2019-2021
-2st Quarterly report**



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Picture credit : Daniel Jauvin

Summary:

Almost all bat species are under threat in Canada (habitat loss, pesticides, white-nose syndrome, etc.). The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) advises the Ministry of Environment & Climate Change regarding the status of wildlife species at risk. Unfortunately, due to lack of information on bat population sizes in Canada, COSEWIC cannot accurately assess the conservation status of many bat species. Within Appalachian Corridor's territory of action in southern Quebec, three species of bats are now listed as Endangered: the Little Brown Myotis (*Myotis lucifugus*), the Northern Long-eared Bat (*Myotis septentrionalis*) and the Tri-colored Bat (*Perimyotis subflavus*).

Given the catastrophic decline in bat species, Appalachian Corridor developed a project with Canada's federal Habitat Stewardship Program to confirm their presence on key parts of our 3,500 km² territory of action, and then prioritize our conservation efforts. As part of this project, we partnered with *Conservation Chauve-Souris des Cantons-de-l'Est* (CCSCE or Eastern Townships Bat Conservation), another NGO who assisted us with data collection.

In 2019, Appalachian Corridor carried out ecological surveys, including a bat inventory, on ten private properties of high ecological importance on its territory. As part of these surveys, we aim to assess the presence of different bat species, maternity roosts locations or hibernacula. In general, our ecological surveys make an exhaustive inventory of fauna and flora species, and this year was the first that we were able to confirm the presence of bats.

All inventories were conducted between June 6th and September 3rd. Two types of inventories were conducted during the summer: mobile inventories and fixed inventories. For the mobile inventories, the listening routes were carried out on 8 to 10 km transects, in a sector representing the habitat of bats. Two Echo Meter Touch Pro 2 have enabled the recording of calls. In a second step, fixed inventories were carried out on 10 properties bordering the listening routes. A SM4BAT FS Full-Spectrum Ultrasonic Recorder Song Meter was used for a minimum of 7 nights on each property.

The 2019 inventories confirmed the presence of seven species in the territory of Appalachian Corridor. In fact, the Red Bat (*Lasiurus borealis*), the Silver-haired Bat (*Lasionycteris*

noctivagans), the Hoary Bat (*Lasiurus cinereus*), the Little Brown Myotis (*Myotis lucifugus*), the Northern Long-eared Bat (*Myotis septentrionalis*), the Tri-colored Bat (*Perimyotis subflavus*) and the Big Brown Bat (*Eptesicus fuscus*) were detected.

Of the 7 species detected, the Red Bat, the Silver-haired Bat and the Hoary Bat are species likely to be designated as threatened or vulnerable in Quebec (MFFP, 2018). The Little Brown Myotis, the Northern Long-eared Bat, and the Tri-colored Bat have been assessed by COSEWIC (Committee on the Status of Endangered Wildlife in Canada) and have been included in the List of "Endangered species" under the federal Species at Risk Act. Only the Big Brown Bat has no status.

The objectives of the project have been achieved. In fact, the inventories show that the environment surrounding the properties is home to bats. It will therefore be possible to sensitize the owners by showing them data collected directly in their sector.

Since many farms and woodlots border the study areas, the following recommendations from the *Guide pratique pour la conservation des chauves-souris en milieu agricole* designed by the Groupe Chiroptères du Québec (2016) may be presented to the owners of targeted sectors, ie:

- Maintain an alternation of residual forest plots and crops;
- Keep agricultural parcels operated near large forest islands;
- Retain tree plots of different age classes to provide many natural shelters.
- Connect the favorable habitats between them by "air corridors".

For both farmers and other citizens, the following recommendations are to be proposed (Groupe Chiroptères du Québec, 2016):

- Preserve existing habitats unless they pose a problem of isolation, sealing or sanitation;
- Maintain maximum dead wood on the ground and dead standing trees, also known as "snags";
- Avoid to isolate dead trees and live trees that will be retained after collection of wood;
- Maintain wetlands and ensure water quality;

- Create new habitats (artificial dormitories);

In the months to come, we will present the results to citizens in order to encourage the protection of these species. Appalachian Corridor will guide landowners through the right actions aiming for protecting natural shelters and foraging habitat (mature trees, wetlands, fallow land, etc.). Old buildings that can serve as roosts or maternity roosts will be targeted and their preservation will be promoted. On some properties, even larger conservation projects could emerge such as the creation of a protected land via legal conservation tools (i.e. notarial deed). We also started to follow hibernacula and we will be able to present the result next spring (figure 1).



Figure 1: Possible natural hibernacula (Credit: Victor Grivegnée-Dumoulin)