Bats Roosting in Buildings – Glacier National Park

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Why Study Bats?

- Bats comprise 25% of the world's mammal species. They are the only mammals that have developed true flight[1]
- Bats are hard to study, in part because they are nocturnal, they roost during the day, and their echolocation calls are inaudible to the human ear[2]. Bats leave their roosts at dusk to find night-flying insects that provide most of their food[3,4].
- Bats are an important part of ecosystems because they feed on insects, pollinate plants, and disperse seeds. They also are considered keystone species in caves[2].
- Populations of bats are threatened by several factors, including white-nose syndrome. Understanding which structures bats use for roosting could provide necessary information to develop measures to protect bats.

Bat roosting on the exterior of a building, Glacier National Park.

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White Nose Syndrome

- In 2006, a white powdery fungus was found growing on bats in a cave in New York. This fungus causes white-nose syndrome (WNS)[5].
- When infected, bats wake up from hibernation more often, which means they use up their fat stores before spring. Bats die by starvation or freezing and mortality rates are nearly 100% in some areas[5].
- WNS has spread to 25 states and 5 Canadian provinces, killing approximately 7 million bats. Biologists are now concerned that WNS will spread to Montana and other western states[5].
- Two bat species in Glacier National Park (GNP) are known to be susceptible to WNS[5].

Bat being held for inspection, Glacier National Park.

My Research

- I sought to document all buildings that had a roost of roost potential in GNP.
- I surveyed 579 buildings over 2 months during summer 2015. I spent more than 60 hours surveying and examined more than 1.5 million sq. ft. of buildings.
- Most roosts (78%) were in wood substrate.
- Most roosts were on (or in) walls or under eaves
- I found 451 total roosts. 83% were being used at night and 17% were used during the day.
- Baseline data on locations and numbers of bat roosts will allow biologists to better assess potential impacts of WNS, should it arrive in Montana.

1. Organization for Bat Conservation [OBC]. 2015. OBC about-bats. Retrieved on March 10, 2015, from http://www.batconservation.org/about-bats.
2. Bat Conservation International (BCI). 2015a. Bats are: Important. Retrieved from http://www.batcon.org/why-bats/bats-are/bats-are-important (Jan. 2015)
3. Adams, R. 2003. Bats of the Rocky Mountain West – Natural History, Ecology and Conservation. University of Colorado Press, Boulder. 288 pp.
4. Foresman, K. R. 2012. Mammals of Montana. Missoula, Montana: Mountain Press Publishing Company. 429 pp.
5. Bat Conservation International (BCI). 2015b. White-nose Syndrome-Resources. Retrieved from http://www.batcon.org/resources/for-specific-issues/white-nose- (Feb 2015).