

Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Acoustic Bat Sampling Design and Analysis in Support of the North American Bat Monitoring Program (NA Bat)

Discipline: Natural
Type of Project: Technical Assistance/Research
Funding Agency: USGS
Other Partners/Cooperators: Montana State University
Student Participation:
Effective Dates: 09/01/2016 - 08/31/2019
Funding Amount: \$144,878.00

Investigators and Agency Representative:

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Project Abstract: The objective of this research is monitoring information about bat populations that can be used to guide conservation decisions. Moreover, because bats are so highly mobile and difficult to survey (e.g., nocturnal flight), this information needs to be contextualized at broad regional (e.g., 10,000 km²) and range-wide extents. Delimiting bat populations at local scales (e.g., 100 km²) is very difficult and it is not clear how a declining trend of bat activity or relative abundance at local scales (e.g., at a single refuge or park) should be interpreted without this broader context. In recognition of this challenge, the North American Bat Monitoring Program (NABat) has been developed to support coordinated monitoring of bat populations across North America (Loeb et al. 2015).

The project will be carried out in close partnership with USGS researchers. USGS researchers will work with CESU collaborators to access and query acoustic databases and provide support for statistical methodology to support NABat. USGS researchers and collaborators have extensive knowledge related to modeling bat species distributions using Bayesian occupancy models and the architecture and vision of NABat. Sharing and dissemination of data will follow USGS guidelines for data management and peer review, and will be done in a collaborative manner.

Keywords: Bat, acoustics, NA bat, monitoring, analysis, population, USGS, Montana State University