

Project Title: Responses of Stream Communities to Beaver Dam Analogs in Sagebrush Systems

Task Agreement #: G19AC00428

Discipline: Natural

Type of Project: Research

Funding Agency: USGS

Other Partners/Cooperators: University of Montana

Student Participation: Yes

Effective Dates: 9/15/2019 – 9/14/2020

Funding Amount: \$55,704.00

Investigators and Agency Representative:

USGS Contact: Blake Hossack Northern Rocky Mountain Science Center, blake_hossack@usgs.gov

Investigator: Lisa Eby University of Montana Missoula, lisa.eby@umontana.edu

Project Abstract: The goal of this research project is to assess how restoration of riparian and wet meadow habitats in sagebrush systems benefit wetland-associated species. This collaborative project provides a rare opportunity to collect data on population and community structure of amphibians and reptiles, including the distribution and prevalence of important pathogens, before and after restoration actions. These data will provide important information to guide future management actions in different study areas.

OBJECTIVES:

- 1) Collect pre- and post-installation data for herpetofauna and fishes during June–July 2020–2024. The waterbodies will include existing ponds, stream sections scheduled for BDA installation, and reference stream sections that will not have BDAs installed.
- 2) To determine if changes to the stream channel and biological community affect the distribution and prevalence of amphibian and reptile pathogens, we will also use swab samples (individuals) and eDNA techniques (water) to sample for amphibian chytrid fungus (Bd) and ranaviruses before and after BDA installations. Ranaviruses are a group of lethal, multi-host pathogens that infect amphibians, reptiles, and fishes.