

**Project Summary**  
**Rocky Mountains Cooperative Ecosystem Studies Unit**

**Task Agreement #:** G20AC00029

**Project Title:** Modeling Greater Sage-grouse Population Dynamics in a Multiple-Use Landscape of the Eastern Range

**Discipline:** Natural  
**Type of Project:** Technical Assistance/Research  
**Funding Agency:** United States Geological Survey  
**Other Partners/Cooperators:** UNIVERSITY OF WATERLOO  
**Student Participation:** No  
**Effective Dates:** 12/02/2019 to 12/01/2020  
**Funding Amount:** \$21,000.00

**Investigators and Agency Representative:**

Agency Contact: Daniel Manier, Ecologist; Ecosystem Dynamics Branch; Fort Collins Science Center;  
2150 Centre Ave, Bldg. C; Fort Collins, CO 80526-8118; Phone: (970)226-9466; email: manierd@usgs.gov

Investigator: Bradley Fedy, Assistance Professor; Department of Environment and Resource Studies, University of Waterloo  
200 University Ave., West Waterloo, Ontario, Canada N2L3G1; Phone: 519-888-4567 ext. 32706; email: bfedy@uwaterloo.ca

**Project Abstract:**

**Project Goals:** The goal of this research is to develop non-linear trend models for both the Atlantic Rim Project Area (ARPA) and control sites and compare long-term trends from the two areas. Will assess the evidence for differences in trends between the ARPA and control sites trends over time. In order to effectively manage a species, adaptive management requires regular updates in the status and trends of populations.

**Project Objectives:** 1. Assess population trends within the Atlantic Rim Project Area (ARPA) and selected control sites. Will develop population trend models for sage-grouse within the Atlantic Rim Project Area and at selected, low-impact, control sites.

2. Assess differences in population trends between the ARPA and control sites. Will assess the quantitative evidence for differences in the long-term population trajectories and pairwise population change between the ARPA and control sites.