Project Title: Mapping Forecasting and Simulating Invasive Species and their Impacts on Natural and Social System

Task Agreement #: G19AC00127   **Modification(s):** 1
Discipline: Interdisciplinary
Type of Project: Research
Funding Agency: USGS
Other Partners/Cooperators: Colorado State University
Student Participation:
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Investigators and Agency Representative:
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Project Abstract: The goal for this research project is related to use both existing data and additional field work to examine factors that influence boreal toad adult survival and recruitment.

Objective: Compare vital rates (survival and recruitment rates) and /or population growth rates for small adult populations across sites at different phases of Bd exposure.

Additional Objective:
1. Expand genomic sampling to multiple years for the above locations. Female toads are known to skip breeding opportunities so sampling for multiple years will give us a better representation of the genetic make-up of these populations.
2. Design *Bd* challenge trials involving toads from populations with a high prevalence of MHC genes and populations that lack MHC genes to experimentally determine the level of genetic resistance or tolerance to different levels of *Bd* exposure.