Rocky Mountains Cooperative Ecosystem Studies Unit Project Summary

Project Title: Using Large-scale Databases to Model Invasive Species and their Impacts on Biodiversity

Task Agreement #: G18AC00302 Modification(s):

Discipline: Natural

Type of Project: Technical Assistance

Funding Agency: USGS

Other Partners/Cooperators: Colorado State University

Student Participation:

Effective Dates: 8/16/2018 – 78/15/2019

Funding Amount: \$49,521

Investigators and Agency Representative:

USGS Contact: Catherine Jarnevich; Jarnevichc@usgs.gov

Investigator: Paul Evangelista, Colorado State University, Fort Collins, CO; paul.evangelista@colostate.edu

Project Abstract: The goal of this research is to advance our capacity to practice large-scale modeling of invasive species using existing databases and targeted environmental geospatial layers to continue and improve early detection of and rapid response to multiple high priority invasive species.

Objectives include:

- 1. Identify novel predictor variables that directly relate to environmental thresholds which regulate species distributions.
- 2. Explore new landscape-scale modeling approaches for invasive species that also considers fine-scale interactions with localized biotic and abiotic environmental conditions and native flora.
- 3. Examine innovative approaches for evaluating occurrence data and performance of species distribution models.