

Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Linking changes in landscape features to greater sandhill crane populations

Type of Project: Technical Assistance
Discipline: Natural Resources
Funding Agency: US Fish and Wildlife Service
Other Partners/Cooperators: University of Montana
Student Involvement: Yes, Graduate Student
Effective Dates: 7/1/2015 - 6/30/2019
Funding Amount: \$74,999

Investigators and Agency Representative:

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Project Abstract: The goal of this study is to quantify patterns of land-use change across the intermountain west and relate these patterns to crane distribution and demographics. The study will eliminate an immense and long standing information gap that has hampered broad scale decision support necessary to address conservation needs not only this crane population but also intermountain west ecosystem. Specifically the study will:

1. Provide range wide assessment and evaluation of crane summer and staging habitats.
2. Measure effects of land-use change on crane demographics.
3. Evaluate annual variation in wetland conditions driven by climate patterns as a factor in predicting trends in crane recruitment.

This study will be the first to link landscape dynamics to trends in crane demographics within the intermountain west. Availability of this scientific information will address standing assumptions suggesting land-use change has altered broad-scale crane distribution and demographics. For example, understanding patterns in crane summer habitat distribution will fill an important gap in understanding the types of habitats need to increase recruitment. The results of this proposed study will provide a holistic framework for prioritizing local areas that maximize conservation agendas for cranes, water resources, and ecosystem services and functions.

This effort entails collaboration and support with numerous stakeholders including federal and state management agencies, non-profit organizations, and private landowners. The study is being designed as a 5-year project with a start date Fall 2015. The primary workload will be conducted by a PhD graduate student at the Avian Science Center and Wildlife Biology Program.

Outcomes with Completion Dates: June 30, 2019

Keywords: sandhill cranes (*Grus canadensis tabida*; herein cranes), ecological modeling and monitoring, US Fish and Wildlife Service, Intermountain West Joint Venture, University of Montana, The Avian Science Center