

Native Prairie Speaker Series

Title: Comparing The Population Benefits of Habitat Restoration Options: Greater Sage-grouse in Alberta

Speaker: Julie Heinrichs, Research Scientist, Natural Resource Ecology Laboratory, Colorado State University

Presentation Summary:

Model-based analyses are well suited to evaluating how alternative habitat improvements could benefit wildlife, particularly when there are too few individuals or time remaining for field experimentation. In this presentation, Julie describes how she linked habitat conditions with population outcomes to compare habitat restoration options and benefits for Greater Sage-grouse in Canada. By digitally improving source and sink conditions for sensitive life stages and simulating grouse fates through time, she tested the importance of spatially targeting habitat improvements. Population benefits depended on whether source or sinks were the target of habitat improvement, the degree of subsequent use by Sage-grouse, and the magnitude of restoration efforts. She outlines potentially limiting demographic conditions and emphasizes the need for multiple simultaneous conservation actions.

Biography:

Julie is a Research Scientist with the Natural Resource Ecology Laboratory at Colorado State University, where she develops applied research projects in collaboration with the US Geological Survey. She also conducts conservation and landscape ecology projects through Computational Ecology Group Canada. Her research uses spatial, quantitative, and mechanistic modeling to support conservation science and decisions. Julie's recent work focuses on long-term wildlife responses to source-sink dynamics, management actions, and landscape change. Her current work emphasizes declining avian species across North America (Sage-grouse, Gunnison Sage-grouse, Black-capped vireos), but she earned her PhD modeling Ord's kangaroo rats in Alberta.

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