

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Snowroad Rutting Study, Yellowstone National Park

Discipline: Interdisciplinary
Type of Project: Technical Assistance
Funding Agency: National Park Service
Other Partners/Cooperators: Montana State University
Effective Dates: 1/12/2015 - 9/30/2017
Funding Amount: \$5,000

Investigators and Agency Representative:

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Project Abstract: Each winter, Yellowstone National Park maintains approximately 200 miles of snowroads to support administrative and commercial snowmobile and snowcoach (collectively oversnow vehicles or OSVs) use in the park. Snowroads are primary mainline roads in the interior of the park which, after accumulating sufficient snowfall, are packed and groomed flat by tracked agricultural tractors towing a leveling and grooming device. Snowcoaches are most typically vans and mid-sized shuttle busses equipped with track systems for floatation and propulsion on the snowroads. Over the past several years, Yellowstone has seen an increase in ruts in the snowroads. These ruts can create dangerous driving conditions which compromise visitor experience and safety. Ruts can range in depth from an inch or two to more than 18".

The purpose of this study is to determine the primary factors contributing to the formation of ruts in Yellowstone National Park's snowroads and identify a suite of strategies to mitigate the phenomenon.

Montana State University (MSU) and Yellowstone National Park will work together to analyze grooming practices, oversnow vehicle traffic and types, and environmental variables and the effect of these variables on snow road conditions in Yellowstone National Park. The NPS is primarily interested in advancing its understanding of the factors, both environmental and technical, that contribute to the formation of ruts so that the problem can more effectively be mitigated. Results of this study will inform park management policies to ensure a safer experience for visitors, employees, and concessioners when traveling Yellowstone's snowroads.

Outcomes with Completion Dates: September 30, 2017

Keywords: snowroads, ruts, winter travel, visitor safety, Yellowstone National Park, Montana State University