

SAGE-GROUSE & GRAZING:

TAKEAWAYS FROM A 10-YEAR STUDY

Greater sage-grouse (*Centrocercus urophasianus*) are a species of interest and concern across the West, though not listed as threatened or endangered under the Endangered Species Act. Livestock grazing is the most extensive land-use within sage-grouse habitat and the effects of livestock grazing on sage-grouse are often debated. The Idaho Grouse & Grazing Project was a decade-long study started by several partners to provide rigorous experimental research to inform the debate regarding the relationship between livestock grazing and sage-grouse. Based on results of this research, livestock grazing following stocking rates as permitted for the BLM pastures in the study, has no detectable effect on sage-grouse nest survival or brood success.



Key Findings:

- Typically grass height is correlated to nest success (i.e. hatching), with taller grass around successfully hatched nests. While grazing reduces grass height, this study showed that at the pasture scale sage-grouse nesting success was no greater in rested pastures than in currently or recently grazed pastures. The findings from this research give no indication that removing cattle from pastures affected nesting success.
- Nest density varied among grazing treatments, but there was no compelling evidence of increased nest density once grazing stopped or in ungrazed pastures.
- Brood survival varied by site and year but showed no strong negative effects due to grazing. Climactic conditions, such as low precipitation in 2021, showed greater effects on brood survival than grazing treatments.
- Insects are an important food source for sage-grouse hens and chicks. Of the three sites analyzed to date, two showed slightly more insect biomass and diversity in grazed pastures, while one site had slightly more in rested pastures. Certain insect groups, such as ground and scarab beetles, were more abundant in grazed areas, whereas others, like grasshoppers and crickets, were more common in rested areas. Further analysis of insect samples is ongoing.



Context

Greater sage-grouse populations were once widespread in sagebrush ecosystems across the West, but since the mid 1960s their populations have declined. This decline has been attributed to habitat loss and degradation due to wildfire, invasive annual grasses, development, and improper livestock grazing. Nearly 65 million of the 145 million acres of land on which sage-grouse currently live are managed by the Bureau of Land Management (BLM). Livestock grazing is the main land use within sage-grouse habitat and the effects of livestock grazing on sage-grouse have long been debated. Spring grazing on these lands is critical to hundreds of producers in Idaho and thousands across the West. Therefore, it is imperative to fully understand the relationship between livestock grazing and sage-grouse.

Study Design

This study focused on the influence of spring cattle grazing on sage-grouse demographic traits, including nest success and brood survival, across five study sites in Idaho. These sites included 21 pastures managed by the BLM, totalling more than 72,000 acres. Fieldwork was conducted from 2014 to 2023, during which time over 1,300 grouse were captured and fitted with radio transmitters, 1,285 nests were monitored, and 399 broods were tracked.

Conclusion

The results of this 10-year study show that livestock grazing, in the BLM pastures used in this study, has no detectable effect on sage-grouse nest survival or brood success. The results imply that cattle grazing at levels examined in this study are compatible with sage-grouse nesting and reproduction. This study provides critical insights for land managers balancing livestock production with sage-grouse conservation, supporting adaptive grazing strategies that maintain both economic and ecological objectives.

The Idaho Grouse & Grazing project received support from the Bureau of Land Management, Idaho Dept. of Fish & Game, US Geological Survey Cooperative Fish & Wildlife Research Unit, Idaho Public Land Council, US Fish & Wildlife Service, Idaho Governor's Office of Species Conservation, U.S. Forest Service, UI Rangeland Center, and partnering grazing permittees. This project would not have been possible without the support and collaboration of many important partners.

This summary is based on the following report: Conway, C.J., C.A. Tisdale, K.L. Launchbaugh, B.S. Stevens, G.E. Overlie, S.D. Eigenbrode, P.D. Makela, and S.B. Roberts. 2025. *The Grouse & Grazing Project: Effects of cattle grazing on demographic traits of greater sage-grouse*. Cooperator Science Series doi.org/10.3996/css82003131

This summary was developed by the Rangeland Center. Photos: University of Idaho Visual Productions, Tom Koerner/USFWS. The Rangeland Center is bridging the gap between science and land management by engaging stakeholders to develop solution-based research that has valuable and real world implications for Idaho rangelands.

For more information about this research project regarding cattle grazing and sage-grouse, contact Courtney Conway (cconway@uidaho.edu) or Karen Launchbaugh (range@uidaho.edu).