

Land–Use Conversion

Protecting Rangelands from Land–Use Conversion

Photo: Jeremy Roberts/Conservation Media

Working Lands for Wildlife (WLFW) uses Farm Bill resources like conservation easements to proactively remove the risk of cultivation and new housing developments to maintain the open space, habitat, water quality, and soil health required for ranching and wildlife. While the impacts from constructing homes or other buildings are more localized, habitat destruction is severe and virtually impossible to reverse. Both forms of development can sever big game migration routes and reduce habitat below levels needed to support sage grouse movements.

Conservation easements are one tool provided by the USDA's Natural Resources Conservation Service (NRCS) and partners to help reduce these threats with producers who voluntarily agree to keep working lands undeveloped. Pace and extent of easement acquisition accelerated in the sagebrush biome since WLFW became an NRCS national priority. From 2010–2013, for example, easements increased more than 1,800 percent, providing certainty for current and future generations that sagebrush grazing lands will remain as large and intact watersheds. Since 2013, SGI has published five outcome–

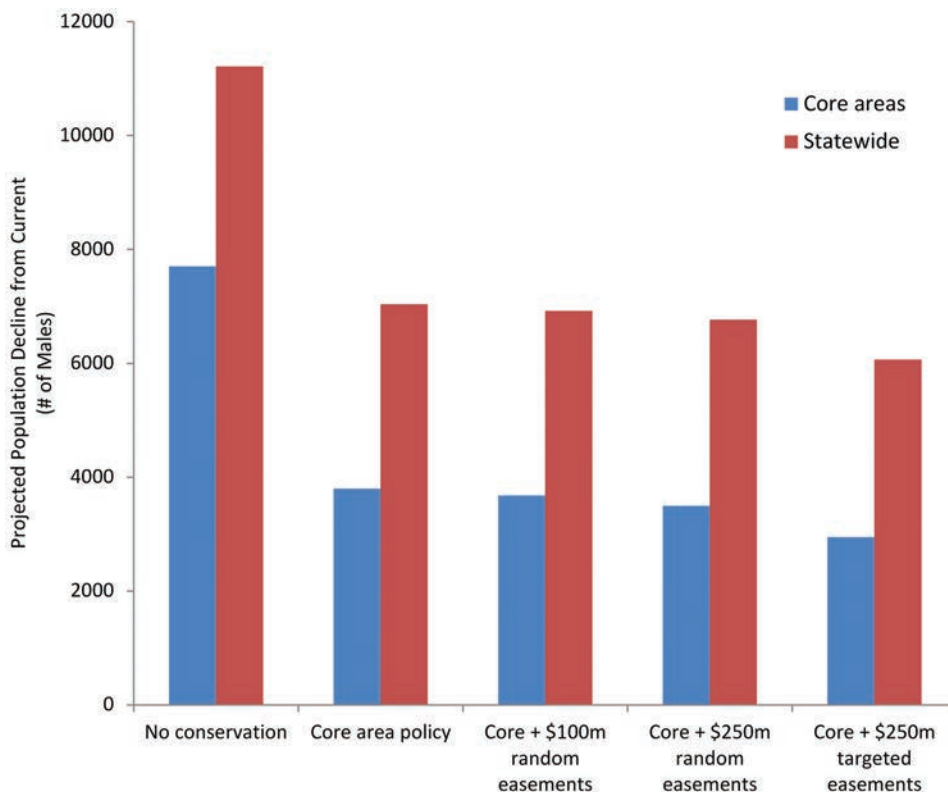
In Brief: WLFW is keeping grazing lands connected with conservation easements before crops and houses creep in, and using science to inform the landscape context of these actions.

based evaluations to help target conservation easements and evaluate their effectiveness in maintaining intact rangelands.

In Wyoming, NRCS and partners place easements to remove the threat of housing developments inside sage grouse strongholds. Easements complement the Wyoming governor’s approach to managing oil and gas development. SGI’s assessment back in 2013 predicted that \$250 million in targeted easements can cut sage grouse losses by roughly half statewide and nearly two-thirds within core areas.¹ To date, NRCS and matching partners in Wyoming have invested \$131 million towards meeting the conservation easement goal and keeping 192,565 acres of intact habitat on working lands. Easements taken for sage grouse also have conserved 75% of priority habitats for two populations of migratory mule deer.²

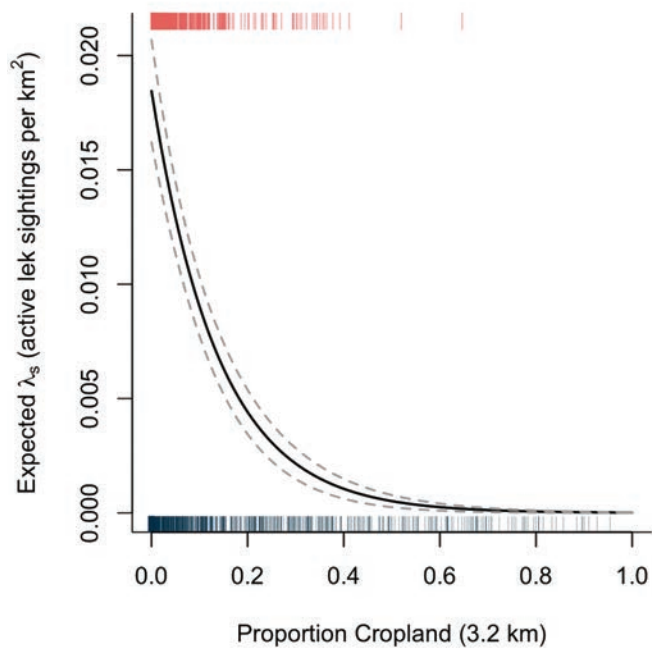
In eastern Montana, the western Dakotas, and northeast Wyoming, 70 percent of sagebrush habitats are privately owned and under the primary threat of cultivation. An NRCS–sponsored assessment published in 2016 found that 96 percent of active leks are surrounded by less than 15 percent cropland and that additional cultivation would decrease the regional populations by five to seven percent.³ The reach of impact is striking—a single square mile of new cropland negatively impacts sage grouse in a landscape 12 times that size. Findings also indicate that optimal placement of a \$100 million easement investment would prevent most losses, and that clumped easements rather than scattered ones yield higher returns on biological investment.³

Fast-forward to 2021, and Montana now leads the nation in using easements to perpetually conserve working rangelands. Over the past



Science-based targeting predicts that targeted easements in Wyoming can cut sage grouse losses by roughly half statewide and nearly two-thirds within core areas (1).

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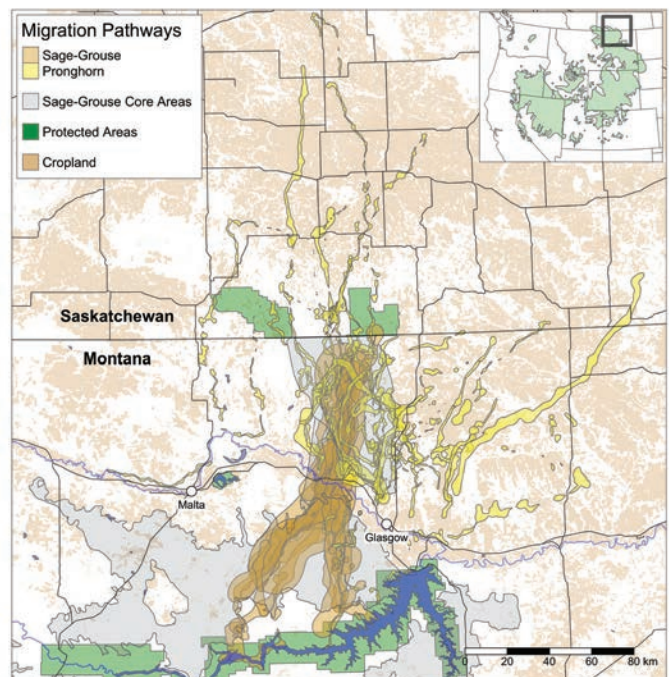
Science showing the rapid decline in sage grouse lek density associated with new cultivation of sagebrush rangelands (3).

decade, NRCS and partners here have invested \$78 million to conserve a quarter-million acres of intact sagebrush grazing lands. To deliver these tools at scale, NRCS and its partners built their easement culture from the ground up, including early dialogue with communities, additional investment in people to complete the complex transactions, and the ingenuity to combine diverse funding sources.

Montana’s effort is conserving—in perpetuity—the largest sage grouse and pronghorn migrations in the West.⁴ Easements were strategically placed within the longest known sage grouse migratory pathway—the birds here travel more than 100 miles each way annually. And these grouse are international travelers, crossing the border where they comprise Canada’s last sage grouse population in Saskatchewan.⁵

The NRCS is adding to the mix a novel approach for retaining grassland that is exiting the Conservation Reserve Program (CRP) by replacing landowners’ lost annual CRP payments with

revenues from livestock grazing. WLFW science showed a doubling of grassland retention when these efforts are targeted to poor-performing croplands.⁶ The likelihood of retaining these grasslands is high because of their proximity to existing rangelands that support a grazing culture. Producers revert to cropping their most productive CRP fields once payments end but are open to keeping in grass their less productive fields (Barnes et al. 2020). Landowners interested in keeping their expired CRP fields in grassland can get the help they need from NRCS to design sustainable grazing systems, such as the installation of water for domestic livestock.



Migratory pathways for sage grouse and pronghorn in the northern Great Plains, Montana, USA, and Saskatchewan, Canada (4).

WLFW-SUPPORTED SCIENCE PUBLICATIONS:

1. Copeland, H.E., A. Pocewicz, D.E. Naugle, T. Griffiths, D. Keinath, J.S. Evans, and J. Platt. 2013. Measuring the effectiveness of conservation: a novel framework to quantify



Photo: Jeremy Roberts/Conservation Media

- the benefits of sage-grouse conservation policy and easements in Wyoming. *PLoS One* 8:e67261.
2. Copeland, H.E., H. Sawyer, K.L. Monteith, D.E. Naugle, A. Pocewicz, N. Graf, and M.J. Kauffman. 2014. Conserving mule deer through the umbrella of sage-grouse. *Ecosphere* 5:art117.
 3. Smith J.T., J.S. Evans, B.H. Martin, S. Baruch-Mordo, J.M. Kiesecker and D.E. Naugle. 2016. Reducing cultivation risk for at-risk species: Predicting outcomes of conservation easements for sage-grouse. *Biological Conservation* 201:10-19.
 4. Tack, J.D., A.F. Jakes, P.F. Jones, J.T. Smith, R.E. Newton, B.H. Martin, M. Hebblewhite, and D.E. Naugle. 2019. Beyond protected areas: Private lands and public policy anchor intact pathways for multi-species wildlife migration. *Biological Conservation* 234:18-27.
 5. Newton, R.E., J.D. Tack, J.C. Carlson, M.R. Matchett, P.J. Fargey, and D.E. Naugle. 2017. Longest sage-grouse migratory behavior sustained by intact pathways. *Journal of Wildlife Management* 81:962-972.
 6. Sullins, D.S., M. Bogaerts, B.H.F. Verheijen, D.E. Naugle, T. Griffiths, and C.A. Hagen. 2021. Increasing durability of voluntary conservation through strategic implementation of the Conservation Reserve Program. *Biological Conservation* 259:109177.
- ADDITIONAL READINGS:**
- Barnes, J.C., M. Sketch, A.R. Gramza, M.G. Sorice, R. Iovanna, A.A. Dayer. 2020. Land use decisions after the Conservation Reserve Program: Re-enrollment, reversion, and persistence in the southern Great Plains. *Conservation Science and Practice* 2:e254.
- Lipsey, M.K., K.E. Doherty, D.E. Naugle, S. Fields, J.S. Evans, S.K. Davis, and N. Koper. 2015. One step ahead of the plow: Using cropland conversion risk to guide Sprague's Pipit conservation in the northern Great Plains. *Biological Conservation* 191:739-749.
- Sawyer, H., F. Lindzey, and D. McWhirter. 2005. Mule deer and pronghorn migration in western Wyoming. *Wildlife Society Bulletin* 33:1266-1273.