



Natural Resources Conservation Service
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MAR 19 2012

Mr. R. Mark Sattelberg
Field Supervisor, Wyoming Field Office
United States Fish and Wildlife Service
5353 Yellowstone Road, Suite 308A
Cheyenne, WY 82009

Dear Mr. Sattelberg:

The Natural Resources Conservation Service (NRCS) remains firmly committed to achieving landscape scale conservation benefitting sage-grouse populations and the sustainable rangelands they depend on throughout the West. In spring of 2010, we introduced the Sage-Grouse Initiative (SGI); a highly targeted and science-based landscape approach to delivering enough of the right conservation practices in the right places to elicit a positive sage-grouse population response to management. This initiative continues to generate broad interest and support from diverse stakeholders and has yielded significant improvements benefitting sage-grouse.

I am pleased to provide you with a combined response across the 11 western states (CA, CO, ID, MT, ND, NV, OR, SD, UT, WA, and WY) outlining SGI accomplishments to date. Contribution highlights cumulative accomplishments since March 2010 for SGI.

Through this Initiative, NRCS is helping to orchestrate a paradigm shift in at-risk species conservation by using voluntary and incentive-based programs to positively influence sage-grouse populations, making an ESA listing unnecessary. We remain committed to furthering this goal as evidenced by our spring 2012 initial allocation for SGI totaling more than \$40 million. Ongoing communication between our agencies ensures that future listing decisions are well informed.

Again, thank you for the opportunity to inform the annual status review and please let us know how we can improve SGI to meet our collective conservation goals.

Please direct SGI program questions to Tim Griffiths, National Sage-Grouse Initiative Coordinator, NRCS, 10 East Babcock Street, Federal Building, Room 443, Bozeman, MT 59715-4704; Tim.Griffiths@mt.usda.gov; Phone 406-587-6812

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Science questions may be directed to David Naugle, SGI Science Advisor and professor, Wildlife Biology Program, University of Montana, 32 Campus Drive FOR309, Missoula, MT 59812; david.naugle@umontana.edu; Phone 406-243-5364

Sincerely,

A handwritten signature in blue ink that reads "Dave White". The signature is written in a cursive style with a large initial "D" and "W".

Dave White
Chief

cc:

Mr. Dan Ashe, Director, U.S. Fish and Wildlife Service

Natural Resources Conservation Service
Contributions to the Annual Status Review for Greater Sage-Grouse

SGI is a highly targeted and science-based landscape approach to delivering enough of the right conservation practices in the right places to elicit a positive sage-grouse population response to management (see Appendix A; 2012 SGI fact sheet). SGI uses dedicated Farm Bill conservation program funds at appropriately large scales to alleviate threats that otherwise fragment habitats (identified as listing Factor A in 2010 finding [U.S. Fish and Wildlife Service 2010]; hereafter ‘Service’).

SGI targets Farm Bill resources to high sage-grouse abundance centers or ‘core areas’ (Doherty et al. 2010) to maintain large and intact habitats rather than provide palliative care to small and declining populations (Doherty et al. 2011). Once viewed as a defeatist approach, conservation triage (Bottrill et al. 2008, 2009) is now heralded as a proactive approach for allocating limited resources to maximize biological returns on conservation investments (Neudecker et al. 2011).

NRCS proactively sought the Service’s council to avoid or minimize potential adverse effects and improve potential effectiveness of conservation practices for sage-grouse. Consultations resulted in the first-ever range-wide Conference Report transmitted by the Service in August 2010 (procedures 50 CFR 402.10). Primary conservation practices implemented include conservation easements to alleviate sod busting and subdivision threats, grazing systems to increase hiding cover for birds, conifer removal to eliminate tall structures from otherwise suitable habitats, and fence marking and removal to reduce collisions near leks. New and independent science reaffirms our SGI approach by recommending the same conservation practices be applied to save the sagebrush ecosystem (Davies et al. 2011).

SGI participants implementing grazing systems, removing conifers, and marking fences enter into legally binding contracts that ensure practices are applied according to schedule and in compliance with NRCS standards and specifications and conservation measures outlined in the Conference Report. The end result is a highly targeted incentive-based approach wherein participating landowners receive financial assistance only after NRCS verifies that conditioned practices have been applied, contract stipulations followed, and objectives met. Most of these SGI contracts are 3-5 years in duration and practice implementation is accelerated with the majority of contracted practices scheduled for implementation in 2012 and 2013. In fact, many SGI participants have already implemented practices benefitting sage-grouse and those accomplishments are listed below as ‘applied practices’.

New in 2011, NRCS expanded conservation practices and programs to include conservation easements to reduce the threat of fragmentation—the overarching reason for the candidate designation. This action exemplifies the new avenues of communication opening us between our agencies as we collectively work to remove fragmenting threats to avoid a listing. The Service correctly wrote in the Conference Report that incorporating working land easements into SGI’s portfolio would complement with permanency the short duration of WHIP and EQIP contracts (Page 43 Item #3 Recommendations section).

SGI retains the services of a science advisor to help guide and direct assessments. SGI’s scientific approach includes outcome-based assessments carried out by reputable, independent scientists to measure the biological response of populations to conservation practices, to assess effectiveness, and to adaptively improve program delivery. Assessments reflect the scales at which sage-grouse populations use habitat resources year-round and transcend that of an individual ranch to encompass multiple and nearby enrolled properties.

The Initiative has proven to be attractive to agricultural producers as a voluntary, incentive based approach to achieving wildlife conservation through sustainable ranching. To date, NRCS has enrolled 462 ranchers encompassing 1.7 million acres, invested over \$115 million, and generated nearly \$60 million in partner match (Appendix B).

Report on SGI accomplishments through 2011

In FY10, NRCS obligated \$18.5 million in financial assistance through Environmental Quality Incentives Program (EQIP) and Wildlife Habitat Incentives Program (WHIP) in 223 contracts to implement SGI conservation practices. In FY 11, NRCS obligated \$92 million in financial assistance through EQIP, WHIP, Wetlands Reserve Program (WRP), Grassland Reserve Program (GRP), and the Farm and Ranchland Protection Program (FRPP) in 239 contracts to implement SGI conservation practices. The following is a summary of practices contracted and applied by threats addressed.

THREAT: Grazing

Improved grazing systems are contracted on 1,800 mi² of large and intact sagebrush grasslands to increase hiding cover for nesting birds.

State	Contracted AC	Applied AC	Total AC
<i>California</i>	21,053	2342	23,395
<i>Colorado</i>	3,893	14,924	18,817
<i>Idaho</i>	118,999	87,171	206,170
<i>Montana</i>	180,948	65,866	246,814
<i>Nevada</i>	2,225	2,346	4,571
<i>North Dakota</i>	1,863	2,350	4,213
<i>Oregon</i>	7,140	1,348	8,488
<i>South Dakota</i>	31,145	96,667	127,812

<i>Utah</i>	36,421	12,041	48,462
<i>Washington</i>	12,382	30,008	42,390
<i>Wyoming</i>	261,462	152,960	414,422
TOTALS	677,531	468,023	1,145,554

Sod busting native rangeland for annual crop production is the number one threat facing sage-grouse in Montana and the Dakotas. So the Nature Conservancy (TNC), under NRCS contract, has completed for SGI a sod busting risk layer that Montana NRCS used to initiate SGI in landscapes where bird abundance and threats were high, but sod busting has not yet occurred (Figure 1).

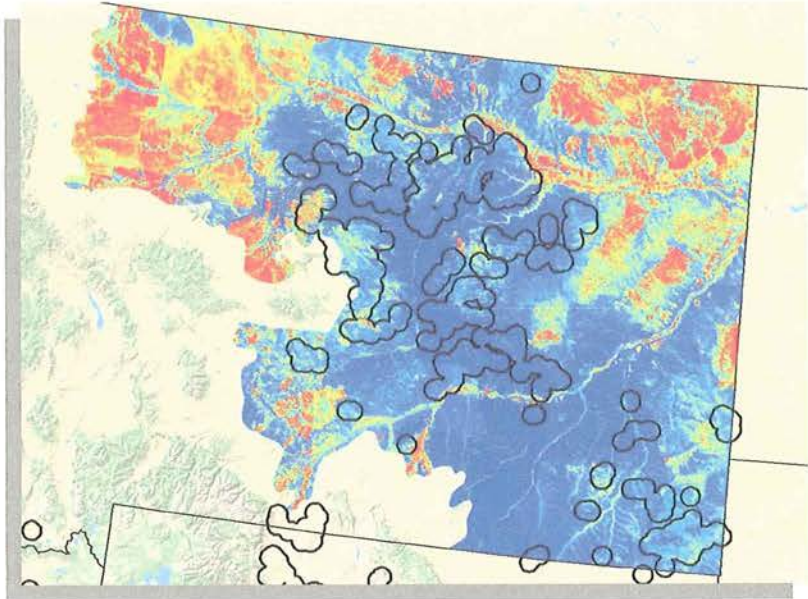


Figure 1. Sod busting risk layer based on biotic and abiotic factors including slope, aspect and soil type. High sod busting risk in red and yellow, low risk in blue. Black polygons delineate core areas.

Sod busting risk has been linked to bird numbers on leks to evaluate SGI grazing benefits for reducing sod busting risk in eastern Montana. We did not focus SGI in the most imperiled leks (red leks; Figure 2) because too much sod busting has taken place there. Instead we focused efforts where threats for conversion were high, but sod busting had not yet occurred (Figure 2).

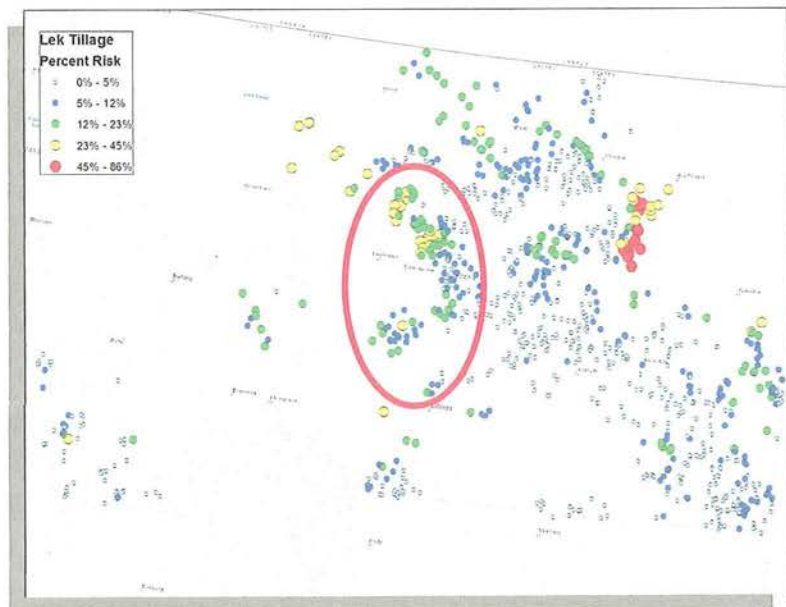


Figure 2. Colored locations denote sod busting risk associated with each lek in eastern Montana. Red Circle identifies where the majority of SGI efforts in Montana are located.

NRCS works with producers in high priority landscapes to create grazing systems that increase hiding cover to positively affect vital rates that drive population growth. Newly published sensitivity analyses indicate that female survival, chick survival and nest success most influence population growth (Taylor et al. 2011). Follow up simulations

suggest that small increases in hiding cover increase nest success by 8-10%, translating to an 8% increase in population growth (Taylor et al. 2010).

SGI sponsored research is underway to assess outcomes of SGI grazing systems on 10 ranches within a 100,000-acre block of intact sagebrush grasslands in central Montana. Montana Fish, Wildlife and Parks in partnership with University of Montana has completed the first year of a 5 year outcome based evaluation that compares female survival, chick survival and nest success in a before-after design with and without SGI grazing systems implemented. In spring of 2011, 101 sage-grouse hens were radio marked with 102 nests subsequently identified and monitored. Unfavorably wet and cold conditions persisted throughout the majority of the nesting season resulting in low overall nest success rates (28%). In year 1, nest success was 35% in SGI managed sites and 12% in control.

THREAT: Infrastructure in Sagebrush Habitats – Fences

Participants agreed to mark or remove 350 miles of ‘high risk’ fence near leks, resulting in an estimated reduction of 1,500 – 1,800 sage-grouse fence collisions.

State	Contracted FT	Applied FT	Total FT
<i>California</i>	383,192	37,309	420,501
<i>Colorado</i>	-	9,676	9,676
<i>Idaho</i>	131,520	178,372	309,892
<i>Montana</i>	144,201	316,653	460,854
<i>Nevada</i>	22,189	59,448	81,637
<i>North Dakota</i>	2,909	-	2,909
<i>Oregon</i>	-	5,280	5,280
<i>South Dakota</i>	-	-	-
<i>Utah</i>	29,510	23,255	52,765
<i>Washington</i>	50,973	87,318	138,291
<i>Wyoming</i>	158,401	242,880	401,281
TOTALS	922,895	960,191	1,883,086

A newly published fence-marking study in Idaho reports a 6-fold decline in collisions along marked (0.93 strikes/mi) versus unmarked fence segments (5.36; Stevens et al. 2010; also see Stevens 2011, Stevens et al. 2011). We estimate that the 350 miles of fence that SGI has either marked or moved may prevent 1,500 - 1,800 fence collisions annually, a number of birds equivalent to twice that of all male sage-grouse counted most recently on leks in Washington, North and South Dakota, and Canada combined (Table 1 in Doherty et al. 2010; # leks multiplied by average count = 783 males x 2 = 1566 males).

Extrapolation.—Marked fences = 5.36 collisions/mi before marking minus remaining impact of 0.93 strikes after marking = 4.43 reduction in strikes per linear fence mi x 350 mi = 1,550. ~1,500 fewer collisions

Moved fences = 5.36 strikes before fence is moved with no residual effects = 5.36 reduction in strikes per linear fence mi x 350 mi = 1,876 or ~1,800 fewer collisions

SGI uses science to adaptively improve our estimates of averted losses and to find innovative ways to improve and scale-up SGI delivery. Ongoing analyses by Bryan Stevens at University of Idaho indicate that landscape factors influencing fence collision rates include lek location, proximity to fence and roughness (e.g., topography). SGI has funded Bryan to apply his model to all leks in 10 of 11 western states to spatially identify where fence-marking can most efficiently avert collisions. A GIS shape file showing priority areas around leks will be made available electronically to partners this summer to avoid marking fences in unnecessary locations.

THREAT: Pinyon-Juniper Encroachment

Participants agreed to remove 115,000 acres of encroaching juniper and other conifer. Most juniper removal is in Phase I and II stages of succession that support healthy sagebrush and herbaceous communities. Removing encroached conifer functionally restores otherwise suitable habitat for 40 to 50 years.

State	Contracted AC	Applied AC	Total AC
<i>California</i>	22,806	5,859	28,665
<i>Colorado</i>	110	445	555
<i>Idaho</i>	4,837	763	5,600
<i>Montana</i>	-	-	-
<i>Nevada</i>	5,858	1,565	7,423
<i>North Dakota</i>	-	-	-
<i>Oregon</i>	21,430	33,196	54,626
<i>South Dakota</i>	-	-	-
<i>Utah</i>	5,839	12,686	18,525
<i>Washington</i>	-	-	-
<i>Wyoming</i>	22		22
TOTALS	60,902	54,514	115,416

Tree removal is widely assumed to benefit sage-grouse but no science documents definitively the biological benefits of tree removal; we anticipate a positive response based on sage-grouse avoidance of encroached conifer (Doherty et al. 2008, 2010b) at low canopy cover (<6%; Freese 2009) in otherwise suitable sagebrush habitats. An unpublished report indicates a doubling of birds on leks 2 and 3 years post-treatment (Commons et al. 1999).

Nature Conservancy scientists, under NRCS contract, have created for SGI, a 6-million acre spatial planning tool in OR, CA and NV (Figure 3) that classifies conifer encroachment into canopy categories to help practitioners target tree removal to maximize biological benefits (Smith et al. 2008). SGI targets Phase I and early Phase II encroachment (< 10% canopy cover) in and around sage-grouse core areas (Figure 4).



Figure 3. Landscapes in OR, CA and NV where TNC mapped 6-million acres of conifer encroachment to target conifer removal.

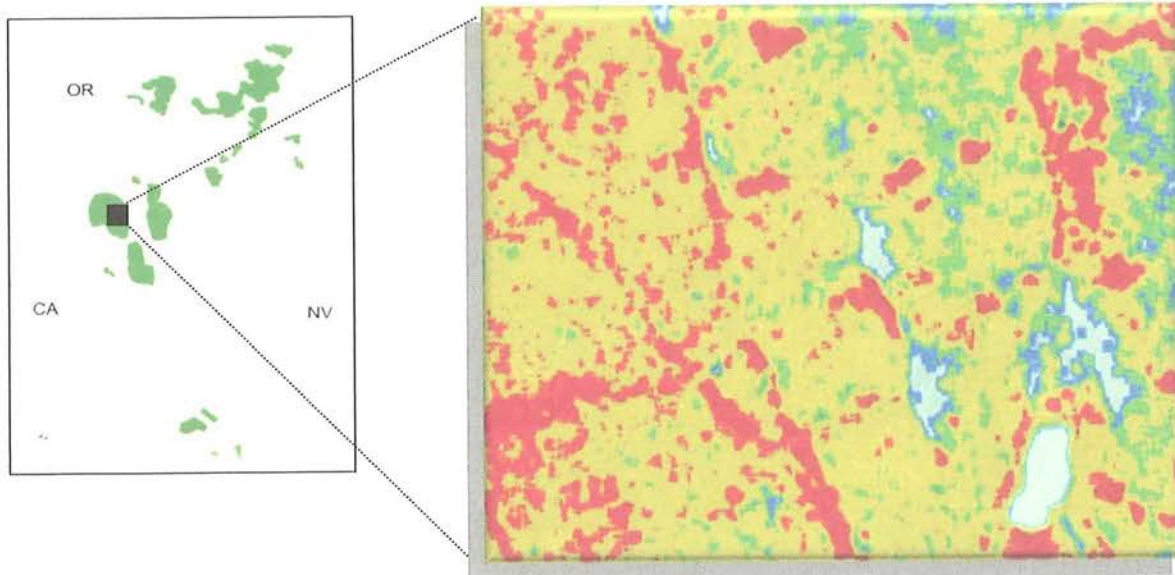


Figure 4. Spatial planning tool showing canopy categories of encroachment: Cyan and blue = <5% canopy, green and yellow = 5 to 25%, and red = >25%.

SGI-sponsored research is underway to rigorously assess whether marked birds recolonize after conifers are removed. The 120,000-ac project area includes the Warner Mountain region of south-central Oregon, a landscape within one of this state's largest remaining core areas. The Environmental Assessment was just approved that now enables BLM to remove ~25,000 acres of encroached conifer on BLM land over the next five years; SGI has enrolled adjacent private landowners to remove another 5,000 acres of post-settlement juniper. Research is conducted in coordination with University of Idaho, Oregon Department of Fish and Wildlife and BLM. Project design includes up to two years of pre-treatment telemetry data on control and treatment areas and three years of post-treatment evaluation to measure population response. The PhD student has just started his second spring field season tracking marked birds to evaluate their response to treatments.

THREAT: Habitat Loss due to Fire or Conversion for Agriculture

Participants agreed to restore over 26,000 acres of burned rangeland and marginal cropland back to rangeland vegetation providing habitat for sage-grouse. Native seeding was used for 90 percent of acres.

State	Contracted AC	Applied AC	Total AC
<i>California</i>	1,010	10	1,020
<i>Colorado</i>	262	3,399	3,661
<i>Idaho</i>	3,286	1,163	4,449
<i>Montana</i>	748	135	883
<i>Nevada</i>	3,343	389	3,732
<i>North Dakota</i>	270	295	565
<i>Oregon</i>	-	-	-
<i>South Dakota</i>	-	-	-
<i>Utah</i>	4,506	7,480	11,986
<i>Washington</i>	-	-	-
<i>Wyoming</i>	29	-	29
TOTALS	13,454	12,871	26,325

No scientific assessments are being conducted here because the maintenance and restoration of sagebrush-dominated grasslands is a universally accepted conservation practice that benefits sage-grouse (e.g., Holloran and Anderson 2005, Doherty et al. 2010).

THREAT: Habitat Degradation – Late Brood-Rearing Habitat Limiting

Participants agreed to improve sage-grouse late brood-rearing habitat on over 6,000 acres of degraded habitat.

State	Contracted AC	Applied AC	Total AC
<i>California</i>	31	35	66
<i>Colorado</i>	4		4
<i>Idaho</i>	370		370
<i>Montana</i>	-		-
<i>Nevada</i>	1662	4221	5883
<i>North Dakota</i>	-		-
<i>Oregon</i>	-		-
<i>South Dakota</i>	-		-
<i>Utah</i>	-		-
<i>Washington</i>	-		-
<i>Wyoming</i>	60		60
TOTALS	2,127	4,256	6,383

In close consultation with State Wildlife Agency local biologists, late brood-rearing habitat was determined to be a limiting factor on some sites where degraded upland and wet meadow conditions resulted in a lack of forbs on the landscape required for successful brood-rearing. Research has found late brood-rearing habitat to be highly spatially restricted and a limiting factor to sage-grouse in some landscapes (Aldridge and

Boyce 2007, Atamian et al. 2010). Science on the biological benefits of brood-rearing habitat restoration projects is lacking. However, if carefully designed and implemented, these projects can increase cover of important forbs and other herbaceous plants and result in increased brood use (Dahlgren et al. 2006).

THREAT: Urbanization or Habitat Conversion for Agriculture

Conservation easements were targeted and secured on 208,000 acres to maintain large and intact working ranches in some of the highest sage-grouse core areas in the West.

State	Contracted AC	Total AC
<i>California</i>	-	-
<i>Colorado</i>	5,017	5,017
<i>Idaho</i>	21,434	21,434
<i>Montana</i>	42,191	42,191
<i>Nevada</i>	3,695	3,695
<i>North Dakota</i>	-	-
<i>Oregon</i>	-	-
<i>South Dakota</i>	-	-
<i>Utah</i>	14,980	14,980
<i>Washington</i>	-	-
<i>Wyoming</i>	120,706	120,706
TOTALS	208,023	208,023

Conservation easements provide a mechanism for keeping large and intact private sagebrush grasslands intact by removing the threat of fragmentation due to sod busting and subdivision. In 2011, NRCS expanded SGI’s portfolio by including easement programs and invested \$70.3 million, which was then matched by partners who added an additional \$44 million. Most funding was invested in Wyoming, Idaho, Montana, Nevada and Colorado—states who collectively hold 87% of the entire sage-grouse population (Doherty et al. 2010a). The following examples summarize how easements were invested in the three largest States.

Wyoming.—Wyoming contains both abundant sage-grouse and domestic energy resources. Wyoming’s Executive Order (EO) has identified ‘Core Population Areas’ where the human impact of energy development will be reduced to one well per section and no more than 5% surface disturbance to maintain sage-grouse populations (Wyoming Governor’s EO 2011). With a comprehensive sage-grouse energy policy in place, SGI and our partners utilize conservation easements to remove in perpetuity the residual fragmentation threat of subdivision in Wyoming’s most important ‘Core Population Areas’. We created planning tools that optimize easement placement to ensure that some of the largest remaining sage-grouse populations persist indefinitely. Most resources are allocated to southwest Wyoming where ~10% of the world’s sage-grouse resides.

Nature Conservancy scientists, under NRCS contract, have created for SGI, a tool to quantify the biological benefits of resulting investments and steer future investments

where biological returns can be maximized. Resulting outputs model the cumulative future fragmentation anticipated across Wyoming as a result of growth in residential and energy development and relate that fragmentation to sage-grouse population impacts under alternative scenarios. Scenarios vary the use of conservation easements and available future funding forecasts. Analysis is now complete and will undergo peer-review for publication summer 2012.

Montana.—North central Montana is home to the longest migrating population of sage-grouse documented and provides a vital international link to the last remaining ‘viable’ population of sage-grouse left in Canada (Tack et al. 2011). Sage-grouse use pristine silver sagebrush habitats found in Saskatchewan’s Grasslands National Park for nesting and rearing their young. They then migrate south 80-100 miles to winter in big sagebrush habitats in Montana. Birds migrate out of short and sparse silver sagebrush and into tall and dense big sagebrush that remains above the snow as a reliable winter food source. In 2011, record snowfall covered up big sagebrush and pushed birds 40 miles further south onto the Charles M. Russell National Wildlife Refuge where they spent the winter. For more information read the recent Refuge Update article at:

http://www.fws.gov/refuges/RefugeUpdate/MayJune_2011/montanarefugesagegrouse.html

SGI targeted conservation easements to ensure the grassland highway that maintains this international connection remains viable. This migration corridor is primarily BLM surface but SGI is putting in easements to halt expanding subdivision and tillage agriculture on intermingled private lands. The Montana easements reduce fragmentation threats on 34% of private lands within this core area, and connect privately-owned sagebrush grasslands with those in federal and state ownership (73% of surface). A newly published genetics study reinforces that SGI easements are indeed a solid investment because the Saskatchewan population remains solidly connected to north central Montana (Bush et al. 2011).

THREAT: Habitat Conversion for Agriculture – Columbia Basin (MZ VI)

Participants agreed to retain 28,000 acres of expiring CRP through SGI preserving important habitat for sage-grouse in Washington State.

SGI targeted funding in Washington to prevent the conversion of the most important 28,000 acres of expiring CRP for three years. USDA’s Farm Service Agency (FSA) and partners then secured CRP-SAFE contracts on an additional 63,000 acres and will provide sage-grouse habitat for 15 years. These collective USDA actions are largely responsible for maintaining the northern population of sage-grouse in Washington.

The Columbia Basin population in central Washington uses CRP for nesting and brood rearing habitat. The importance of habitat provided on CRP lands to increase viability and productivity of Washington’s sage-grouse population is well documented. In fact, over half the sage-grouse nests in Washington are located in shrub/steppe converted from cropland via the CRP (Schroeder and Vander Haegen 2011).

Summary: NV/CA Bi-state DPS and Gunnison populations

Bi-state summary—Nevada NRCS is actively building Farm Bill capacity to benefit sage-grouse as a part of SGI in the bi-state area between CA and NV. USDA initiated these efforts following the 12-mo finding and designation of the bi-state population as a DPS of the greater sage-grouse. As part of NRCS's capacity building effort along with actively promoting SGI, NV has added two shared biologist positions focusing on bi-state Sage-grouse conservation and Farm Bill program delivery. One position is cooperatively funded with FWS and the other with NV Department of Wildlife.

Both NV and CA NRCS have actively partnered with both state and federal agencies to address issues impacting the bi-state population. One key effort is the bi-state action plan to address threats and risks to bi-state population in response to the upcoming September 2013 listing decision. The action plan will be finalized April 2012—it addresses the full range of threats and the steps necessary to alleviate or minimize those threats.

NRCS is using SGI to cooperatively build on efforts by BLM, USFS, and FWS Partners Program on adjoining land to target the core leks along with connective corridors between important brood rearing, summer and winter habitats. Initial interest and SGI participation by bi-state landowners in 2010 was low, but has accelerated in each successive year with the increased outreach and Farm Bill capacity building. NRCS is using SGI to work with landowners in these areas to remove encroaching conifer, restore meadows, develop ranch grazing management plans, and to offer conservation easements to protect critical sage-grouse habitat.

To date:

- Over 800 acres of encroached conifer removed with an additional 3,242 acres planned for treatment in 2012
- 6,378 acres of prescribed grazing planned with an additional 7,555 acres currently being planned for 2012
- 3 miles of fence markers installed with an additional 3.5 miles planned for installation in 2012
- 1,225 acres of meadow restoration planned for 2012

One of the most critical elements consistently identified by USFWS in the 12 month finding and our partnering agencies is the need to protect working ranches providing critical sage-grouse habitat from urban development. NRCS currently has easement applications to protect critical sage-grouse habitat, critical connective corridors between leks, and population management units. NV has 12,532 acres of applications for easement protection and CA has 4,886 acres, along with another 5,120 acres that the landowners want to wait until 2013 or 2014 before applying. A 719 acre FRPP easement was just completed on the CA side of the bi-state area.

Gunnison population summary—Colorado and Utah NRCS have been working to improve habitat for the Gunnison sage-grouse for many years. Projects include habitat

improvements and grazing systems on 2000 acres in the Kezar Basin specifically designed to benefit sage-grouse and two projects in the Pinyon-Mesa population area that removed 230 acres pinyon-juniper, followed with range seeding and prescribed grazing. The SGI has refined our focus and expanded delivery of projects in the area. We currently have 3 SGI contracts that improve habitat on 960 acres of Gunnison habitat including a 405 acre riparian improvement project that improved brood rearing habitat in the Poncha Pass population area and two projects that removed 555 acres of oak and other non-sagebrush followed up with range seeding in the Crawford population area. Additionally, we have greatly increased our technical capacity in the region and currently have 8 biologists (6 in Colorado, 2 in Utah) actively working with landowners to develop conservation plans benefiting Gunnison sage-grouse. SGI projects they are working on for contract this year include:

- Working with partners to coordinate a 14,000 acre project planned for 2012 in the Gunnison population. This project will improve nesting and brood-rearing habitat, promote grass and forb production, and reduce the impacts of livestock while meeting the needs of the landowner. There is potentially a 1,200 acre easement on this project.
- A 3,500 acre single pasture project in the Gunnison population.
- A large scale P-J removal plan for the Cerro Summit/Cimarron GuSG area.
- A project adjacent to the existing Poncha Pass project that will increase the size of the area being managed for sage-grouse.

One of the biggest threats to Gunnison sage-grouse is habitat fragmentation. We currently have easements on 4946 acres of Gunnison habitat in the Gunnison population. In addition to the existing easements, Colorado NRCS has recently met with Colorado Parks and Wildlife, land trusts, and a number of non-government organizations (NGOs) to increase our capacity for placing easements on ranches with sage-grouse habitat.

San Juan County, Utah has 87 active CRP contracts totaling 34331.6 acres of CRP, with most of it benefiting Gunnison sage-grouse. The seed mixes in the general CRP include a strong forb component to encourage insect production while the SAFE acres also included sagebrush in the seed mix, to restore habitat. Additionally, micro catchments, which are small depressions that provide important brood habitat, were added to the menu and have been well received by landowners with 54 micro catchments currently installed. Colorado's Dove Creek Field Office provided sage-grouse beneficial seed mixtures for approximately 4000 acres of regular CRP plantings in the Dove Creek population and for another 4000 acres of CRP- State Acres For Wildlife Enhancement (SAFE) in the past 5 years.

New Science Underway to Delineate Range Wide Sage-grouse Connectivity

A major effort examining gene flow across the range-wide distribution of sage-grouse has been initiated by collaboration among NRCS through SGI, the Western Association of

Fish and Wildlife Agencies, the Bureau of Land Management, USDA Forest Service, and the US Geological Survey. The project, perhaps the largest terrestrial effort ever attempted, is collecting fine-scale genetic data from greater sage-grouse feathers collected at breeding locations (leks) throughout 10 states and 2 Canadian provinces. Findings will provide information on levels of connectivity, characteristics of barriers, including geographic distance, topographic features, and anthropogenic land uses that influence dispersal and genetic exchange. Ultimately, the spatial and temporal dynamics of colonization derived from the study, based on rate of exchange and barriers to dispersal, can inform estimates of population viability relative to population isolation and risk of extirpation. NRCS will use findings from this project to further refine SGI delivery ensuring critical movement and dispersal corridors remain functional.

SGI Strategic Watershed Action Team (SWAT)

NRCS has recently increased technical assistance to accelerate Initiative delivery and success by combining NRCS resources with the Intermountain West Joint Venture and those of 35 conservation partners. This \$10.6 million effort has enabled partners to hire 24 new range conservationists and biologists, strategically located in key SGI landscapes where technical assistance was limiting SGI implementation (Figure 5).



Figure 5. Locations identified on map represent locations of SWAT partner positions.

Leading conservation experts delivered a week long training session to orientate the 24 new recruits in partner positions. Training the NRCS and partner workforce on sage-grouse needs, threats, and conservation options remains a top priority.

Literature Cited

- Aldridge, C. L., and M. S. Boyce. 2007. Linking occurrence and fitness to persistence: habitat-based approach for endangered greater sage-grouse. *Ecological Applications* 17:508-526.
- Atamian, M. T., J. S. Sedinger, J. S. Heaton, and E. J. Blomberg. 2010. Landscape-level assessment of brood rearing habitat for greater sage-grouse in Nevada. *Journal of Wildlife Management* 74:1533-1543.
- Bottrill, M.C., L.N. Joseph, J. Carwardine, M. Bode, C. Cook, E.T. Game, H. Grantham, S. Kark, S. Linke, E. McDonald-Madden, R.L. Pressey, S. Walker, K.A. Wilson, and H.P. Possingham. 2008. Is conservation triage just smart decision making? *Trends in Ecology and Evolution* 23:649-654.
- Bottrill, M.C., L.N. Joseph, J. Carwardine, M. Bode, C. Cook, E.T. Game, H. Grantham, S. Kark, S. Linke, E. McDonald-Madden, R.L. Pressey, S. Walker, K.A. Wilson, and H.P. Possingham. 2009. Finite conservation funds mean triage is unavoidable. *Trends in Ecology and Evolution* 24:183-184.
- Bush, K.L., C.K. Dyte, B.J. Moynahan, C.L. Aldridge, H.S. Sauls, A.M. Battazzo, B.L. Walker, K.E. Doherty, J. Tack, J. Carlson, D. Eslinger, J. Nicholson, M.S. Boyce, D.E. Naugle, C.A. Paszkowski, and D.W. Coltman. 2011. Population structure and genetic diversity of greater sage-grouse (*Centrocercus urophasianus*) in fragmented landscapes at the northern edge of their range. *Conservation Genetics* 12:527-542.
- Commons, M.L. 1999. Sage grouse response to pinyon-juniper management. Proceedings: Ecology and management of pinyon-juniper communities within the Interior West. U.S. Department of Agriculture, Forest Service Proceedings RMRS-P-9, Ogden, UT.
- Dahlgren, D.K., R. Chi, and T.A. Messmer. 2006. Greater sage-grouse response to sagebrush management in Utah. *Wildlife Society Bulletin* 34:975-985.
- Davies, K.W., C.S. Boyd, J. L. Beck, J. D. Bates, T. J. Svejcar, and M. A. Gregg. 2011. Saving the sagebrush sea: An ecosystem conservation plan for big sagebrush plant communities. *Biological Conservation* 144:2573-2584.
- Doherty, K.E., D.E. Naugle, B.L. Walker, and J.M. Graham. 2008. Greater sage-grouse winter habitat selection and energy development. *Journal of Wildlife Management* 72:187-195.
- Doherty, K.E., J.D. Tack, J.S. Evans, and D.E. Naugle. 2010a. Mapping breeding densities of greater sage-grouse: A tool for range-wide conservation planning.

Completion Report under Inter Agency Agreement #L10PG00911. Bureau of Land Management, Washington, D.C.

- Doherty, K.E., D.E. Naugle, and B.L. Walker. 2010b. Greater sage-grouse nesting habitat: The importance of managing at multiple scales. *Journal of Wildlife Management* 74:1544-1553.
- Doherty, K.E., D.E. Naugle, H. Copeland, A. Pocerwicz, and J. Kiesecker. 2011. Energy development and conservation tradeoffs: Systematic planning for greater sage-grouse in their eastern range. In S.T. Knick and J.W. Connelly (editors). *Greater sage-grouse: Ecology and conservation of a landscape species and its habitats. Studies in Avian Biology Series (volume 38)*, University of California Press, Berkeley, CA.
- Freese, M. T. 2009. Linking greater sage-grouse habitat use and suitability across spatiotemporal scales in central Oregon. Unpublished M.S. Thesis, Oregon State University, Corvallis, OR.
- Holloran, M.J., and S.H. Anderson. 2005. Spatial distribution of greater sage-grouse nests in relatively contiguous sagebrush habitats. *Condor* 107:742-752.
- Neudecker, G.A., A.L. Duvall, and J.W. Stutzman. 2011. Community-based landscape conservation: A roadmap for the future. D.E. Naugle (editor). *Energy development and wildlife conservation in western North America*. Island Press, Washington, D.C.
- Schroeder, M. A. and W. M. Vander Haegen. 2011. Response of greater sage-grouse to the Conservation Reserve Program in Washington State. Pages 517-529 *In* S.T. Knick and J.W. Connelly (editors). *Greater sage-grouse: Ecology and conservation of a landscape species and its habitats. Studies in Avian Biology Series (volume 38)*, University of California Press, Berkeley, CA.
- Smith, A.M.S., E.K. Strand, C.M. Steele, D.B. Hann, S.R. Garrity, M.J. Falkowski, and J.S. Evans. 2008. Production of vegetation spatial-structure maps by per-object analysis of juniper encroachment in multi-temporal aerial photographs. *Canadian Journal of Remote Sensing* 34:268-285.
- Stevens, B.S., K.P. Reese, and J.W. Connelly. 2010. Impacts of fences on greater sage-grouse in Idaho: Collision, mitigation, and spatial ecology. 2010 thesis research progress report, University of Idaho, Moscow, ID.
- Stevens, B.S. 2011. Impacts of fences on greater sage-grouse in Idaho: Collision, mitigation, and spatial ecology. Thesis. University of Idaho, Moscow, ID.

- Stevens, B.S., K.P. Reese, and J.W. Connelly. 2011. Survival and detectability bias of avian fence collision surveys in sagebrush steppe. *Journal of Wildlife Management* 75:437-449.
- Tack, J.D., D.E. Naugle, J.C. Carlson, and P.J. Fargey. 2011. Greater sage-grouse *Centrocercus urophasianus* migration links the USA and Canada: a biological basis for international prairie conservation. *Oryx In Press*. Electronic firstview at: <http://journals.cambridge.org/download.php?file=%2FORX%2FS003060531000147Xa.pdf&code=37ec429414557c060efbe7a12d05dd39>
- Taylor, R.L., D.E. Naugle, and L.S. Mills. 2010. Viability analyses for conservation of sage-grouse populations: Miles City Field Office, Montana. Unpublished completion report, Bureau of Land Management, Number G09AC00013, Miles City, MT.
- Taylor, R.L., D.L. Walker, D.E. Naugle, and L.S. Mills. 2011. Managing multiple vital rates to maximize greater sage-grouse population growth. *Journal of Wildlife Management* 76:336-347.
- U.S. Fish and Wildlife Service. 2010. 12-month findings for petitions to list the greater sage-grouse (*Centrocercus urophasianus*) as threatened or endangered. *Federal Register* (March 23) 75:13910-14014.
- Wyoming Office of the Governor. 2011. State of Wyoming Executive Department Executive Order EO-2011-5 Greater sage-grouse core area protection. Cheyenne, WY.



Background/Purpose

In 2010, the United States Department of Agriculture (USDA) launched a new and exciting effort to sustain working ranches and conserve Greater sage-grouse populations in the West. The Natural Resources Conservation Service (NRCS) is using popular voluntary conservation programs to assist producers in 11 western states (California, Colorado, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, Utah, Washington and Wyoming) to simultaneously improve habitat for sage-grouse, and productivity of native rangelands.

Sage-grouse, a ground-dwelling bird native to the sagebrush steppe ecosystem of the American West, is highly dependent on sagebrush for food and cover. These birds have experienced a significant decline in population over several decades. About 40 percent of sage-grouse habitat that supports populations occurs on privately owned lands. The link with private lands makes NRCS uniquely positioned to focus agency resources to benefit sage-grouse, improve ranch sustainability and maintain livestock grazing as the prevailing land use.

Goals/Objectives

Healthy, working ranchlands are key to conserving this species. Partnering with ranchers and using win-win conservation solutions that benefit grazing lands and sage-grouse habitat, SGI seeks to proactively conserve the species and keep populations healthy enough to avoid an ESA listing.

NRCS uses scientific evaluations carried out by independent scientists to provide the feedback necessary to adaptively manage SGI, thus maximizing its biological return on conservation investments.

Conservation Funding/ Practices

NRCS and its conservation partners in the West have worked to improve sage-grouse habitat for some time. NRCS built on these efforts by declaring the Sage-Grouse Initiative a national priority in 2010.

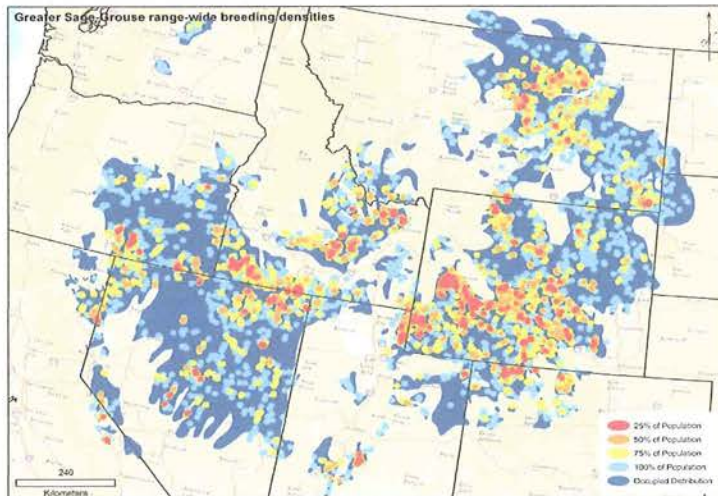
NRCS provides financial and technical assistance to implement the Initiative and targets its efforts within high sage-grouse abundance centers to maintain large and intact grazing lands, resulting in landscape-wide improvements across the species' range. Conservation actions include establishing conservation easements to prevent working ranches from being converted into subdivisions; implementing sustainable grazing systems to improve hiding cover for birds; removing invasive conifers from grasslands to allow birds to recolonize otherwise suitable habitat; and marking or moving "high-risk" fences near breeding sites to reduce bird collisions.

Participation/ Partnerships

Partnerships are critical to our success. Ranchers in 11 western states (California, Colorado, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, Utah, Washington and Wyoming) are participating in SGI to conserve this at-risk species.

Close collaboration with many stakeholders, including state, local and federal agencies, Tribes, and non-government organizations, ensures that NRCS activities complement efforts already underway. SGI fosters coordination and implementation on a landscape-wide scale while ensuring local input and actions.

Map depicts sage-grouse population centers or "core areas" across the species range. Warmer colors indicate larger populations and are additive with red areas containing 25 percent of nesting birds, red combined with orange is 50 percent of birds.



Benefits to Producers

What's Good for the Rancher is Good for the Grouse

By addressing threats common to sage-grouse and sustainable rangelands, ranchers can improve the productivity of their grazing resources with assurances that their actions are viewed as beneficial for the Sage-grouse under the ESA. Healthy sage-grouse habitats also benefit other wildlife species. If an eventual ESA listing takes place, participating ranchers know they can continue implementing their SGI conservation plans without increased restrictions or regulations.

Benefits to Resources and the Public

SGI is a win-win solution for ranchers and for the grouse. Healthy rangelands that include habitat for sage-grouse and other wildlife will help ensure the viability of western ranching and preserve a rural way of life in the West.

For more information, go to www.nrcs.usda.gov and search "SGI," or contact your local NRCS office.



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FISCAL YEAR 2011 – SAGE GROUSE INITIATIVE (SGI)

NRCS – Financial Assistance (FA) and Active and Completed Contracts/Agreements												
SGI	Environmental Quality Incentives Program (EQIP)		Wildlife Habitat Incentive Program (WHIP)		Farm and Ranchland Protection Program (FRPP)		Grassland Reserve Program (GRP) - Includes easements and rental contracts		Wetlands Reserve Program (WRP)		State Totals for All Programs for Initiative	
	Total Number Contracts	FA Contract Dollars	Total Number Contracts	FA Contract Dollars	Total Number Contracts	FA Contract Dollars	Total Number Contracts	FA Contract Dollars	Total Number Contracts	FA Contract Dollars	Total Number Contracts	FA Contract Dollars
California	19	4,946,064	6	990,815	0	0	0	0	0	0	25	5,936,879
Colorado	1	91,821	2	104,812	2	2,886,250	2	700,000	0	0	7	3,782,883
Idaho	26	1,698,196	5	109,313	0	0	13	9,503,450	0	0	44	11,310,959
Montana	9	1,917,875	1	5,100	2	3,500,000	0	0	0	0	12	5,422,975
Nevada	7	986,989	4	473,516	0	0	1	618,170	3	3,196,215	15	5,274,890
North Dakota	11	507,833	0	0	0	0	0	0	0	0	11	507,833
Oregon	21	2,748,134	11	699,725	0	0	0	0	0	0	32	3,447,859
South Dakota	5	646,713	2	110,751	0	0	0	0	0	0	7	757,464
Utah	7	1,030,477	3	288,609	0	0	5	1,426,595	0	0	15	2,745,681
Washington	5	224,940	0	0	0	0	0	0	0	0	5	224,940
Wyoming	16	3,917,340	4	375,453	36	38,000,000	10	10,430,313	0	0	66	52,723,106
TOTALS	127	18,716,382	38	3,158,094	40	44,386,250	31	22,678,528	3	3,196,215	239	92,135,469

a) Source: Unless stated otherwise, the EQIP data was queried from NRCS ProTracts 10/21/11 with 12/24/11 file update.

b) Source: Unless stated otherwise, the WHIP data was queried from NRCS ProTracts 10/21/11 with 12/24/11 file update.

c) Source: Easement programs (FRPP, GRP and WRP) data – State Office spreadsheets, 10/19/11

FISCAL YEAR 2010 – SAGE GROUSE INITIATIVE (SGI)

NRCs – Financial Assistance (FA) and Active and Completed Contracts/Agreements												
SGI	Environmental Quality Incentives Program (EQIP)		Wildlife Habitat Incentive Program (WHIP)		Farm and Ranchland Protection Program (FRPP)		Grassland Reserve Program (GRP) - Includes easements and rental contracts		Wetlands Reserve Program (WRP)		State Totals for All Programs for Initiative	
	Total Number Contracts	FA Contract Dollars	Total Number Contracts	FA Contract Dollars	Total Number Contracts	FA Contract Dollars	Total Number Contracts	FA Contract Dollars	Total Number Contracts	FA Contract Dollars	Total Number Contracts	FA Contract Dollars
California	11	1,787,245	10	1,497,739	0	0	0	0	0	0	21	5,936,879
Colorado	6	687,279	3	81,617	0	0	0	0	0	0	9	3,732,883
Idaho	20	1,089,991	1	64,629	0	0	0	0	0	0	21	11,310,959
Montana	7	2,275,679	3	622,399	0	0	0	0	0	0	10	5,422,975
Nevada	0	0	5	575,577	0	0	0	0	0	0	5	5,274,890
North Dakota	18	499,858	1	32,984	0	0	0	0	0	0	19	507,833
Oregon	13	1,472,466	7	611,417	0	0	0	0	0	0	20	3,447,859
South Dakota	4	557,042	0	0	0	0	0	0	0	0	4	757,464
Utah	13	1,061,093	1	20,179	0	0	0	0	0	0	14	2,745,681
Washington	74	2,507,912	3	44,674	0	0	0	0	0	0	77	224,940
Wyoming	20	2,725,336	3	264,990	0	0	0	0	0	0	23	52,723,106
TOTALS	186	14,663,901	38	3,816,205	0	0	0	0	3	3,196,215	223	18,480,106

Note: The FY 2010 tabular summary for the Sage Grouse Initiative does not reflect contracts developed in Nevada. Six EQIP contracts were developed for a total obligation of \$1,136,303 but were not properly coded in Protracts. In addition, Oregon used EQIP to fund 8 EQIP contracts (\$451,107) to benefit Sage Grouse.