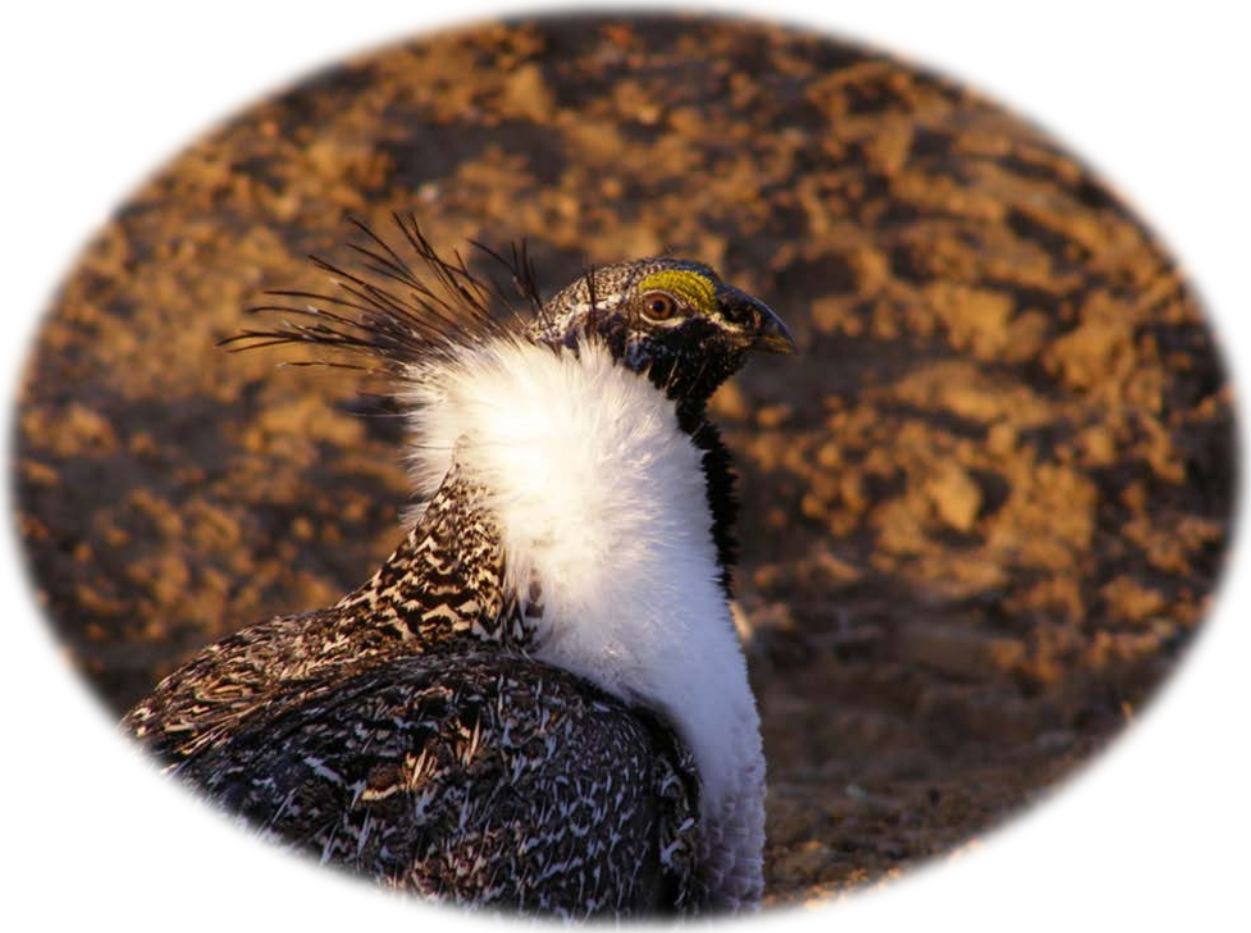
South Central Sage-Grouse Conservation Plan Addendum



February 16, 2014

PREPARED BY:
The South Central Sage-Grouse Local Working Group

Table of Contents

Table of Contents. Page 1

Current South Central Local Working Group Members. Page 2

Background. Page 3

Core Area Strategy. Page 3

Revisions to Bureau of Land Management Resource Management Plans and US Forest Service Land Resource Management Plans. Page 8

Natural Resource Conservation Service - Sage-Grouse Initiative. Page 8

National Conservation Objectives Team (COT) Report 2013. Page 9

2015 U.S. Fish and Wildlife Listing Review. Page 11

Sage-Grouse Trends in the South Central Local Working Group Area. Page 11

Oil and Natural Gas Energy Development in the South Central Local Working Group Area. Page 13

Wind Energy Development in the South Central Local Working Group Area. Page 15

Conservation Project Implementation. Page 16

Future Direction for Sage-Grouse Conservation efforts by the South Central Local Working Group. Page 21

Public Outreach for the Addendum Page 22

Literature Cited. Page 22

Wyoming Governor's Executive Order 2011-5. (Attachment A)

Bureau of Land Management Wyoming Instructional Memorandum (IM) 2012-019. (Attachment B)

Oil and Gas Development - Synthesis of Research Results. (Attachment C)

Current South Central Local Working Group Members

Roger Cox	Chair
Jack Berger	Agriculture
Frank Blomquist	Bureau of Land Management
Gene Carrico	At-Large
Tom Clayson	Industry
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Glen Leavengood	Conservation Districts
Garrett Pantle	Natural Resources Conservation Service, Sage-Grouse Initiative
Barbara Parsons	Conservation
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Randy Phipps	Industry
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Mark Shirley	Natural Resources Conservation Service
Ken Stebner	At-Large

Background

The Wyoming Sage-grouse Management Plan was finalized in 2003. After which, the state's eight, newly created local working groups developed their own respective conservation plans to outline localized strategies for sage-grouse conservation. The South Central Sage-Grouse Conservation Plan was finalized in March 2007. Since that time, a significant amount of information has been gathered through research and subsequent conservation strategies have been developed. This addendum updates the South Central Sage-Grouse Conservation Plan with a status report on the habitat and research projects which have been supported by the South Central Local Working Group (SCLWG), as well as updating the plan with recent information and strategies to guide the group's future sage-grouse conservation efforts.

Core Area Strategy

In July 2007 Wyoming Governor Freudenthal convened a sage-grouse summit and created an implementation team to develop a conservation strategy to manage sage-grouse to prevent listing under the Endangered Species Act and retain State authority in management decisions. The Wyoming Core Population Area strategy was developed by the Wyoming Governor's Sage-grouse Implementation Team. The strategy identified the most important sage-grouse habitat in Wyoming using a lek density map which showed areas of the state which supported the highest densities of breeding activity from 2005 thru 2007 (Figure 1).

The initial mapping effort identified areas of "core" habitat which supported 80% of the state's breeding sage-grouse on about 34% of the current sage-grouse range. This area amounted to approximately 15 million acres or about 24% of the state's overall surface. In South Central Wyoming, concessions were made to account for areas that were already developed or approved for energy development, most notably in the Atlantic Rim area. Potential wind energy developments were not considered during the initial Core Area mapping effort.

The Governor issued an Executive Order 2008-2 in August 2008 outlining the Wyoming Core Area strategy with 21 recommendations that conserve Wyoming's most important sage-grouse habitats while allowing for natural resource development outside Core Areas. The core habitat polygons, which encompassed 80% of the state's breeding populations, became known as the actual Core Areas (Figure 2).

Following the March 2010 listing decision of "warranted, but precluded" by the U.S. Fish and Wildlife Service (FWS), Governor Freudenthal asked the Sage-grouse Implementation Team to revisit Wyoming's sage-grouse management strategy. The group's three tasks were to review Core Area boundaries, review development guidelines inside and outside core habitats, and identify connectivity areas to ensure movement corridors between populations to preserve

genetic integrity. At the request of the Sage-grouse Implementation Team, the eight local working groups held meetings to review Core Area boundaries and recommend adjustments based on existing and planned development and unsuitable habitat.

Figure 1. Sage-grouse core breeding areas from lek observations, 2005 - 2007, Wyoming.

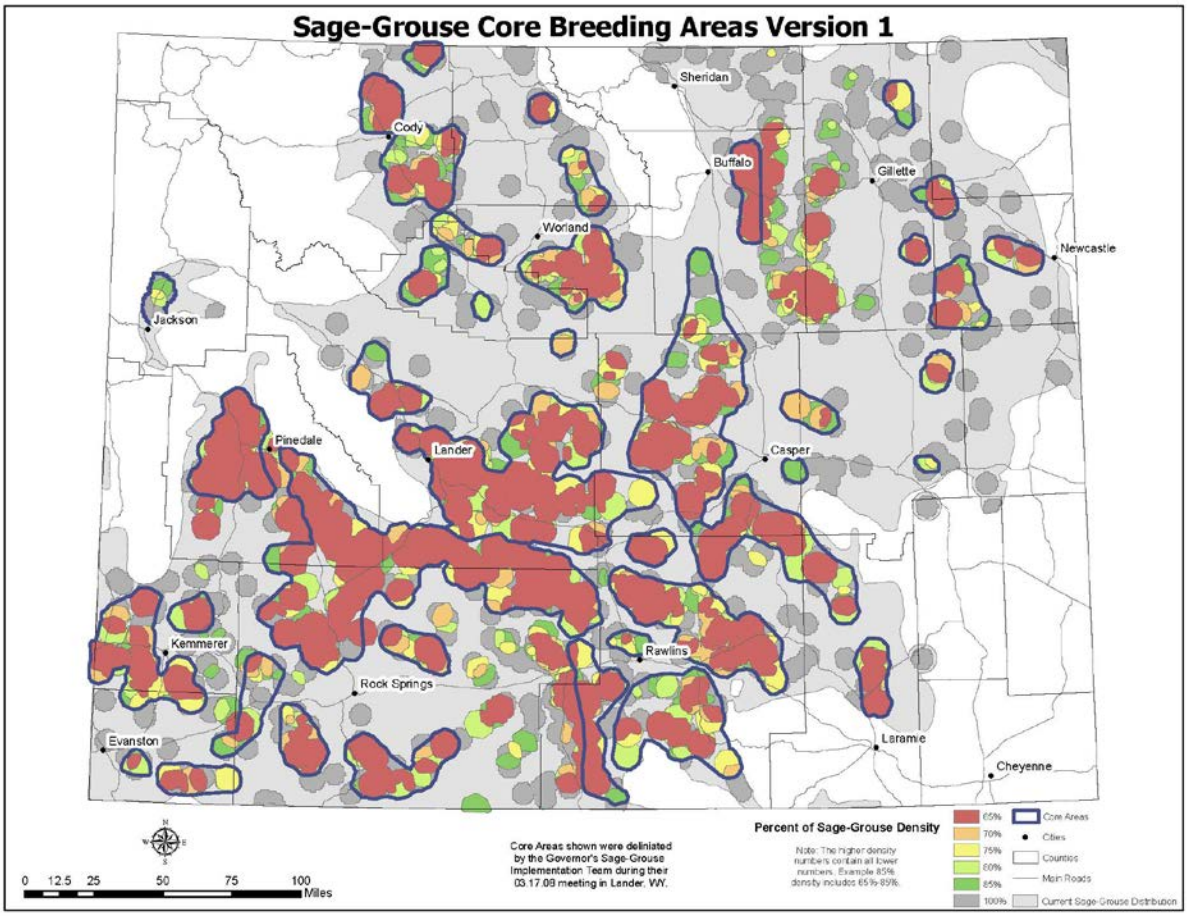
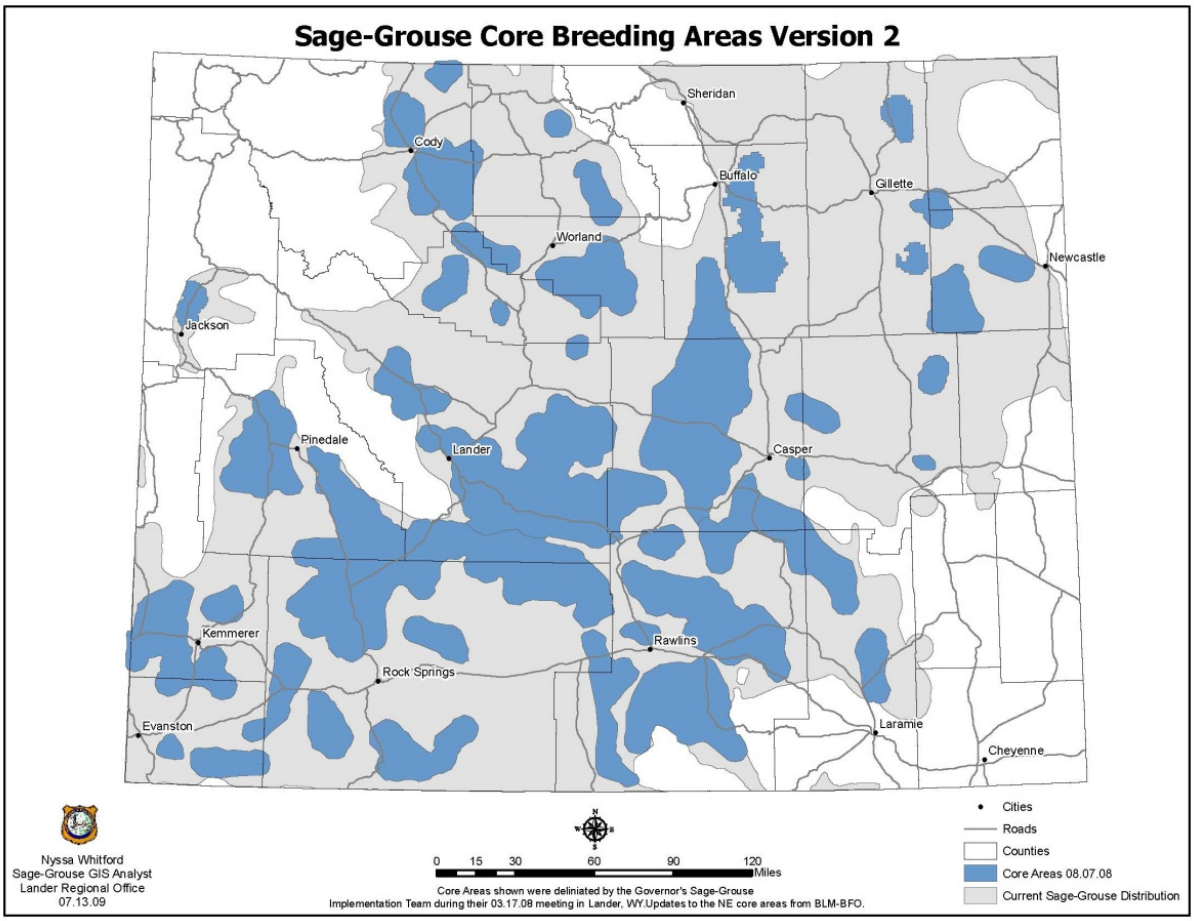
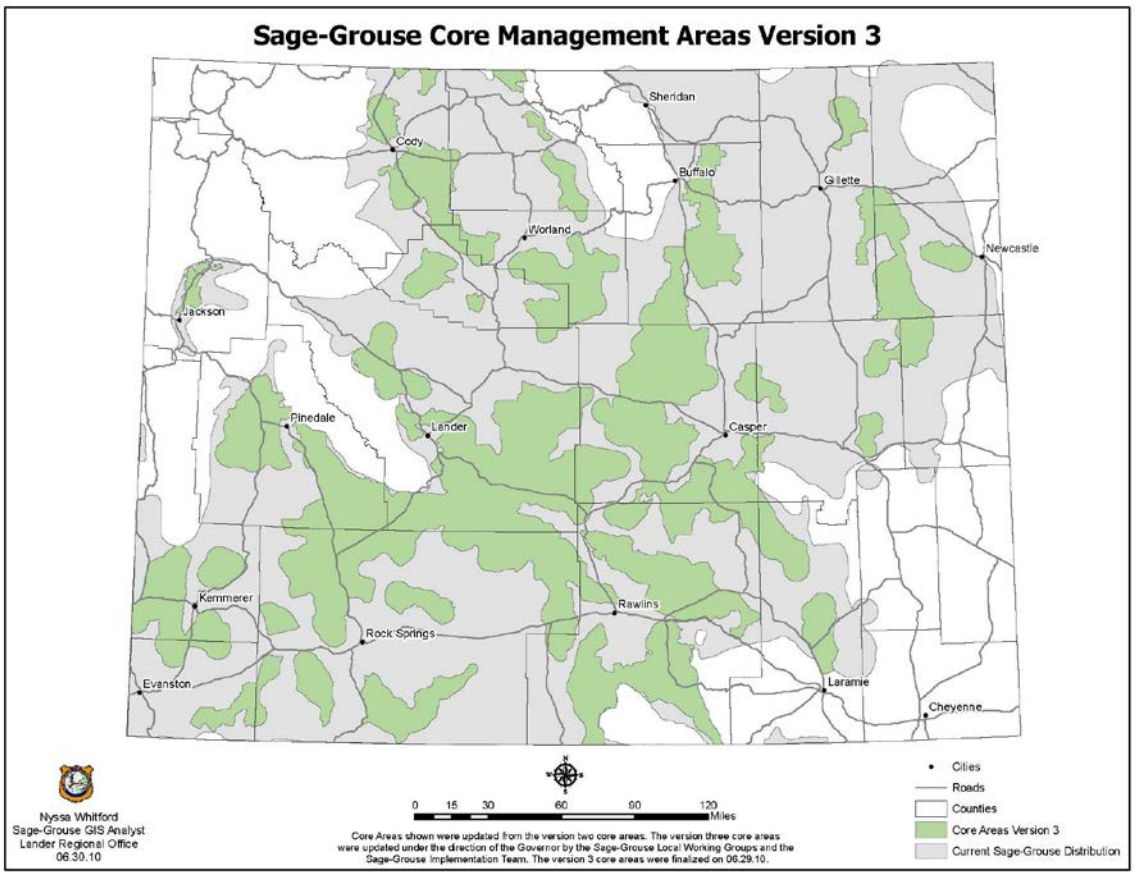


Figure 2. Sage-grouse Core Areas identified by the Governor's Executive Order 2008-2, August 2008, Wyoming.



The SCLWG provided recommendations to the Sage-Grouse Implementation Team on Core Area boundary revisions in the spring of 2010. Core Area boundaries were revised to remove previously included areas which did not contain suitable habitat. Proposed wind energy developments were considered with respect to impacts to sage-grouse and their habitat. A notable revision was the removal of the Chokecherry and Sierra Madre areas south of Rawlins where a large wind energy project had been proposed. Additionally, Core Area boundaries were revised in several other locations, such as in the upper North Platte River valley, where previously undesignated suitable habitat was added to the Core Area. This resulted in a third version of the Core Area map being created. (Figure 3).

Figure 3. Sage-grouse Core Areas Version 3, 2010, Wyoming.

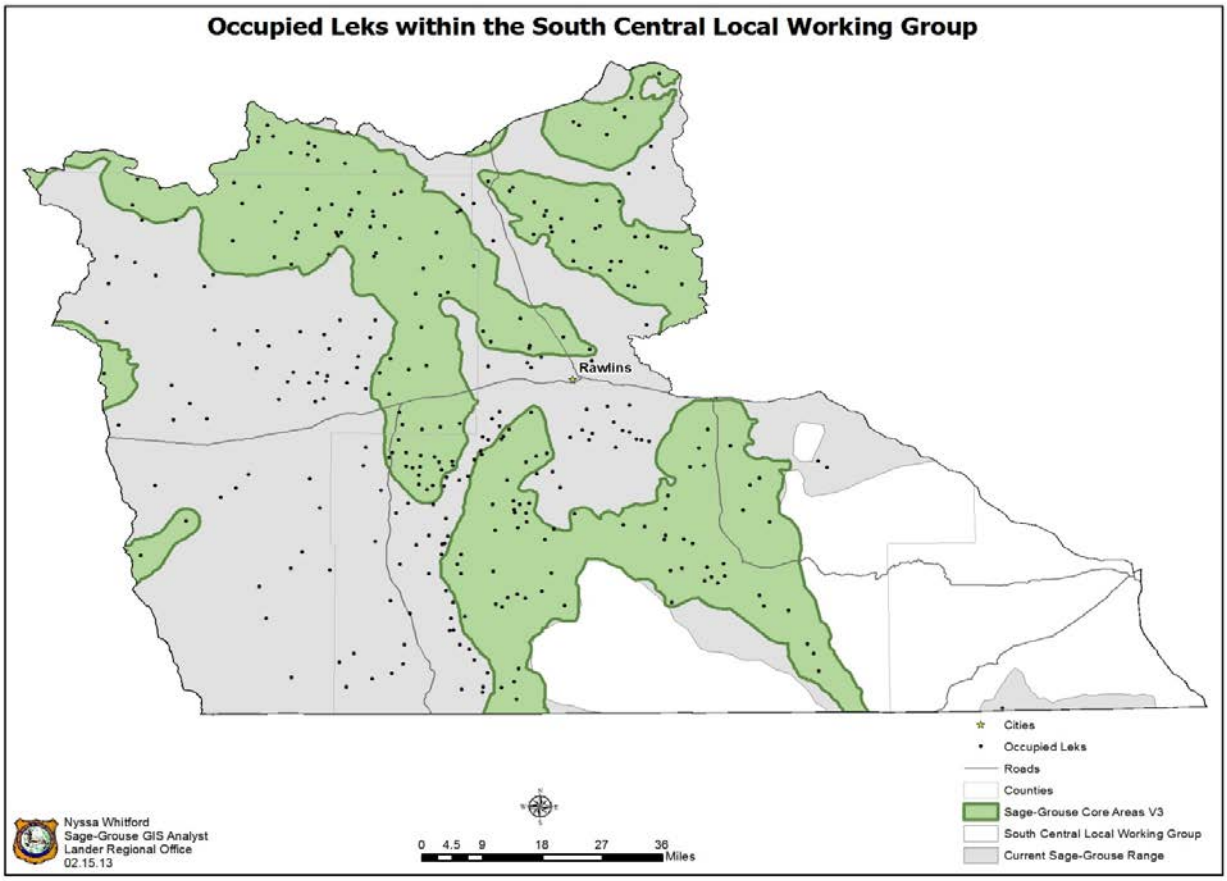


Following revisions, Governor Freudenthal signed Executive Order 2010-4 which updated Wyoming's Core area Strategy as the framework to guide Wyoming sage-grouse management. Subsequent to the 2010 election, Governor Mead signed Executive Order 2011-5 (Attachment A) reiterating and clarifying Wyoming Core Area Strategy. In June 2011 the FWS wrote in a letter to Governor Mead, "In summary, the Service believes the greater Sage-grouse Core Area Protection provides an excellent model for meaningful conservation of sage-grouse if fully supported and implemented. We believe that when fully realized, this effort could ameliorate many threats to the Greater sage-grouse in Wyoming."

Version 3 of the sage-grouse Core Area is the version which is currently used in association with the Governor's Executive Order 2011-5. Version 3 supported 83% of the state's breeding sage-grouse, based on 2007-2009 lek attendance, and comprised about 35% of the current sage-grouse range in Wyoming.

A map of SCLWG area and its Core Areas is displayed in Figure 4. The SCLWG Core Areas supported approximately 13% of Wyoming's sage-grouse, based on 2007-2009 lek attendance, in approximately 15% of the state's Core Area, and 5% of the state's current sage-grouse range.

Figure 4. Sage-Grouse Core areas, version 3, within the South Central Local Working Group area, Wyoming.



Revisions to Bureau of Land Management Resource Management Plans and US Forest Service Land Resource Management Plans

The Bureau of Land Management (BLM) has adopted Wyoming's Core Area Strategy through BLM Wyoming Instructional Memorandum (IM) 2012-019 (Attachment B) for all Wyoming's Field Offices. The BLM and the US Forest Service (FS) are preparing amendments with associated Environmental Impact Statements for BLM Resource Management Plans and FS Land Resource Management Plan (LRMP) for field offices within the range of the Greater Sage-grouse. This effort responds to the recent "warranted, but precluded" Endangered Species Act. Approximately 51% of sagebrush habitat is on BLM-administered land; the FS has management authority for 8% of sagebrush habitat. Changes in management of sage-grouse habitats are necessary to avoid the continued decline of populations that are anticipated across the species' range. These plan amendments will focus on areas affected by threats to sage-grouse habitat identified by the FWS in the March 2010 listing decision. Because the BLM and FS administer a large portion of sage-grouse habitat within the affected states, changes in BLM and FS management of sage-grouse habitats are anticipated to have a beneficial impact on existing sage-grouse populations and could reduce the need to list the species as threatened or endangered under the Endangered Species Act.

The purpose for the RMP/LRMP amendments is to identify and incorporate appropriate "regulatory mechanisms" in RMPs and LRMPs to conserve, enhance and/or restore Greater Sage-grouse habitats in order to support Greater Sage-grouse population management objectives. Inadequacy of regulatory mechanisms was identified as a significant threat in the FWS finding on the petition to list the Greater Sage-grouse. The FWS identified the principal regulatory mechanisms for the BLM and the FS as conservation measures embedded in RMPs and LRMPs, respectively. There is a need for RMP/LRMP amendments because comprehensive and consistent conservation measures would have beneficial impacts on existing sage-grouse populations and habitat. The decisions to be made are: Whether and how to amend the nine existing RMPs/LRMPs to address management and conservation of sage-grouse habitat.

Natural Resource Conservation Service Sage-Grouse Initiative

The Sage Grouse Initiative (SGI) is a highly targeted and science-based landscape approach to recover sage grouse and other wildlife by helping ranchers improve and conserve their lands in eleven western states. The Natural Resources Conservation Service (NRCS) launched SGI in 2010 for the purpose of keeping the sage grouse off the endangered species list. SGI uses partnerships to leverage dollars for on-the-ground conservation. SGI is implemented via the Farm Bill and is focused on improving grazing systems, removing encroaching conifers, and

adding conservation easements across hundreds of thousands of acres. The goal is to shore up the best private land habitat for sage grouse by helping landowners make improvements so their livelihoods will be healthy, too.

In 2010, the FWS and NRCS completed a Conference Report on the sage-grouse. This report gives assurances to landowners that implement conservation practices to restore and enhance sage-grouse habitat will be in compliance with the Endangered Species Act. NRCS is working with landowners to ensure that contributions to sage-grouse conservation will be considered in the 2015 listing review, with the hope of reducing the need to list the bird altogether. For more information please visit:
http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/?&cid=stelprdb1047022

At the time of this publication NRCS and private land owners have entered 111,014 acres into grazing improvement contracts in Carbon County alone, with at least another 36,250 acres being positively affected. These contracts offer a deferred grazing system that is designed to increase nesting cover and success for the birds while maintaining a productive livestock operation. On these contracted acres, fences within 0.6 of a mile from lek must be marked to avoid fence collisions. Approximately 13 miles of fence have been marked at this time.

National Conservation Objectives Team (COT) Report 2013

In December 2011, Wyoming Governor Matt Mead and Secretary of the Interior Ken Salazar co-hosted a meeting to address coordinated conservation of the Greater sage-grouse (sage-grouse) across its range. Ten states within the range of the sage-grouse were represented, as were the FS, NRCS, BLM, and FWS. The primary outcome of the meeting was the creation of a Sage-Grouse Task Force (Task Force) chaired by Governors Mead (WY) and Hickenlooper (CO) and the Director of the BLM. The Task Force was directed to develop recommendations on how to best move forward with a coordinated, multi-state, range-wide effort to conserve the sage-grouse, including the identification of conservation objectives to ensure the long-term viability of the species. Recognizing that state wildlife agencies have management expertise and retain management authority for this species, the FWS created a Conservation Objectives Team (COT) of state and FWS representatives to accomplish this task. Each member was selected by his or her state or agency. Bob Budd was the Wyoming representative to the COT. The purpose of the COT was to develop conservation objectives by defining the degree to which the threats need to be reduced or ameliorated to conserve the sage-grouse so that it is no longer in danger of extinction or likely to become in danger of extinction.

In summary, the report prepared by the COT (U.S. Fish and Wildlife Service 2013) listed energy development, infrastructure, improper livestock and/or improper wildlife grazing and recreation as broad scale threats to sage-grouse in the Wyoming portions of the Wyoming Basin Management Zone with localized threats being sagebrush elimination, fire, conifer encroachment, weeds/annual grasses, mining, feral/wild horses, and urbanization. The report estimated a 10.7% probability of the subpopulation of breeding birds declining below 500 by 2107. This figure is the second lowest probability of a decline to this level for any population/sub-population across the range of greater sage-grouse. The South Central Conservation Area lies within this unit and this Conservation Plan as updated in 2013, and the Wyoming Core Area Strategy (described below) has implemented management actions and projects designed to address the issues (Table 1.).

The General Conservation Objectives identified by the COT are:

1. Stop population declines and habitat loss.
2. Implement targeted habitat management and restoration.
3. Develop and implement state and federal sage-grouse conservation strategies and associated incentive-based conservation actions and regulatory mechanisms.
4. Develop and implement proactive, voluntary conservation actions.
5. Develop and implement monitoring plans to track the success of state and federal conservation strategies and voluntary conservation actions.
6. Prioritize, fund and implement research to address existing uncertainties.

Additionally the report identified many Specific Conservation Objectives relative to identifying "Priority Areas for Conservation" (synonymous with Wyoming "Core Areas") as well as threat reduction objectives and conservation measures to accomplish those reductions. The SCLWG has sought to make this conservation plan revision consistent with these general and specific objectives. The SCLWG encourages users of this plan and the Wyoming Core Area Strategy also review and use the COT Report.

2015 U.S. Fish and Wildlife Listing Review

On 5 March 2010 the FWS announced its 12-month findings on a petition to list the greater sage-grouse (sage-grouse) as threatened or endangered under the Endangered Species Act (ESA). The Service found that the sage-grouse is warranted, but precluded by higher priority listing actions. The Service identified two threats which contribute to the vulnerability of healthy and sustainable sage-grouse populations; 1) the present or threatened destruction, modification, or curtailment of the habitat or range and 2) the inadequacy of existing regulatory mechanisms. The warranted, but precluded finding resulted in the sage-grouse becoming a "candidate" species

for listing which requires the Service to conduct an annual status review. Candidate listings receive no protections under the ESA.

In February 2012 a federal court judge rejected a challenge from environmental groups to force the FWS to list the sage-grouse as threatened or endangered. However, another federal court settlement requires the FWS to review the candidate status of 251 species including the sage-grouse to determine if the sage-grouse warrants full protection from the Endangered Species Act or should be removed from the candidate list. The deadline for the decision on the sage-grouse is the end of fiscal year 2015.

At the state scale; local, state and federal resource agencies are working to develop conservation strategies including Candidate Conservation Agreements with Assurances (CCAA), Candidate Conservation Agreements (CCA), and Memoranda of Agreement (MOA) for Wyoming ranch operations. These agreements provide a mechanism for conserving sage-grouse through proactive conservation measures that reduce the potential for additional regulatory requirements that result if or when the species is listed as threatened or endangered.

Current FWS information is available at:
http://www.fws.gov/mountain-prairie/species/birds/sagegrouse/.

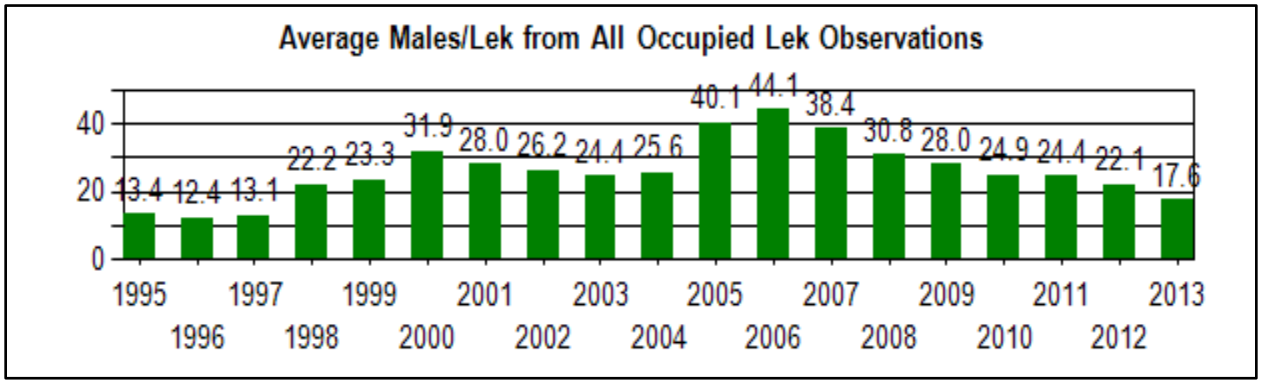
Sage-Grouse Trends in the South Central Local Working Group Area

The SCLWG area encompasses a total 10,908 square miles, of which 8,666 square miles are delineated as current sage-grouse range, with 3,587 square miles of the current sage-grouse range being delineated as Core Area. The SCLWG Core Areas supported approximately 13% of Wyoming's sage-grouse, based on 2007-2009 lek attendance, in approximately 5% of the state's sage-grouse range, and 15% of the state's Core Area.

The number of males per active lek continues to be the most reliable indicator of sage-grouse abundance, not only in the SCLWG area of Wyoming but across the range for this species. Since the SCLWG Plan was completed in 2007, sage-grouse lek attendance has declined in the SCLWG area (Figure 5). The last peak occurred in 2006 with an average of 44.1 males per lek, which was the highest average observed since the early 1970s. The SCLWG area's average peak lek attendance tends to fall near the mid-range for averages when compared to the other local working group areas in Wyoming; averaging 17.6 males per active lek in 2013 compared to the statewide average of 16.8 males per active lek (Figure 6). The current trend in sage-grouse lek

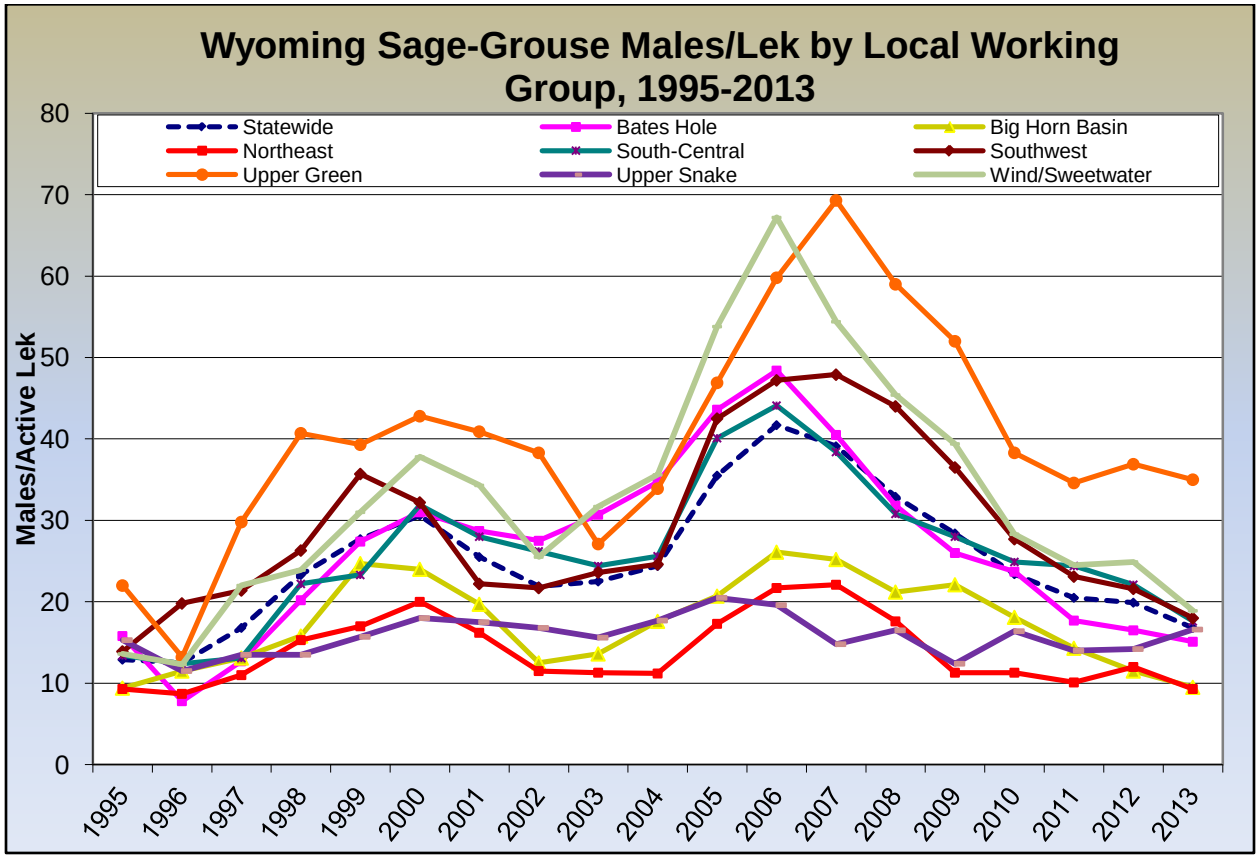
attendance is likely a combination of the cyclic nature of sage-grouse populations, combined with exacerbating influences from weather conditions, and in some localized locations, development.

Figure 5. South Central Local Working Group area male sage-grouse lek attendance, 1995-2013, Wyoming.



In 2013, there were 331 occupied leks in the SCLWG area, of which 198 (60%) were located in Core Area. Although the trend in sage-grouse numbers has declined statewide and in the SCLWG area, the SCLWG now supports a greater proportion (16%) of Wyoming's sage-grouse, based on 2011-2013 lek attendance, than was present during the 2007-2009 (13%), This increased proportion is due to more substantial declines having occurred in Wyoming's other working group areas during the past four years.

Figure 6. Peak male sage-grouse lek attendance by local working group, 1995-2013, Wyoming.



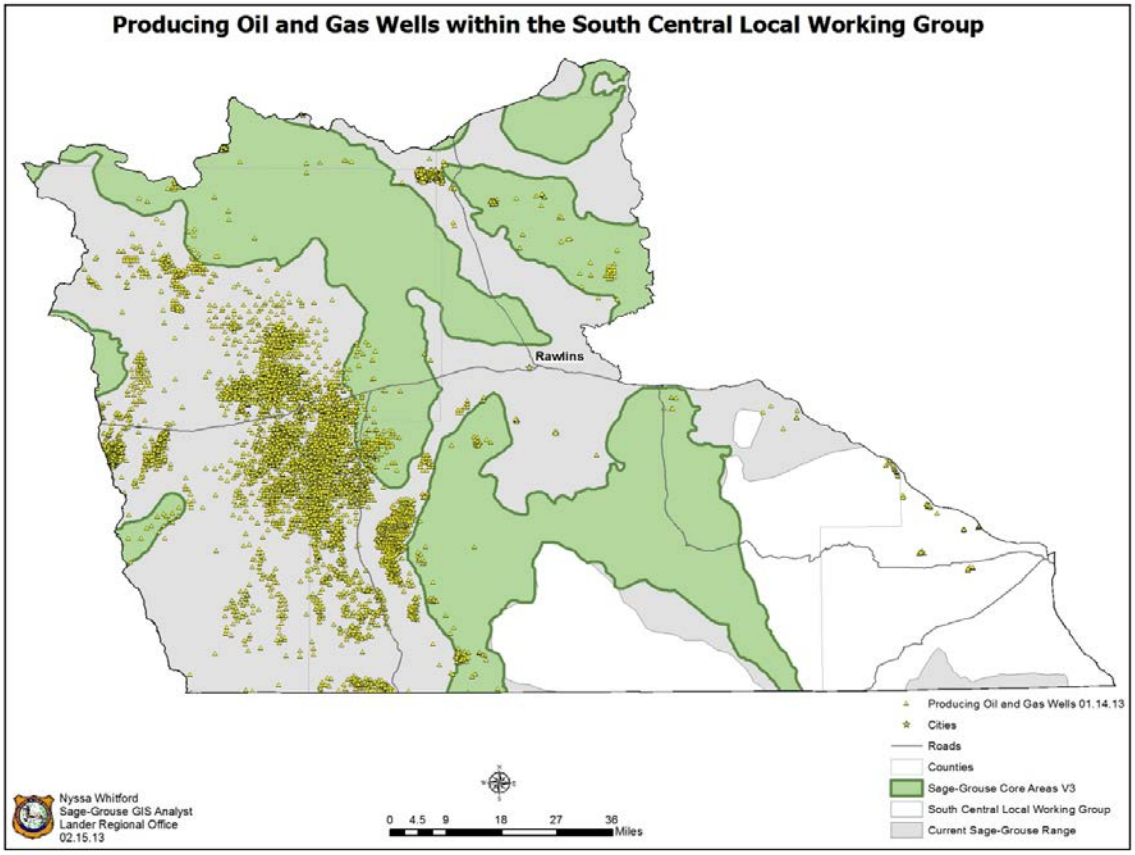
Oil and Natural Gas Energy Development in the South Central Local Working Group Area

The SCLWG area contains fluid mineral resources in the form of both oil and natural gas reserves. Most oil and natural gas wells currently in production are located in the northern and western portions of the SCLWG area (Figure 7). Attachment C. contains a synthesis of research results related to oil and natural gas development and their impacts to sage-grouse populations.

Oil field developments have been part of the landscape in the SCLWG area for almost one-hundred years. The SCLWG area's largest oil field developments are currently located in the Ferris Mountain and Bairoil areas to the north of Rawlins. Although natural gas production in the SCLWG area has occurred historically, large natural gas fields, with high well densities (i.e. greater than one well per square mile), is a relatively new development which began approximately 10-15 years ago. Natural gas developments requiring high well densities are a concern due to habitat fragmentation and the potential for reductions in sage-grouse habitat functionality. The largest concentrations of natural gas wells are located in the western portion of the SCLWG area, in the Continental Divide/Creston and Atlantic Rim fields.

Oil and natural gas development has changed dramatically since the South Central Conservation Plan was originally completed in 2007. Innovative technologies have lessened impacts that oil and natural gas development has on the environment. Those technologies are primarily associated with new drilling and well completion technology made possible through the use of horizontal drilling. One advantage of horizontal drilling and improvement in drilling technology has been the ability to generally utilize only one well per section of land. Another is that multiple wells can also be drilled from one location thereby allowing for much less surface disturbance to occur and activity to be concentrated at fewer locations.

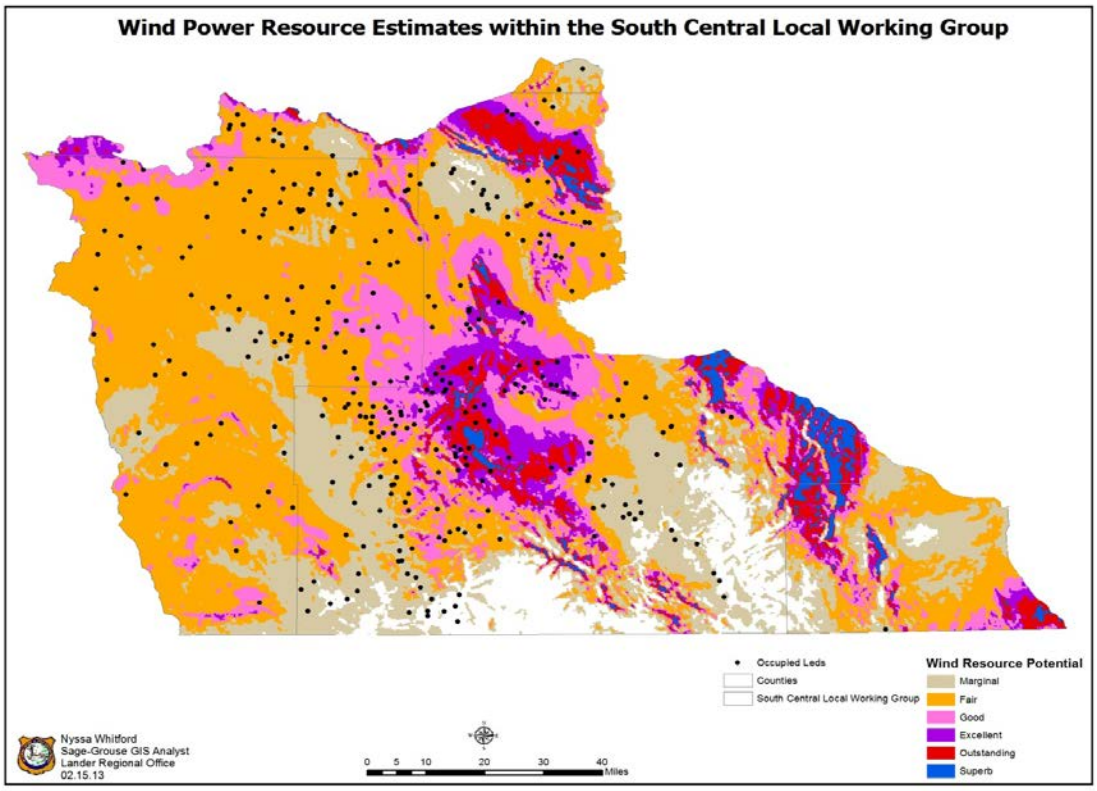
Figure 7. Sage-Grouse Core Area and oil and gas wells within the South Central Local Working Group area, Wyoming.



Wind Energy Development in the South Central Local Working Group Area

South central Wyoming has a significant wind energy resource (Figure 8). Wyoming's first wind farm was the Foot Creek Rim project constructed in 1998, near Arlington. With recent interest in alternative and renewable energy development, Wyoming has received national attention from energy companies and energy entrepreneurs looking to develop the wind energy resource. Many of the areas which hold high potential for wind energy development also contain important sage-grouse habitat. The effects of wind energy development on sage-grouse have yet to be determined. Currently, there are two research projects in Wyoming investigating the effects of wind energy development on sage-grouse. Similar research on other grouse species indicated habitat loss, noise, and turbine movement may potentially limit sage-grouse (Pruett 2009). The original and subsequent Wyoming Governor's Executive Orders pertaining to Core Area Strategy recommend wind energy development be sited outside sage-grouse Core Areas. To date, several wind energy projects have been proposed in the SCLWG area but no commercial wind energy developments have yet to be constructed. The proposed Chokecherry/Sierra Madre project near Rawlins may involve as many as 1,000 wind turbines being constructed. As of late 2013, this project was in the BLM scoping phase of the National Environmental Policy Act process.

Figure 8. South Central Local Working Group area wind energy potential (National Renewal Energy Lab, USDE, 2007), Wyoming.



Conservation Project Implementation

In 2005, Governor Freudenthal requested a supplemental budget appropriation of $500,000 from the Wyoming State Legislature to be used to fund administration of the eight local sage-grouse working groups and conservation projects endorsed by them. The legislature approved this request. A $425,000 portion of the $500,000 appropriation was to be used for conservation projects which were approved by local working groups such as the SCLWG.

In 2006, the State of Wyoming's General Fund budget included a $1.1 million appropriation for sage-grouse conservation. This included about $135,000 for the administrative costs of local working group functions and mapping, in addition to $1million for implementation of local conservation plan projects. This funding level continued annually until the 2013 when the amount was reduced by approximately 8% as part of a reduction in all state operating budgets. Conservation actions supported by the SCLWG since 2007 are listed in Table 1. These projects directly addressed goals, objectives, or actions identified in the 2007 South Central Sage-Grouse Conservation Plan. The specific goals, objectives, or actions from the 2007 South Central Sage-Grouse Conservation Plan are referenced by number in the first column of Table 1.

Table 1. Conservation actions supported by the South Central Local Working Group, 2007-2013, Wyoming.

Goal/ Objective/ Action	Project	Status	Who	Funding (partial or total)
1.1.a	Summarize existing sage-grouse data for evaluation in SCCA	On-going	WGFD	
1.1.b	Append annual sage-grouse monitoring data into database and evaluate	On-going	WGFD	
1.2.a	Monitor sage-grouse populations each year using lek counts	On-going	WGFD, BLM, volunteers	
1.3.a	Develop monitoring plan in SCCA and produce yearly report http://gf.state.wy.us/web2011/WILDLIFE-1000496.aspx	Completed 2008	WGFD	
1.3 a	Impacts of wind energy development on sage-grouse in southeast Wyoming EVALUATION OF GREATER SAGE-GROUSE REPRODUCTIVE HABITAT AND RESPONSE TO WIND ENERGY DEVELOPMENT IN SOUTH-CENTRAL, WYOMING Chad W. LeBeau. 2012. MS Thesis. University of Wyoming. Laramie, Wyoming.	Completed 2012	SCLWG, BH/SBLWG, National Wind Coordination Collaborative, Western Assoc. of Fish & Wildlife Agencies	$85,000

Goal/ Objective/ Action	Project	Status	Who	Funding (partial or total)
1.3.a	Phase I Atlantic Rim Sage-grouse tracking study. This multi-year project will radio collar and track up to 100 sage- grouse in the Atlantic Rim Natural Gas development area to identify seasonal habitat use and baseline data. Phase I will cover data collection to be used in Phase II. MICROHABITAT SELECTION FOR NESTING AND BROOD-REARING BY THE GREATER SAGE-GROUSE IN XERIC BIG SAGEBRUSH Christopher P. Kirol1, Jeffrey L. Beck, Jonathan B. Dinkins, and Michael R. Conover	Completed 2012	Anadarko Petroleum Corporation, Warren Resources, Double Eagle, BLM, WGFD, LWG, LSRCD	$56,590.00 $36,895.70 $20,000.00
1.3.b	Coordinate and conduct lek surveys in areas where threats have been identified and prioritized	On-going	WGFD, BLM, Energy Industry, volunteers	
1.3.c	Stratton sagebrush ecology research area: Assessing the effects of grazing treatments on sagebrush vegetation and wildlife communities across prescribed burns and habitat controls. HERBACEOUS AND AVIFAUNA RESPONSES TO PRESCRIBED FIRE AND GRAZING TIMING IN A HIGH-ELEVATION SAGEBRUSH ECOSYSTEM Heidi Jo Erickson. 2011. MS Thesis. Colorado State University. Fort Collins, CO	Completed 2011	CSU/USGS, BLM, permittees, LWG	$57,000 $58,300
1.3.c	Identify research needs and opportunities in SCCA	On-going	WGFD, BLM, SCLWG	
1.4.a	Use statewide database to store all SCCA lek data	Completed 2012	WGFD	
1.5.a	Map sage-grouse lek perimeters	Ongoing	WGFD, BLM	
1.5.b	Map winter concentration areas	Ongoing	WGFD, BLM, USGS	
2.1.a	Identify issues, threats, opportunities in SCCA	Completed 2005	SCLWG	
2.2.a	Identify prioritize areas of activity and control areas by producing maps (in Conservation Assessment section)	Ongoing	SCLWG, WGEO 2011-5, BLM (IM) 2012-019	
2.2.a	Map sage-grouse habitat in SCCA http://gf.state.wy.us/web2011/wildlife-1000817.aspx	Completed	BLM, WGFD, Industry, other resource users	
3.1.a	Carbon County Reseeding- Forb seed is planted in right-of- way areas within the county, by Road and Bridge employees as a part of reclamation in construction areas. Project areas reclaimed are in suitable sage-grouse habitat throughout the SCCA.	Completed 2006,	Carbon County Road & Bridge, landowners, LWG	
3.3.a	Collect, propagate, and use native forb seed adapted to low precipitation areas that may be favored by sage-grouse to restore disturbed lands in the SCCA.	Started 2006, Ongoing	SCLWG, BLM, WGFD, NRCS, Industry, LSRCD, other resource users	

Goal/ Objective/ Action	Project	Status	Who	Funding (partial or total)
3.4.a	16-Mile Project: Project Description: This project contains several smaller projects located throughout the Atlantic Rim/16-mile area, and consists of the development and protection of naturally occurring waters, while continuing to provide existing water sources outside of the riparian areas for livestock (and within for selected wildlife species). - Upper Jeps Spring Development- 2 springs, 2 tanks, and 2 enclosures. - Separation Drainage Spring Development - 3 springs, 3 tanks, and 3 enclosures. - Separation Peak Spring Development Project- 4 springs, 4 tanks, and 4 enclosures. - Dolittle Spring Development- 1 spring, 1 tank, and 1 pipeline. - Tank Battery Project- 1 spring, 1 tank, and 1 enclosure - Jeps Range Fence (4.5 miles - Hadsel Draw Fence (8 miles) - 7-Mile-Lake fence (1.5 miles)	Completed 2006	SCLWG, Blake Sheep Co., BLM, WGFD, Cowboy 3- Shot, RMEF, Anadarko, SERCD	$7,310.00 $19,996.85 $10,000
3.4.a	Found Spring Improvement Project - Project Description: The project included the development of off-site upland watering for livestock and wildlife, in coordination with the already protected spring site. A head-box or spring-box in the Found Spring site and a buried pipeline will be used to fill a tire tank located 2000 feet off-site. The excess water from the tire trough would be returned to the drainage of origin via an overflow pipe in the tire trough. The plumbing in the spring development would allow the tire trough to flow water only when livestock use is being made within the allotment to reduce pressure in existing riparian areas.	Completed 2006,	BLM, Miller Est. Cattle Co, SERCD	
3.4.a	Wildhorse Draw Spring Improvement Project - Project Description: The project included the development of off-site upland watering for livestock and wildlife and the protection of the existing spring site within the Buck pasture of the Seminoe grazing allotment. Developing the spring would provide off-site water using a head-box or spring-box and a buried pipeline to move water to a dirt tank located a few yards off-site with overflow returned to the drainage. The plumbing in the spring development would allow the tank to fill only when livestock use is being made within the allotment to reduce pressure in existing riparian areas.	Completed 2006,	BLM, Miller Est. Cattle Co, SERCD	
3.4a	Fence markers and spring protection fencing	On-going	Niobrara CD, MBCD, BLM, TNC, LWGs, landowners	$62,628 $42,000 statewide
3.4a	Research to determine sage-grouse demographic and habitat use response to sagebrush treatments	On-going	UW, WGFD, LWGs	$189,800

Goal/ Objective/ Action	Project	Status	Who	Funding (partial or total)
3.4a	The following 9 independent projects are a series of water development projects. All tanks have wildlife escape ramps, and overflows that allow water to be returned to the drainage to improve sage-grouse habitat. All spring developments are fenced to exclude livestock grazing. In total approximately 80,000 acres are benefited by these projects. Additional water has allowed for changes in grazing periods and times, which will result in improved habitat for sage-grouse. - Walcott Water development- 1 storage tank, pipeline, 3 drinking tanks. - Buck Draw water development- Spring development and protection, pipeline, 2 drinking tanks. - Tullis water development- 2 spring developments, 2 drinking tanks. - Ninemile Solar Pump- 3 solar pumps, 3 drinking tanks. - Sulfur Springs spring development- spring development, pipeline, drinking tank. - Shamrock water development- 3 wells drilled, solar panels, 3 drinking tanks. - Seminoe water development- spring development, pipeline, and tank. - Whiskey Gap water development- pipeline, and 3 drinking tanks from existing spring. - Lamont center pivot Irrigation system for alfalfa. Management to favor sage-grouse.	Completed 2007	NRCS, BLM, SERCD, FSA, Landowners	$2,880 $6,500
3.4.a	Midway Grazing Management- 8 pasture prescribed grazing system.	Completed 2007	NRCS, BLM, SERCD, Landowner	
3.7a	Natural Resource Conservation Service – Sage-grouse Initiative Extension Biologist positions in Saratoga and Baggs.	2011	NRSC, Rocky Mountain Bird Observatory, RMEF, SERCD, WGFD	
4.1.a	Common Raven Density and Greater Sage-Grouse Nesting Success in Southwest Wyoming: Potential Conservation and Management Implications Jonathan B. Dinkins., 2013. PhD Thesis, Utah State University, Logan, UT	Completed 2013	Anadarko, Jack H. Berryman Institute, Lincoln Co. Predator Management Board, Predatory Animal District of Sweetwater Co., UW, SCLWG, Uinta Co. Predator Management Board, Utah Agricultural Exp. Station, WYADMB, WGFD, WLCI	$102,892

Goal/ Objective/ Action	Project	Status	Who	Funding (partial or total)
5.1.b	Develop a "BMP's to maintain or enhance sage-grouse populations in areas of energy development within the SCCA" document for application on private, state, and federal lands. Will include BMP's for each type of development.	2008	SCLWG	
5.1.b	Distribute "BMP's" pamphlet to energy developers	2009	SCLWG, BLM, Trade Associations, WGFD	
5. 1. b.	Distribute sage-grouse place mats	Completed	SCLWG	
5. 1. b.	Distribute informational brochure regarding sage-grouse and SCCA group.	Completed	SCLWG	
5. 1. b.	Initiate articles in local newspapers to promote and publicize SCCA sage grouse plan, projects and accomplishments.	On-going	SCLWG	
5. 1. b.	Develop monitoring plan of SCCA and produce yearly report that will be publicly distributed.	On-going with Annual Report	WGFD, SCLWG	
5. 1. b.	Hold public information meetings upon completion of plan in conjunction with WGFD season setting open houses and meetings.	Completed 2007	WGFD, SCLWG	
5. 1. b.	Annual sage-grouse lek site visit and educational program with 3rd grade class from Little Snake River Valley School.	On-going	WGFD	
5. 1. b.	Develop and distribute "recommended practices" pamphlet to all users in sage grouse habitat.	Completed 2008	SCLWG	
5. 1. b.	Several state and federal agencies are in the process of developing several documents: -Literature synthesis (completed 2007) -Understanding and enhancing sage-grouse habitat in Wyoming -Sage-grouse and range technical team report from the literature synthesis. - SGI fact sheet	Ongoing	BLM, WAFWA, WGFD, WY Dept. of Ag.	
6.1f	Research to develop a noise model and determine sage-grouse noise thresholds	On-going	UC-Davis, LWGs	$49,335
6.2.a	Protect potential nesting/brood rearing habitat within 2-miles of a lek (March 1 – July 15, no new surface disturbing activities)	On-going	WGEO 2011-5, BLM (IM) 2012-019	
6.2.a	Winter concentration areas (Dec. 2 – March 13) no surface disturbing activities.	On-going	WGEO 2011-5, BLM (IM) 2012-019	
6.2.a	Avoid severe winter relief habitat (avoidance area)	On-going	BLM	
6.2.a	Avoid high profile structures from 0.6 mile from lek perimeter, bury power lines when possible. New lines should be raptor proofed. (on case-by-case basis)	On-going	WGEO 2011-5, BLM (IM) 2012-019	
6.2.a,b,c	Prohibit surface disturbance above 5%/ 640 acres. Prohibit surface occupancy within 0.6 mile from occupied leks.	On-going	WGEO 2011-5, BLM (IM) 2012-019	
6.2.a,b,c	Avoid human activity between March 15 and June 30 within 0.6 mile of lek perimeter.	On-going	WGEO 2011-5, BLM (IM) 2012-019	

Goal/ Objective/ Action	Project	Status	Who	Funding (partial or total)
6.2.b,c	Protect potential nesting/brood rearing habitat within 2-miles of a lek (March 15 – July 15, no new surface disturbing activities)	On-going	WGEO 2011-5, BLM (IM) 2012-019	

Future Direction for Sage-Grouse Conservation by the South Central Local Working Group

Sage-grouse conservation has changed significantly since the South Central Local Working Group finalized its Sage-Grouse Conservation Plan in 2007. These changes have occurred not only at the local level but on a national level as well. Sage-grouse are currently recognized as a candidate species which warrants protection as a threaten species. In Wyoming sage-grouse were precluded from the FWS taking such action in part due to the tremendous and proactive conservation efforts that originated here. These conservation efforts began at a grass-roots level in Wyoming with the formulation of local working groups. They continued to grow with the Wyoming Governor's Executive Orders and the implementation of the Wyoming Core Area Strategy for sage-grouse conservation. These efforts were swiftly emulated with the development of several sage-grouse specific conservation efforts at a national level, under the US Departments' of Agriculture and Interior; as well as in every state inhabited by sage-grouse. All of these efforts can be traced back to the foresight, and efforts of Wyoming's local working groups.

One of the goals for completing this Addendum was to create a record of the accomplishments that have occurred with sage-grouse conservation in the SCLWG area; as it is important that these accomplishments be recognized. From this momentary reflection on its accomplishments the SCLWG will now begin to lay a strategic foundation for their continued role in sage-grouse conservation.

The 2010 decision by the U.S. Fish and Wildlife Service to list the sage-grouse as a candidate species under the Endangered Species Act identified two specific threats; 1) habitat loss and fragmentation, and 2) lack of inadequate regulatory mechanisms to conserve sage-grouse and their habitats. The SCLWG has played, and will continue to play, an active role in addressing habitat deficiencies within the South Central Conservation Area. With respect to the second threat; Wyoming has been at the fore-front of collaboratively developing a conservation policy which allows for both habitat preservation and a continued use of the land resource for other purposes. While the local working groups have little influence in policy and regulation decision making, they do effectively contribute to this process at the grass roots level.

If sage-grouse are to be sustained at the population level, habitat enhancement needs to be completed on a landscape scale. "A thousand random acts of conservation," has been used by

some critics to describe many past habitat enhancement and mitigation projects done in the name of sage-grouse conservation. However, many of these projects have provided a documented benefit to sage-grouse at a local level, and cumulatively this can contribute to a landscape scale effort. The Wyoming Core Area Strategy, the NRCS Sage-Grouse Initiative, and the BLM and USFS planning amendment process will collectively provide for broad-scale direction on how future conservation efforts can be applied in a programmatic, strategic, and adaptive manner.

Contingent on the Wyoming Legislature's continued funding of the Sage-grouse Conservation Fund, the SCLWG will strategically focus on supporting habitat projects which address local habitat deficiencies while also contributing to the landscape scale approach to sage-grouse habitat conservation. Also contingent on the Wyoming Legislature's continued funding of the Sage-grouse Conservation Fund, the SCLWG will strategically continue its support of research that addresses limiting factors for sage-grouse, as well as continuing the support of research which contributes to improving the overall understanding of sage-grouse ecology.

The SCLWG will also continue to assist the Wyoming Governor's Sage-grouse Implementation Team when requested (e.g. Core Area boundary revisions, reclamation/restoration priorities, etc.). The SCLWG has an important role in Wyoming's future sage-grouse conservation efforts. The 2007 South Central Sage-Grouse Conservation Plan and this Addendum will provide direction on how the working group can continue to positively influence sage-grouse conservation efforts in south central Wyoming.

Public Outreach for the Addendum

WGFD produced a news release which was sent to Wyoming newspapers and television stations advertising a public comment period for the Addendum. The public comment period was November 22 – December 23. No written comments were received. An open house for the Addendum was held at the Jeffrey Center in Rawlins on December 11th. WGFD also produced a news release which was sent to Wyoming newspaper and television stations advertising the open house. Additionally, WGFD advertised the open house on their Facebook® and Twitter® accounts, which should have reached approximately 6,430 people. Two parties attended the open house. No written comments were received.

Literature Cited

Pruett, C.L., M. A. Patten, and D. H. Wolfe. 2009. Avoidance behavior by prairie grouse: implications for wind energy development. Conservation Biology. 23:1253-1259.

U.S. Fish and Wildlife Service. 2013. Greater Sage-grouse (*Centrocercus urophasianus*) Conservation Objectives: Final Report. U.S. Fish and Wildlife Service, Denver, CO. February 2013.

MATTHEW H. MEAD
GOVERNOR

THE STATE OF WYOMING

STATE CAPITOL
CHEYENNE, WY 82002

Office of the Governor

STATE OF WYOMING
EXECUTIVE DEPARTMENT
EXECUTIVE ORDER

Order 2011-5
(Replaces 2010-4)

GREATER SAGE-GROUSE CORE AREA PROTECTION

WHEREAS, the Greater Sage-Grouse (Centrocercus urophasianus) inhabits much of the sagebrush-steppe habitat in Wyoming; and

WHEREAS, the sagebrush-steppe habitat type is abundant across the state of Wyoming; and

WHEREAS, the state of Wyoming currently enjoys robust populations of Greater Sage-Grouse; and

WHEREAS, the state of Wyoming has management authority over Greater Sage-Grouse populations in Wyoming; and

WHEREAS, the Greater Sage-Grouse has been the subject of several petitions to list the species as a threatened or endangered species pursuant to the Endangered Species Act; and

WHEREAS, the United States Department of the Interior has determined that listing the Greater Sage-Grouse as a threatened or endangered species is warranted over all of its range, including the populations in Wyoming; and

WHEREAS, the United States Department of the Interior has determined that listing the Greater Sage-Grouse as a threatened or endangered species is currently precluded by higher priority listing actions; and

WHEREAS, the Greater Sage-Grouse is currently considered a "candidate" species under the auspices of the Endangered Species Act; and

WHEREAS, the United States Department of the Interior is required to review the status of all candidate species every year; and

WHEREAS, the listing of the Greater Sage-Grouse would have a significant adverse effect on the economy of the state of Wyoming, including the ability to generate revenues from state lands; and

WHEREAS, the listing of the Greater Sage-Grouse would have a significant adverse effect on the custom and culture of the state of Wyoming; and

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WHEREAS, the Wyoming State Legislature and other agencies have dedicated significant state resources to conserve Greater Sage-Grouse populations in Wyoming; and

WHEREAS, the state of Wyoming has developed a "Core Population Area" strategy to weave the many on-going efforts to conserve the Greater Sage-Grouse in Wyoming into a statewide strategy; and

WHEREAS, members of the Sixtieth Legislature of the State of Wyoming signed a Joint Resolution recognizing "the Greater Sage Grouse Core Area Strategy [then embodied under Governor's Executive Order 2008-2] as the State of Wyoming's primary regulatory mechanism to conserve sage-grouse and preclude the need for listing the bird as a threatened or endangered species pursuant to the Endangered Species Act of 1973."; and

WHEREAS, on April 17, 2008, the Office of the Governor requested that the U.S. Fish and Wildlife Service review the "Core Population Area" strategy to determine if it was a "sound policy that should be moved forward" and on May 7, 2008, the U.S. Fish and Wildlife Service responded that the "core population area strategy, as outlined in the Implementation Team's correspondence to the Governor, is a sound framework for a policy by which to conserve greater sage-grouse in Wyoming"; and

WHEREAS, on November 10, 2010, the U.S. Fish and Wildlife Service again confirmed that "This long-term, science-based vision for the conservation of greater sage-grouse has set the stage for similar conservation efforts across the species range," and that "the Core Population Area Strategy for the greater sage-grouse provides an excellent model for meaningful conservation of sage-grouse is fully supported and implemented"; and

WHEREAS, several western states have adopted or are considering adopting the Wyoming Core Area Strategy, thus making the concept consistent across the species range; and

WHEREAS, new science, information and data continue to emerge regarding "Core Population Areas" and the habitats and behaviors of the Greater Sage-Grouse, which led the Governor's Sage-Grouse Implementation Team to re-evaluate the original "core population areas" and protective stipulations for Greater Sage-Grouse.

NOW, THEREFORE, pursuant to the authority vested in me by the Constitution and Laws of the State, and to the extent such actions are consistent with the statutory obligations and authority of each individual agency including those found in Title 9, Chapter 5, Article 3 of Wyoming State Statutes, otherwise cited as the Wyoming Regulatory Takings Act, I, Matthew H. Mead, Governor of the State of Wyoming, do hereby issue this Executive Order providing as follows:

1. Management by state agencies should focus on the maintenance and enhancement of Greater Sage-Grouse habitats, populations and connectivity areas identified in Attachment A. Absent substantial and compelling information, these Core Population Areas should not be altered for at least five (5) years.

2. Existing land uses within Core Population Areas should be recognized and respected by state agencies. It is assumed that activities existing in Core Population Areas prior to August 1, 2008 will not be managed under Core Population Area stipulations. Examples of existing activities include oil and gas, mining, agriculture, processing facilities, housing and other uses that were in place prior to the development of the Core Population Areas (prior to August 1, 2008). Provided these activities are within a defined project boundary (such as a recognized federal oil and gas unit, drilling and spacing unit, mine plan, subdivision plat, etc.) they should be allowed to continue within the existing boundary, even if the

use exceeds recommended stipulations (see Attachment B) recognizing that all applicable federal actions shall continue.

3. New development or land uses within Core Population Areas should be authorized or conducted only when it can be demonstrated that the activity will not cause declines in Greater Sage-Grouse populations.

4. Development consistent with the stipulations set forth in Attachment B shall be deemed sufficient to demonstrate that the activity will not cause declines in Greater Sage-Grouse populations.

5. Funding, assurances (including efforts to develop Candidate Conservation Agreements and Candidate Conservation Agreements with Assurances), habitat enhancement, reclamation efforts, mapping and other associated proactive efforts to assure viability of Greater Sage-Grouse in Wyoming should be focused and prioritized to take place in Core Population Areas.

6. To the greatest extent possible, a non-regulatory approach shall be used to influence management alternatives within Core Population Areas. Management alternatives should reflect unique localized conditions, including soils, vegetation, development type, predation, climate and other local realities.

7. For activities outside of Core Population Areas, no more than a one-quarter (1/4) mile no surface occupancy standard and a two (2) mile seasonal buffer should be applied to occupied leks. Incentives to enable development of all types outside Core Population Areas should be established (these should include stipulation waivers, enhanced permitting processes, density bonuses, and other incentives). Development scenarios should be designed and managed to maintain populations, habitats and essential migration routes where possible. It is recognized that some incentives may result in reduced numbers of sage-grouse outside of Core Population Areas.

8. Incentives to accelerate or enhance required reclamation in habitats adjacent to Core Population Areas should be developed, including but not limited to stipulation waivers, funding for enhanced reclamation, and other strategies. It is recognized that some incentives may result in reduced numbers of sage-grouse outside of the Core Population Areas.

9. Existing rights should be recognized and respected.

10. On-the-ground enhancements, monitoring, and ongoing planning relative to sage-grouse and sage-grouse habitat should be facilitated by sage-grouse local working groups whenever possible.

11. Fire suppression efforts in Core Population Areas should be emphasized, recognizing that other local, regional, and national suppression priorities may take precedent. However, public and firefighter safety remains the number one priority for all fire management activities.

12. State and federal agencies, including the U.S. Fish and Wildlife Service, Bureau of Land Management, U.S. Forest Service, and other federal agencies shall work collaboratively to ensure a uniform and consistent application of this Executive Order to maintain and enhance Greater Sage-Grouse habitats and populations.

13. State agencies shall work collaboratively with local governments and private landowners to maintain and enhance Greater Sage-Grouse habitats and populations in a manner consistent with this Executive Order.

14. It is critical that existing land uses and landowner activities continue to occur in core areas, particularly agricultural activities on private lands. For the most part, these activities on private lands are not subject to state agency review or approval. Only those activities occurring after August 1, 2008 which state agencies are required by state or federal statute to review or approve are subject to consistency review. This Executive Order in no way adds or expands the review or approval authority of any state agency. It is acknowledged that such land uses and activities could have localized impacts on Greater Sage-Grouse. To offset these impacts, Core Population Areas have been mapped to include additional habitat beyond that strictly necessary to prevent listing of the species. The additional habitat included within the Core Population Area boundaries is adequate to accommodate continuation of existing land uses and landowner activities. As a result, state agencies are not required to review most existing land uses and landowner activities in Core Population Areas for consistency with this Executive Order. Attachment C contains a list of existing land uses and landowner activities that do not require review for consistency.

15. It will be necessary to construct significant new transmission infrastructure to transport electricity generated in Wyoming to out-of-state load centers. New transmission lines constructed within Core Population Areas will be consistent with this Executive Order if they are constructed between July 1 and March 14 (or between July 1 and November 30 in winter concentration areas) and within one half (1/2) mile either side of existing (prior to Governor's Executive Order 2010-4) 115 kV or larger transmission lines creating a corridor no wider than one (1) mile. New transmission lines outside this one (1) mile wide corridor within Core Population Areas should be authorized or conducted only when it can be demonstrated that the activity will not cause declines in Greater Sage-Grouse populations.

16. For purposes of consistency with this Executive Order there is established a transmission line corridor through Core Population Areas in south central and southwestern Wyoming as illustrated on Attachment D. This two (2) mile wide corridor represents the state of Wyoming's preferred alternative for routing transmission lines across the southern portion of the state while reducing impacts to Core Population Areas and other natural resources. New transmission lines constructed within this corridor shall be considered consistent with this Executive Order if construction occurs within the corridor between July 1 and March 14 (or between July 1 and November 30 in winter concentration areas).

17. New distribution, gathering, and transmission lines sited outside established corridors within Core Population Areas should be authorized or conducted only when it can be demonstrated by the state agency that the activity will not cause declines in Greater Sage-Grouse populations.

18. State agencies shall strive to maintain consistency with the items outlined in this Executive Order, but it should be recognized that adjustments to the stipulations may be necessary based upon local conditions and limitations. The goal is to minimize future disturbance by co-locating proposed disturbances within areas already disturbed or naturally unsuitable.

19. The protective stipulations outlined in this Executive Order should be reevaluated on a continuous basis and at a minimum annually, as new science, information and data emerge regarding Core Population Areas and the habitats and behaviors of the Greater Sage-Grouse.

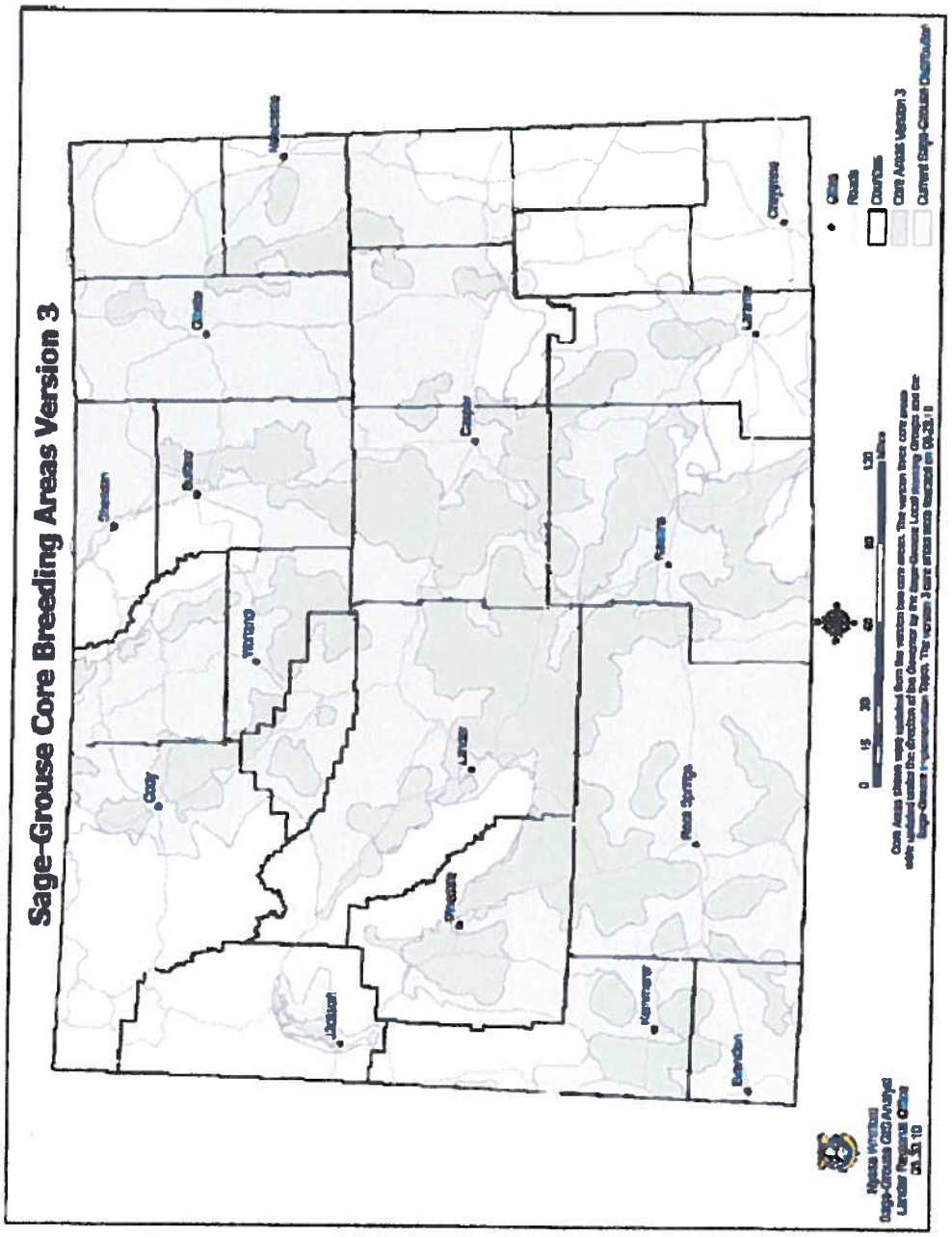
20. State agencies shall report to the Office of the Governor within ninety (90) days of signing and annually thereafter detailing their actions to comply with this Executive Order.

This Executive Order shall remain in effect until August 18, 2015, at which time all provisions of this Executive Order shall be reevaluated.

Given under my hand and the Executive Seal of the State of Wyoming this 2 day of June, 2011.

Matthew H. Mead
Governor

ATTACHMENT A



ATTACHMENT B

Permitting Process and Stipulations for Development in Sage-Grouse Core Areas

PERMITTING PROCESS

Point of Contact: The first point of contact for addressing sage-grouse issues for any state permit application should be the Wyoming Game and Fish Department (WGFD). Project proponents (proponents) need to have a thorough description of their project and identify the potential effects on sage-grouse prior to submitting an application to the permitting agency (details such as a draft project implementation area analysis, habitat maps and any other information will help to expedite the project). Project proponents should contact WGFD at least 45-60 days prior to submitting their application. More complex projects will require more time. It is understood that WGFD has a role of consultation, recommendation, and facilitation, and has no authority to either approve or deny the project. The purpose of the initial consultation with the WGFD is to become familiar with the project proposal and ensure the project proponent understands recommended stipulations and stipulation implementation process.

Maximum Disturbance Process: All activities will be evaluated within the context of maximum allowable disturbance (disturbance percentages, location and number of disturbances) of suitable sage-grouse habitat (See Appendix 1 for definition of suitable sage-grouse habitat and disturbance of suitable sage-grouse habitat) within the area affected by the project. The maximum disturbance allowed will be analyzed via a Density/Disturbance Calculation Tool (DDCT) process conducted by the Federal Land Management Agency on federal Land and the project proponent on non-federal (private, state) land. Unsuitable habitat occurring within the project area will not be included in the disturbance cap calculations.

1. Density/Disturbance Calculation Tool (DDCT): Determine all occupied leks within a core population area that may be affected by the project by placing a 4 mile boundary around the project boundary (as defined by the proposed area of disturbance related to the project). All occupied leks located within the 4 mile boundary and within a core population area will be considered affected by the project.

   A four-mile boundary will then be placed around the perimeter of each affected lek. The core population area within the boundary of affected leks and the 4 mile boundary around the project boundary creates the DDCT for each individual project. Disturbance will be analyzed for the DDCT as a whole and for each individual affected lek within the DDCT. Any portion of the DDCT occurring outside of core area will be removed from the analysis.

   If there are no affected leks within the 4 mile boundary around the project boundary, the DDCT area will be that portion of the 4 mile project boundary within the core population area.

2. Disturbance analysis: Total disturbance acres within the DDCT will be determined through an evaluation (Appendix 1) of:

   a. Existing disturbance (sage-grouse habitat that is disturbed due to existing anthropogenic activity and wildfire).

b. Approved permits (that have approval for on the ground activity) not yet implemented.

3. Habitat Assessment:

a. A habitat assessment is not needed for the initial DDCT area provided that the entire DDCT area is considered suitable.
b. A habitat assessment should be conducted when the initial DDCT indicates proposed project will cause density/disturbance thresholds to be exceeded, to see whether siting opportunities exist within unsuitable or disturbed areas that would reduce density/disturbance effects.
c. When a habitat assessment is conducted it should create a baseline survey identifying:
    i. Suitable and unsuitable habitat within the DDCT area
    ii. Disturbed habitat within the DDCT area
    iii. Sage-grouse use of suitable habitat (seasonal, densities, etc.)
    iv. Priority restoration areas (which could reduce the 5% cap)
        A. Areas where plug and abandon activities will eliminate disturbance
        B. Areas where old reclamation has not produced suitable habitat
    v. Areas of invasive species
    vi. Other assurances in place (CCAA, easements, habitat, contracts, etc.)

4. Determination of existing and allowable suitable habitat disturbance: Acres of disturbance within suitable habitat divided by the total suitable habitat within the DDCT area times 100 equals the percent of disturbed suitable habitat within the DDCT area. Subtracting the percentage of existing disturbed suitable habitat from 5% equals new allowable suitable habitat disturbance until plant regeneration or reclamation reduces acres of disturbed habitat within the DDCT area.

Permitting: The complete analysis package developed by consultation and review outlined herein will be forwarded to the appropriate permitting agency. WGFD recommendations will be included, as will other recommendations from project proponents and other appropriate agencies. Project proponent shall have access to all information used in developing recommendations. Where possible and when requested by the project proponent, state agencies shall provide the project proponent with development alternatives other than those contained in the project proposal.

Exempt Activities: A list of exempt ("de minimus") activities, including standard uses of the landscape is available in Attachment C.

GENERAL STIPULATIONS

These stipulations are designed to maintain existing suitable sage-grouse habitat by permitting development activities in core areas in a way that will not cause declines in sage-grouse populations. General stipulations are recommended to apply to all activities in core areas, with the exception of exempt ("de minimus") actions defined herein (Attachment C) or specifically identified activities. The specific industry stipulations are considered in addition to the general stipulations.

1. **Surface Disturbance:** Surface disturbance will be limited to 5% of suitable sage-grouse habitat per an average of 640 acres. The DDCT process will be used to determine the

level of disturbance. Distribution of disturbance may be considered and approved on a case-by-case basis. Unsuitable habitat should be identified in a seasonal and landscape context, on a case-by-case basis, outside the 0.6 mile buffer around leks. This will incentivize proponents to locate projects in unsuitable habitat to avoid creating additional disturbance acres. Acres of development in unsuitable habitat are not considered disturbance acres. The primary focus should be on protection of suitable habitats and protecting from habitat fragmentation. See Appendix 1 for a description of suitable, unsuitable habitat and disturbance.

2. **Surface Occupancy:** Within 0.6 miles of the perimeter of occupied sage-grouse leks there will be no surface occupancy (NSO). NSO, as used in these recommendations, means no surface facilities including roads shall be placed within the NSO area. Other activities may be authorized with the application of appropriate seasonal stipulations, provided the resources protected by the NSO are not adversely affected. For example, underground utilities may be permissible if installation is completed outside applicable seasonal stipulation periods and significant resource damage does not occur. Similarly, geophysical exploration may be permissible in accordance with seasonal stipulations.

3. **Seasonal Use:** Activity (production and maintenance activity exempted) will be allowed from July 1 to March 14 outside of the 0.6 mile perimeter of a lek in core areas where breeding, nesting and early brood-rearing habitat is present. In areas used solely as winter concentration areas, exploration and development activity will be allowed March 14 to December 1. Activities in unsuitable habitat may also be approved year-round (including March 15 to June 30) on a case-by-case basis (except in specific areas where credible data shows calendar deviation). Activities may be allowed during seasonal closure periods as determined on a case-by-case basis. While the bulk of winter habitat necessary to support core sage-grouse populations likely occurs inside Core Population Areas, seasonal stipulations (December 1 to March 14) should be considered in locations outside Core Population Areas where they have been identified as winter concentration areas necessary for supporting biologically significant numbers of sage-grouse nesting in Core Population Areas. All efforts should be made to minimize disturbance to mature sagebrush cover in identified winter concentration areas.

4. **Transportation:** Locate main roads used to transport production and/or waste products > 1 .9 miles from the perimeter of occupied sage-grouse leks. Locate other roads used to provide facility site access and maintenance > 0.6 miles from the perimeter of occupied sage-grouse leks. Construct roads to minimum design standards needed for production activities.

5. **Overhead Lines:** Bury lines when possible, if not; locate overhead lines at least 0.6 miles from the perimeter of occupied sage-grouse leks. New lines should be raptor proofed if not buried.

6. **Noise:** New noise levels, at the perimeter of a lek, should not exceed 10 dBA above ambient noise (existing activity included) from 6:00 p.m. to 8:00 a.m. during the initiation of breeding (March 1 – May 15). Ambient noise levels should be determined by measurements taken at the perimeter of a lek at sunrise.

7. **Vegetation Removal:** Vegetation removal should be limited to the minimum disturbance required by the project. All topsoil stripping and vegetation removal in suitable habitat

will occur between July 1 and March 14 in areas that are within 4 miles of an occupied lek. Initial disturbance in unsuitable habitat between March 15 and June30 may be approved on a case-by-case basis.

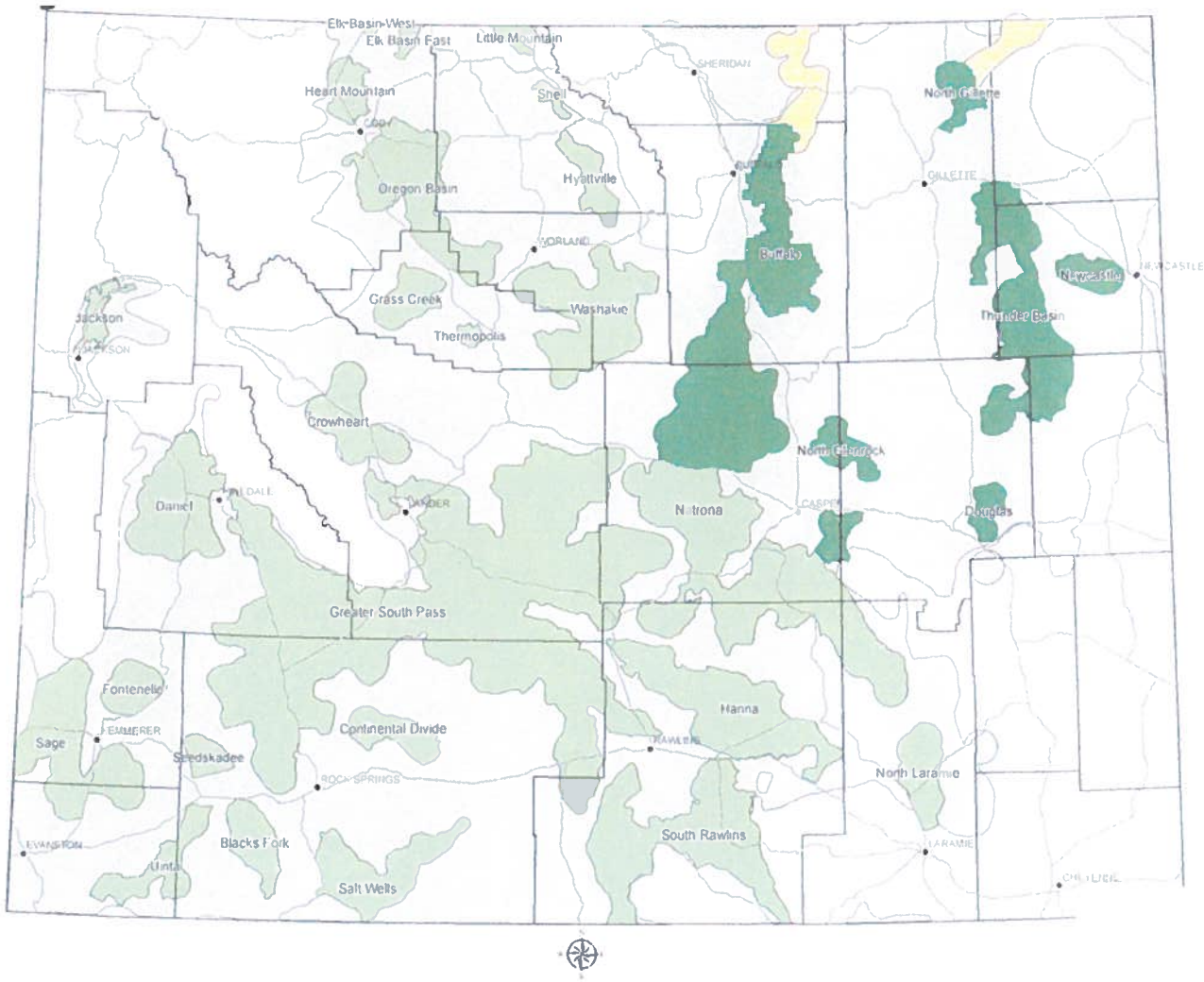
8. **Sagebrush Treatment:** Sagebrush eradication is considered disturbance and will contribute to the 5% disturbance factor. Northeast Wyoming, as depicted in Figure 1, is of particular concern because sagebrush habitats rarely exceed 15% canopy cover and large acreages have already been converted from sagebrush to grassland or cropland. Absent some demonstration that the proposed treatment will not reduce canopy cover to less than 15% within the treated area, habitat treatments in northeast Wyoming (Figure 1) should not be conducted. In stands with less than 15% cover, treatment should be designed to maintain or improve sagebrush habitat. Sagebrush treatments that maintain sagebrush canopy cover at or above 15% total canopy cover within the treated acres will not be considered disturbance. Treatments that reduce sagebrush canopy cover below 15% will be allowed, excluding northeast Wyoming (Figure 1), if all such treated areas make up less than 20% of the suitable sagebrush habitat within the DDCT, and any point within the treated area is within 60 meters of sagebrush habitat with 10% or greater canopy cover. Treatments to enhance sagebrush/grassland will be evaluated based upon the existing habitat quality and the functional level post-treatment.

9. **Monitoring/adaptive response:** Proponents of new projects are expected to coordinate with the permitting agency and local WGFD biologist to determine which leks need to be monitored and what data should be reported by the proponent. Certain permits may be exempted from monitoring activities pending permitting agency coordination. If declines in affected leks (using a three-year running average during any five year period relative to trends on reference leks) are determined to be caused by the project, the operator will propose adaptive management responses to increase the number of birds. If the operator cannot demonstrate a restoration of bird numbers to baseline levels (established by pre-disturbance surveys, reference surveys and taking into account regional and statewide trends) within three years, operations will cease until such numbers are achieved.

10. **Reclamation:** Reclamation should re-establish native grasses, forbs and shrubs during interim and final reclamation to achieve cover, species composition, and life form diversity commensurate with the surrounding plant community or desired ecological condition to benefit sage-grouse and replace or enhance sage-grouse habitat to the degree that environmental conditions allow. Seed mixes should include two native forbs and two native grasses with at least one bunchgrass species. Where sagebrush establishment is prescribed, establishment is defined as meeting the standard prescribed in the individual reclamation plan. Landowners should be consulted on desired plant mix on private lands. The operator is required to control noxious and invasive weed species, including cheatgrass. Rollover credit, if needed, will be outlined in the individual project reclamation plan.

    Credit may be given for completion of habitat enhancements on bond released or other minimally functional habitat when detailed in a plan. These habitat enhancements may be used as credit for reclamation that is slow to establish in order to maintain the disturbance cap or to improve nearby sage-grouse habitat.

Figure 1. Wyoming Core Area with northeast Wyoming core (dark green) and connectivity areas (yellow).



11. **Existing Activities:** Areas already disturbed or approved for development within Core Areas prior to August 1, 2008 are not subject to new sage-grouse stipulations with the exception existing operations may not initiate activities resulting in new surface occupancy within 0.6 mile of the perimeter of a sage-grouse lek. Any existing disturbance will be counted toward the calculated disturbance cap for a new proposed activity. The level of disturbance for existing activity and rollover credit may exceed 5%.

12. **Exceptions:** Any exceptions to these general or specific stipulations will be considered on a case by case basis and must show that the exception will not cause declines in sage-grouse populations.

SPECIFIC STIPULATIONS (To be applied in addition to general stipulations)

1. Oil and Gas: Well pad densities not to exceed an average of one pad per square mile (640 acres) and suitable habitat disturbed not to exceed 5% of suitable habitat within the DDCT. As an example, the number of well pads within a two mile radius of the perimeter of an occupied sage-grouse lek should not exceed 11, distributed preferably in a clumped pattern in one general direction from the lek.

2. Mining

   a. For development drilling or ore body delineation drilled on tight centers, (approximately 100'X100') the disturbance area will be delineated by the external limits of the development area. Assuming a widely-spaced disturbance pattern, the actual footprint will be considered the disturbance area.
   b. Monitoring results will be reported annually in the mine permit annual report and to WGFD. Pre-disturbance surveys will be conducted as required by the appropriate regulatory agency.
   c. The number of active mining development areas (e.g., operating equipment and significant human activity) are not to exceed an average of one site per square mile (640 acres) within the DDCT.
   d. Surface disturbance and surface occupancy stipulations will be waived within the Core Area when implementing underground mining practices that are necessary to protect the health, welfare, and safety of miners, mine employees, contractors and the general public. The mining practices include but are not limited to bore holes or shafts necessary to: 1) provide adequate oxygen to an underground mine; 2) supply inert gases or other substances to prevent, treat, or suppress combustion or mine fires; 3) inject mine roof stabilizing substances; and 4) remove methane from mining areas. Any surface disturbance or surface occupancy necessary to access the sites to implement these mining practices will also be exempt from any stipulation.
   e. Coal mining operations will be allowed to continue under the regulatory and permit-specific terms and conditions authorized under the federal Surface Mining Control and Reclamation Act.

3. Connectivity:

   a. The suspension of federal and state leases in connectivity corridors (Figure 1) is encouraged where there is mutual agreement by the leasing agency and the operator. These suspensions should be allowed until additional information

clarifies their need. Where suspensions cannot be accommodated, disturbance should be limited to no more than 5% (up to 32 acres) per 640 acres of suitable sage-grouse habitat within connectivity corridors.

b. For protection of connectivity corridors (Figure 1), a controlled surface use (CSU) buffer of 0.6 miles around leks or their documented perimeters is required. In addition, a March 15 to June 30 timing limitation stipulation is required within nesting habitat within 4 miles of leks.

4. Process Deviation or Undefined Activities: Development proposals incorporating less restrictive stipulations or development that is not covered by these stipulations may be considered depending on site-specific circumstances and the proponent must have data demonstrating that the alternative development proposal will not cause declines in sage-grouse populations in the core area. Proposals to deviate from standard stipulations will be considered by a team including WGFD and the appropriate land management and permitting agencies, with input from the U.S. Fish and Wildlife Service. Project proponents need to demonstrate that the project development would meet at least one of the following conditions:

   a. No suitable habitat is present in one contiguous block of land that includes at least a 0.6 mile buffer between the project area and suitable habitat;

   b. No sage-grouse use occurs in one contiguous block of land that includes at least a 0.6 mile buffer between the project area and adjacent occupied habitat, as documented by total absence of sage-grouse droppings and an absence of sage-grouse activity for the previous ten years;

   c. Provision of a development/mitigation plan that has been implemented and demonstrated by previous research not to cause declines in sage-grouse populations. The demonstration must be based on monitoring data collected and analyzed with accepted scientific based techniques.

5. Wind Energy Development: Wind development is not recommended in sage-grouse core areas, but will be reevaluated on a continuous basis as new science, information and data emerges.

Appendix I
Suitable Sage-Grouse Habitat Definition

Sage-grouse require somewhat different seasonal habitats distributed over large areas to complete their life cycle. All of these habitats consist of, are associated with, or are immediately adjacent to, sagebrush. If sage-grouse seasonal habitat use maps do not exist for the project site the following description of suitable habitat should be used to determine areas of unsuitable sage-grouse habitat for development siting purposes. An abbreviated description of a complex system cannot incorporate all aspects of, or exceptions to, what habitats a local sage-grouse population may or may not utilize.

Suitable sage-grouse habitat (nesting, breeding, brood-rearing, or winter) is within the mapped occupied range of sage-grouse, and:

1) has 5% or greater sagebrush canopy cover as measured by the technique developed by interagency efforts. "Sagebrush" includes all species and sub-species of the genus Artemisia except the mat-forming sub-shrub species: frigida (fringed) and pedatifida (birdfoot); or
2) is riparian, wet meadow (native or introduced) or areas of alfalfa or other suitable forbs (brood rearing habitat) within 60 meters of sagebrush habitat with 10% or greater canopy cover and the early brood rearing habitat does not exceed 20% of the suitable sagebrush habitat present within the DDCT, Larger riparian/wet meadow, and grass/forb producing areas may be considered suitable habitat as determined on a case by case basis.

Transitional sage-grouse habitat is land that has been treated or burned prior to 2011 resulting in <5% sagebrush cover but is actively managed to meet a minimum of 5% sagebrush canopy cover with associated grasses and forbs by 2021 (by analysis of local condition and trend) and may or may not be considered disturbed. Land that does not meet the above vegetation criteria by 2021 should be considered disturbed.

Land treatments post 2010 must meet sagebrush vegetation treatment guidelines or the treatment will be considered disturbed. Following wildfire, lands shall be treated as disturbed pending an implementation management plan with trend data showing the area returning to functional sage-grouse habitat.

To evaluate the 5% disturbance cap per average 640 acres using the DDCT, suitable habitat is considered disturbed when it is removed and unavailable for immediate sage-grouse use.

The following items are guidelines for determining suitable habitat:

a. Long-term removal occurs when habitat is physically removed through activities that replace suitable habitat with long term occupancy of unsuitable habitat such as a road, well pad or active mine.
b. Short—term removal occurs when vegetation is removed in small areas, but restored to suitable habitat within a few years of disturbance, such as a successfully reclaimed pipeline, or successfully reclaimed drill hole or pit.
c. There may be additional suitable habitat considered disturbed between two or more long term (greater than 1 year) anthropogenic disturbance activities with a footprint greater than 10 acres each if the activities are located such that sage-grouse use of the suitable habitat between these activities is significantly reduced due to the close proximity (less than 1.2 miles apart, 0.6 miles from each activity) and resulting in cumulative effects of these large scale activities. Exemptions may be provided.

d. Land in northeast Wyoming (Figure 1 of Attachment B) that has had sagebrush removed post-1994 (based on Orthophoto interpretation) and not recovered to suitable habitat will be considered disturbed when using the DDCT.

ATTACHMENT C
Exempt ("de minimus") Activities

Existing Land Uses and Landowner Activities in Greater Sage-Grouse Core Population Areas That Do Not Require State Agency Review for Consistency With Executive Order No. 2011-05

1. Existing animal husbandry practices (including branding, docking, herding, trailing, etc).

2. Existing farming practices (excluding conversion of sagebrush/grassland to agricultural lands).

3. Existing grazing operations that utilize recognized rangeland management practices (allotment management plans, NRCS grazing plans, prescribed grazing plans, etc).

4. Construction of agricultural reservoirs and habitat improvements less than 10 surface acres and drilling of agriculture and residential water wells (including installation of tanks, water windmills and solar water pumps) more than 0.6 miles from the perimeter of the lek. Within 0.6 miles from leks no review is required if construction does not occur March 15 to June 30 and construction does not occur on the lek. All water tanks shall have escape ramps.

5. Agricultural and residential electrical distribution lines more than 0.6 miles from leks. Within 0.6 miles from leks no review is required if construction does not occur March 1 5 to June 30 and construction does not occur on the lek. Raptor perching deterrents shall be installed on all poles within 0.6 miles from leks.

6. Agricultural water pipelines if construction activities are more than 0.6 miles from leks. Within 0.6 miles from leks no review is required if construction does not occur March 15 to June 30 and construction is reclaimed.

7. New fencing more than 0.6 miles from leks and maintenance on existing fence. For new fencing within 0.6 miles of leks, fences with documented high potential for strikes should be marked.

8. Irrigation (excluding the conversion of sagebrush/grassland to new irrigated lands).

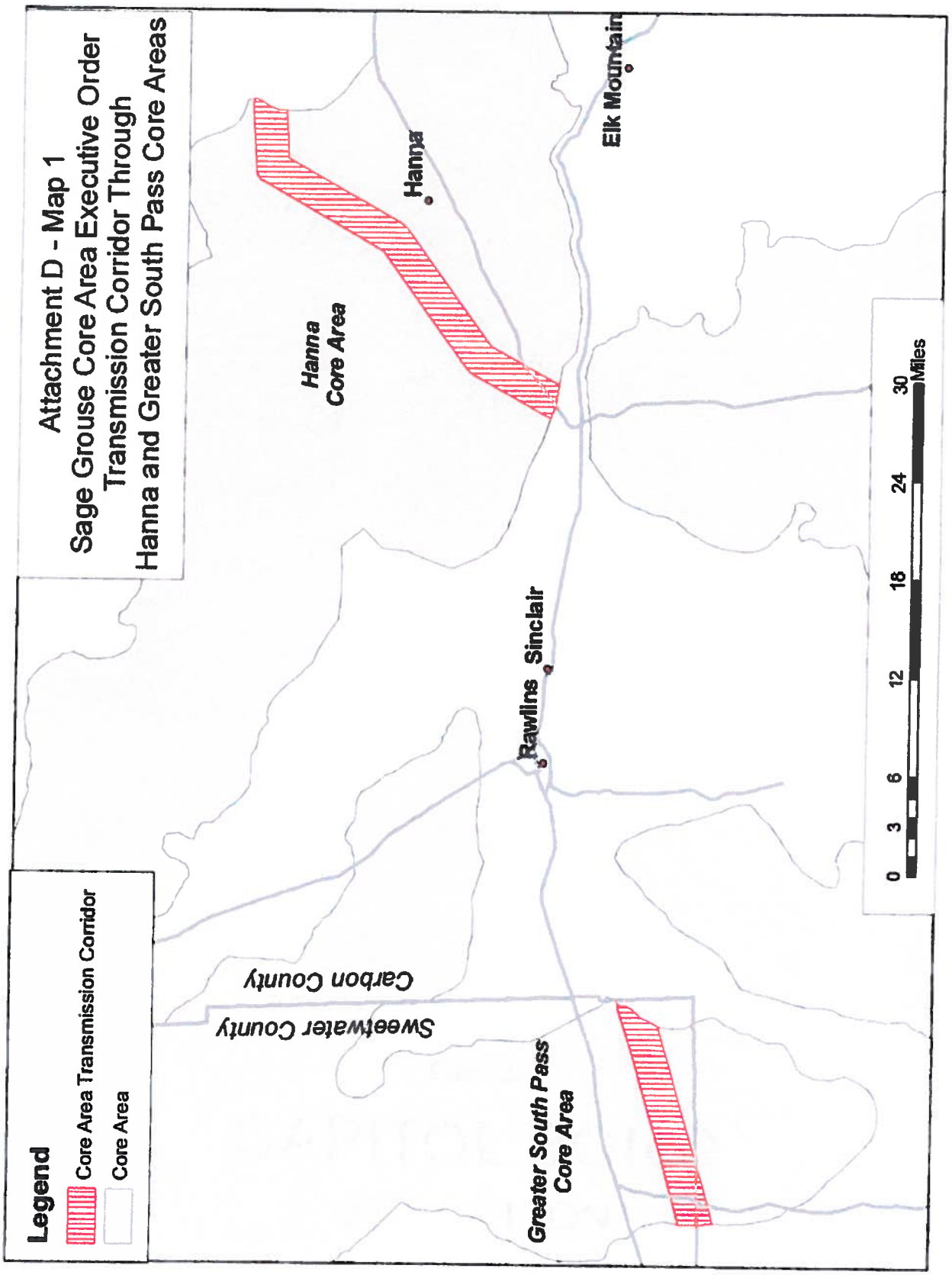
9. Spring development if the spring is protected with fencing and enough water remains at the site to provide mesic (wet) vegetation.

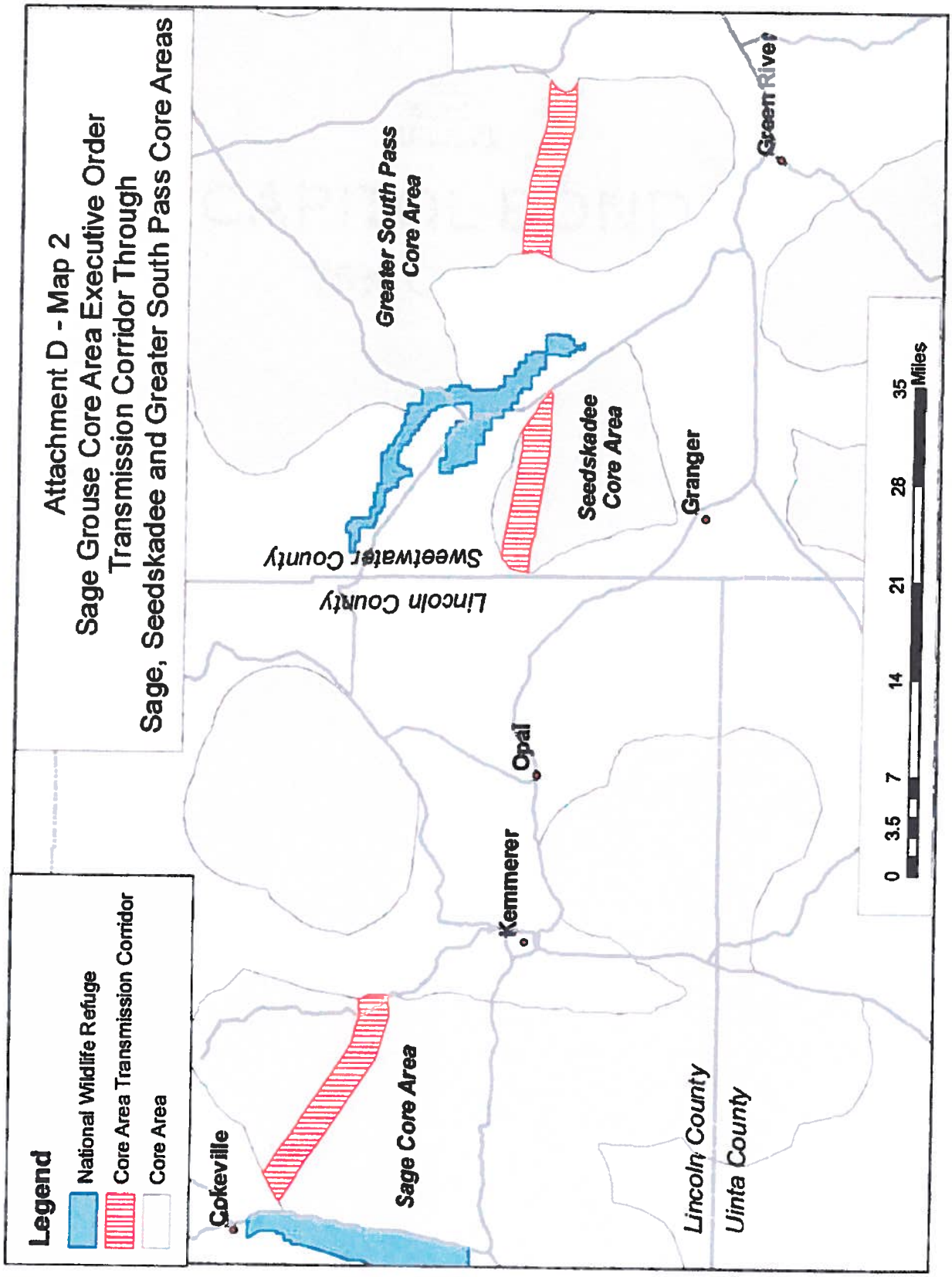
10. Herbicide use within existing road, pipeline and power line rights-of-way. Herbicides application using spot treatment. Grasshopper/Mormon cricket control following Reduced Agent-Area Treatments (RAATS) protocol.

11. Existing county road maintenance.

12. Cultural resource pedestrian surveys.

13. Emergency response.


Attachment D - Map 1
Sage Grouse Core Area Executive Order
Transmission Corridor Through
Hanna and Greater South Pass Core Areas
Legend
Core Area Transmission Corridor
Core Area
Hanna
Core Area
Hanna
Elk Mountain
Rawlins
Sinclair
Carbon County
Sweetwater County
Greater South Pass
Core Area
0
3
6
12
18
24
30
Miles


Attachment D - Map 2
Sage Grouse Core Area Executive Order
Transmission Corridor Through
Sage, Seedskadee and Greater South Pass Core Areas
Legend
National Wildlife Refuge
Core Area Transmission Corridor
Core Area
Cokeville
Sage Core Area
Kemmerer
Opal
Lincoln County
Uinta County
Sweetwater County
Lincoln County
Greater South Pass
Core Area
Seedskadee
Core Area
Granger
Green River
0 3.5 7 14 21 28 35
Miles

Attachment B

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Wyoming State Office
P.O. Box 1828
Cheyenne, Wyoming 82009-1828

IN REPLY REFER TO:
6840 (930) P

February 10, 2012

EMS TRANSMISSION: 02/15/2012
Instruction Memorandum No. WY-2012-019
Expires: 9/30/2013

To: District Managers and Deputy State Directors

From: State Director

Subject: Greater Sage-Grouse Habitat Management Policy on Wyoming Bureau of Land Management (BLM) Administered Public Lands Including the Federal Mineral Estate

Program Area: All programs

Purpose: This Instruction Memorandum (IM) provides guidance to Bureau of Land Management Wyoming (BLM WY) Field Offices (FOs) regarding management consideration of Greater Sage-Grouse habitats for proposed activities until resource management planning updates are completed. This guidance is in place of direction provided in Washington Office (WO) IM No. 2012-043 concerning interim management policies and procedures for Greater Sage-Grouse. Specifically, this IM addresses all BLM WY programs and provides all necessary interim program direction consistent with WO IM No. 2012-043. Where planning efforts to update and incorporate this guidance are not yet completed, the BLM WY State Office will conduct periodic review of the implementation of measures and directives contained in this IM to determine their applicability and effectiveness and make changes as necessary. This IM replaces IM No. WY-2010-012 and IM No.WY-2010-013 (USDI BLM 2010a, USDI BLM 2010b). This IM also acknowledges that Wyoming BLM will be meeting the intent of WO IM-No. 2012-044, BLM National Greater Sage Grouse Land Use Planning Strategy.

Policy/Action: It is the policy of BLM WY to manage Greater Sage-Grouse seasonal habitats and maintain connectivity in identified areas in support of the population management objectives set by the State of Wyoming. This guidance is consistent with guidelines and recommendations

provided for in the Wyoming Governor's Sage-Grouse Implementation Team's Core Population Area Strategy and the most recent Wyoming Governor's Executive Order (EO) 2011-5. This IM is also consistent with the BLM National Sage-grouse Habitat Conservation Strategy (USDI BLM 2004a), WO policy guidance including:

- IM No. WO-2011-138 (Sage-Grouse Conservation Related to Wildland Fire and Fuels Management);
- IM No.WO-2010-071 (Gunnison and Greater Sage-Grouse Management Considerations for Energy Development);
- IM No.WO-2012-043 (Greater Sage-Grouse Interim Management Policies and Procedures);
- National BLM Policy Manual 6840 which provides direction for the management of BLM Sensitive Species; and
- IM NO. WO-2012-044, BLM National Greater Sage-Grouse Land Use Planning Strategy.

Because Washington Office IM No. WO-2012-043 references the terms Preliminary Priority Habitat (PPH) and Preliminary General Habitat (PGH), the following explanation of terms used in Wyoming to describe these areas is necessary. BLM WY will refer to PPH in this IM as "core" or "connectivity" areas because these areas currently correspond to the mapped boundaries of the State of Wyoming's Core Population Area Strategy and meet the instructed intent of WO guidance. Connectivity areas are not the same as core areas in Wyoming, but they are a high priority for management, as identified by the State (EO 2011-5; Figure 1). Additionally, the BLM WY, Buffalo Field Office (BFO) has identified sage-grouse "Focus Areas" for adaptive management direction during the Buffalo resource management plan revision process. A record of the management direction for these existing "focus areas" can be reviewed by visiting the following BLM WY BFO web-site:

(http://www.blm.gov/wy/st/en/field_offices/Buffalo/wildlife/sagegrouse.html).

Finally, PGH in Wyoming corresponds to all Greater Sage-Grouse habitats not located within identified core, connectivity or focus areas.

This guidance is structured to utilize an adaptive management approach that effectively adopt the goals and objectives of the State's Sage-Grouse Core Protection Area Strategy regarding habitat conservation, restoration, and reclamation practices for Sage-Grouse habitats in Wyoming.

The IM policy guidance will be implemented in conjunction with existing program-specific policies and Best Management Practices (BMPs) such as, but not limited to, those contained in the fluid minerals program and the lands and realty program. It is the goal of BLM WY to continue to work toward the long-term conservation of Greater Sage-Grouse habitats in

Wyoming through coordination with partners, including the Governor's Office of the State of Wyoming, the Wyoming Game and Fish Department (WGFD)and the U.S. Fish and Wildlife Service (FWS), and to also utilize input from the Resource Advisory Council (RAC), Local Sage-Grouse Working Groups (LWGs), BLM cooperators and stakeholders through a process that includes the immediate implementation of the following measures and statements.

Policy Statement 1: Habitat Mapping and Assessment

The BLM WY State Office will, along with other involved partners, continue to support the development and use of the statewide sage-grouse seasonal habitat models. In addition, BLM WY will continue to support the development of genetic connectivity information and other tools appropriate and necessary to support BLM management decisions. It is anticipated that regionally-based, seasonal habitat models will be fully developed for nesting, early brood-rearing and winter habitat areas by 2013. BLM WY FOs are encouraged to work with the WGFD, using input from LWGs, researchers, industry, and other partners to identify, delineate, and manage important sage-grouse seasonal habitats and movement corridors even before the completion of these models. BLM WY will refer to core area maps located in the State's EO 2011-5. EO 2011-5 also includes clarified management prescriptions for the designated areas of non-core and connectivity areas. If, through the planning process, BLM proposes to adjust management strategy or boundaries of these areas from the State EO, all such adjustments must be coordinated with the State of Wyoming and other cooperators throughout the established NEPA and planning compliance processes.

The BLM WO has finalized the Sage-grouse Habitat Assessment Framework (HAF) as of August 2010, and instruction from the HAF must be considered when assessing the use of best tools for delineating relative abundance or quality of important seasonal sage-grouse habitats in core. Wyoming Sage-Grouse definitions are provided in Attachment 1 of this IM for reference and consideration of the following statements. Additionally, Attachment 2 provides habitat component descriptions for reference and consideration of the following statements.

Policy Statement 2: Timing, Distance, Disturbance, and Density Restrictions

Pending completion of ongoing land use planning revisions and amendments, BLM WY FOs must consider and evaluate the following sage-grouse habitat conservation measures related to timing, distance, disturbance, and density for proposed projects both within and outside of core areas as appropriate. FOs should, on a project-by-project basis, evaluate these and other project-specific habitat conservation measures within the context of the proposal and associated documentation of National Environmental Policy Act (NEPA) compliance.

With regard to timing limitations, the Governor's EO presents timing restrictions, as recommended by the Sage-Grouse Implementation Team (SGIT), of March 15 to June 30 for the protection of breeding activities (*i.e.*, lek, nesting, and early brood rearing) as well as the winter seasonal protections from November 1 to March 14 for Winter Concentration Areas (WCAs). At a minimum, the BLM will consider these recommended timing restrictions in core areas. Where local FOs have obtained credible data and information to support an additional 2 weeks of

protection preceding these recommended dates or subsequent to these dates, then BLM FOs may consider expanding the dates of restriction for the protection of sage-grouse breeding, early brood rearing, and winter concentration habitat areas. This instruction is consistent with the Wyoming Governor's EO (EO 2011-5; Attachment B; Statement 2).

The following sage-grouse habitat conservation measures, which FOs must consider and evaluate consistent with applicable laws, when considering proposed actions, are concentrated on providing direction for identified core and connectivity habitats and those areas of habitat outside these designations. For management prescriptions within WY BLM - BFO focus areas, refer to established management prescriptions for these areas that would be applied during the RMP revision process. The BFO is the only WY BLM FO that has, or will, identify sage-grouse focus areas.

Timing and Distance:

Sage-grouse leks inside core/connectivity areas: Surface occupancy and/or disruptive activities are prohibited on or within a six tenths (0.6) mile radius of the perimeter[1] of occupied[2] sage-grouse leks.

For the purposes of implementation of this policy, FOs must consider and evaluate an alternative that would not allow new surface facilities, including roads, to be authorized within a 0.6-mile buffer around occupied core or connectivity leks. Other actions may be consistent with the State's strategy when authorized (e.g., buried power and flowlines) with adherence to seasonal restrictions in nesting/early brood-rearing habitat and/or winter concentration areas, where the action(s) would not result in adverse impacts to core sage-grouse populations.

Sage-grouse outside core/connectivity areas[3]: Surface occupancy and/or disruptive activities are prohibited on or within a one-quarter (0.25) mile radius of the perimeter of occupied sage-grouse leks.

For the purposes of implementation of this policy, FOs must consider and evaluate an alternative that would not allow new surface facilities, including roads, to be authorized within a 0.25 mile buffer around occupied leks outside core or connectivity areas. Other actions may be consistent with the State's strategy when authorized (e.g., buried power and flowlines) with adherence to seasonal restrictions in nesting/early brood-rearing habitat

[1] Mapping of lek perimeters is underway in cooperation with the WGFD. Field Offices are encouraged to continue to coordinate with WGFD to complete lek perimeter mapping. FOs must use lek perimeter data from WGFD if available, and until such time as the perimeter is mapped, use 0.6 miles from the center of the lek.

[2] Wyoming Sage-Grouse Definitions are in Attachment 1.

[3] Connectivity Areas as identified by SGIT recommendations and Wyoming Governor's EO 2011-5.

and/or winter concentration areas, where the action(s) would not result in adverse impacts to core sage-grouse populations.

Sage-grouse nesting/early brood-rearing habitat in core areas: Surface disturbing and/or disruptive activities are prohibited from March 15–June 30 to protect sage-grouse nesting and early brood rearing habitat. Apply this restriction to all nesting and early brood-rearing habitats inside core areas regardless of distance from the lek. Where credible data support different timeframes for this seasonal restriction, dates may be expanded by up to 14 days prior to or subsequent to the above dates.

Sage-grouse nesting/early brood-rearing habitat in connectivity areas: Surface disturbing and/or disruptive activities are prohibited from March 15–June 30 to protect nesting and early brood-rearing habitats within 4 miles of the lek or lek perimeter of any occupied sage-grouse lek within identified connectivity areas. Where credible data support different timeframes for this seasonal restriction, dates may be expanded by 14 days prior or subsequent to the above dates.

Sage-grouse nesting/early brood-rearing habitat outside core or connectivity areas: Surface disturbing and/or disruptive activities are prohibited from March 15–June 30 to protect sage-grouse nesting and early brood rearing habitats within 2 miles of the lek or lek perimeter of any occupied lek located outside core or connectivity areas. Where credible data support different timeframes for this restriction, dates may be expanded by 14 days prior or subsequent to the above dates.

Sage-grouse late brood-rearing and Winter Concentration Areas (WCAs): Surface disturbing and/or disruptive activities in sage-grouse WCAs are prohibited from December 1–March 14 to protect core populations of sage-grouse that use these winter concentration habitats. While the bulk of winter and late brood rearing habitat necessary to support core area populations is available within core population areas, it may be necessary to protect additional areas of winter concentration that are not located within the current core area boundaries. Appropriate seasonal timing restrictions and habitat protection measures must be considered and evaluated where WCAs or important late brood-rearing areas are identified as supporting populations of Greater Sage-Grouse that attend leks within core.

Surface Disturbance and Disruptive Activities:
Surface disturbing and disruptive activities are defined in the WY BLM Guidance for Use of Standardized Surface Use Definitions (WY IB 2007-029). For actions other than those taken for human health and safety, regulatory compliance or emergency, BLM FOs must determine if any activity proposed in sage-grouse nesting, brood-rearing or WCA habitat is "disruptive" by determining if the activity would require people and/or the structure or activity to be present in these habitats for a duration of more than 1 hour during any one 24 hour period during the applicable season in a site-specific area. Disruptive activity restrictions are not applicable to mandatory actions including those required to ensure compliance with existing permits, 43 CFR §3162.1(a) and 43 CFR §3162.5-1(a) and (c), or activities meeting any of the definitions of casual use as found in the Code of Federal Regulations.

Density and Disturbance:

Inside Sage-Grouse Core Areas:
For authorization of new proposed actions within sage-grouse core areas, including where there are valid existing rights, FOs must consider an alternative that would limit activities to an average of no more than one oil and gas and/or mining location per 640 acres and no more than 5 percent habitat disturbance (related to all programs or applicable sources of "disturbance" – see Disturbance Density Calculation Tool (DDCT) Manual within the core areas using the DDCT. Exempted activities not subject to the disturbance limits will not require use of the DDCT, but their associated disturbance will be captured (i.e., toward the 5 percent threshold) and will count toward the disturbance limits for non-exempted actions. Include results of the tool in the record when conducting site-specific or project-level documentation of National Environmental Policy Act (NEPA) compliance as appropriate.

The overall goal of the core area strategy as it relates to density and disturbance measures is to limit the fragmentation or loss of sagebrush habitats that support core populations. The BLM will consider and evaluate measures that limit or reduce the density of oil and gas or mining activities to no more than an average of 1 location per 640 acres; and to limit all surface disturbance (any program area) to no more than 5 percent of the core landscape using the DDCT. The consolidation and minimization of disruptive human influences and infrastructure is a basic strategy in limiting wildlife habitat fragmentation and habitat disturbance. The effort to consolidate or minimize fragmentation and disturbance must be considered regardless of whether proposed activities are located inside or outside of Sage-Grouse core or connectivity areas (see Attachment 3) and regardless of land ownership patterns.

Inside Greater Sage-Grouse core areas the density and disturbance goals include:
- The maintenance of sagebrush communities by maintaining or reducing the density of disturbance locations and disruptive activities on the landscape; or
- To not exceed an average of one oil and gas or mining location per 640 acres within the DDCT area identified using the DDCT, and total surface disturbance including existing disturbance and any proposed activity disturbance within the DDCT area should not exceed 5 percent disturbance of core sage-grouse habitats (See Policy Statement 4).

Inside Greater Sage-Grouse connectivity areas the disturbance goals include:
- To not exceed 5 percent habitat disturbance (up to 32 acres) per 640 acres using the DDCT process. For authorization of any proposed action within sage-grouse connectivity areas, including where there are valid existing rights, FOs must consider an alternative that would limit habitat disturbance to no more than 5 percent (up to 32 acres) per 640 acres of suitable sage-grouse habitat within connectivity areas in site-specific or project-level documentation of NEPA compliance.

The overall goal of the core population area strategy within connectivity areas is to minimize habitat loss within these areas sufficient to maintain high probability of lek persistence such that

conservation of population linkage for genetic transfer between sage-grouse populations in Wyoming and those within Montana and the Dakotas is achieved.

Activities excepted by the State plan from the conductance of a DDCT calculation:
Although the following land uses and land management practices must consider and evaluate provisions that support the goals of the core area strategy, including appropriate sage-grouse management protection and conservation measures (*i.e.*, seasonal timing, applicable spatial restrictions, etc.), they will not be subject to, nor require use of the DDCT in order to be consistent with this policy or the State's core population area strategy and EO.

- Herbicide use on or within existing well pads, roads, pipelines and powerline rights-of-way.
- Insecticide application using spot treatments for Grasshopper/Mormon cricket control or where aerial treatments follow accepted Reduced Agent-Area Treatments (RAATS) protocol and other common avoidance measures/protocols as appropriate and/or necessary.
- Existing public road maintenance activities (new roads and/or upgrading of existing roads will be subject to consideration of DDCT and results).
- Emergency response or actions specifically taken to avoid an emergency.
- Agricultural livestock reservoirs, water pipelines and protected spring developments.
- Fences (necessary construction and maintenance actions, seasonal restriction, relocation and/or marking of fences with high potential for strike mortality). Seasonal removals or adaptive modifications should be considered prior to any approval or construction of new fences in sage-grouse core area habitats.
- Cultural resource pedestrian surveys.
- All actions taken to comply with other existing statutes, regulations or terms of an existing permit.
- Actions taken to comply with new or existing livestock grazing authorizations.

Exceptions to lease stipulations, Conditions of Approval (COAs), and terms and conditions (T&Cs), etc. will continue to be considered on a case-by-case basis consistent with approved Resource Management Plans (RMPs) and other BLM policy and regulations as they relate to exceptions. Adequate pre-planning can reduce or eliminate the need for exceptions to sage-grouse protections or restrictions in many cases. When considering exceptions to timing, distance, disturbance and density restrictions applied to oil and gas activities, BLM WY FOs will coordinate with the WGFD in accordance with Appendix 5G of the Umbrella MOU (WGFD and USDI BLM 1990, as updated) and the coordination diagram for interactions between BLM WY and the WGFD specific to this IM (Attachment 4). All necessary timing, distance, disturbance and density restrictions will be considered across all FOs within appropriate NEPA compliance documentation for new projects under consideration. BLM WY FOs may vary somewhat in their application of these restrictions when that variance is based on locally collected scientific data and information, and such information is included in project-specific NEPA analysis (including analysis and rationale that support existing Records of Decision). Additionally, variance or determinations that do not apply the measures located in this policy IM may be necessary where BLM is required to comply with other non-discretionary statutes and regulations (*i.e.*, valid existing rights, oil and gas "drainage", etc.).

Policy Statement 3: Conservation Objectives and Mitigation

Through this policy IM, BLM WY will include site-specific, measurable conservation objectives for the management of core sage-grouse habitats are included in all new project NEPA documents (internal and external proposals). Documentation will include a discussion on the collection of baseline data and an outline for post-project monitoring that will be conducted if a proposal is ultimately approved. FOs are directed to coordinate with WGFD and to utilize LWG plans and other sources of information to guide development of additional conservation objectives for localized management of sage-grouse habitats. BLM WY FOs will work within multiple programs, such as the hazardous fuels, fire management, range, and wildlife programs, to accomplish sage-grouse habitat conservation objectives that would be consistent with the core population area management strategy.

BLM WY FOs will continue to work with project proponents, partners, and stakeholders to implement direct mitigation (e.g. relocating disturbance, timing and distance restrictions, etc.), utilize BMPs, and consider off-site compensatory mitigation as appropriate. Information sources to consider when identifying additional measures to reduce impacts include, but are not limited to, the BLM WY Mitigation Guidelines for Surface-Disturbing and Disruptive Activities (USDI BLM 1990) and the BLM Offsite Mitigation policy (USDI BLM 2008), and the National BLM Sage-Grouse Habitat Conservation Strategy (USDI BLM 2004). Reclamation of surface disturbance within Sage-Grouse core areas will include consideration of methods to assist in the restoration or augmentation of appropriate functional sage-grouse seasonal habitats. These measures will be in accordance with the BLM Wyoming Reclamation Policy (USDI BLM 2009b) and further guidance and information on these practices is anticipated in 2014 or earlier, with the signing of the RMP Amendments for Greater Sage-Grouse management. BLM WY will recognize the population management goals set by the WGFD when considering new or additional mitigation strategies throughout the NEPA process. The BLM's goal inside sage-grouse core areas is to maintain or enhance seasonal habitats thereby providing support for sage-grouse population management objectives of the State. Outside sage-grouse core areas, the BLM's goal is to sustain important habitats that support core populations and to maintain lek persistence over the long term in sufficient proportions of the sage-grouse population to facilitate movement and genetic transfer between core populations, including those found in adjacent States. Within sage-grouse connectivity habitats identified by the Governor's EO (2011-5), the BLM's goal is to maintain or enhance seasonal habitats in support of the connectivity population management objectives of the State.

This policy does not preclude the development and immediate implementation of new, or innovative mitigation, or other conservation measures that would also be expected to reduce activity/project impacts to sage-grouse or their habitats. New measures applied for sage-grouse will be coordinated as necessary with the WGFD. All recommendations, mitigation and conservation measures will be considered in site-specific documentation of NEPA compliance. As appropriate, these measures may be incorporated into COAs of permits, plans of development, and/or other use authorizations.

Policy Statement 4: Project Locations and Analyses

BLM WY regularly conducts wildlife habitat evaluations in response to applications and proposed activities in coordination with an interdisciplinary team. Evaluations involve a review of baseline data from office-based sources including, but not limited to, aerial photography, satellite imagery and sage-grouse demographic data which may refer to activities which pose potential threats to sage-grouse habitat. Evaluations typically include field visits to identify where impacts can be reduced by protecting seasonal habitats, especially leks, nesting, early brood-rearing, and WCAs. During these habitat evaluations, other vegetation communities not generally used by sage-grouse can be identified as potential sites in which to relocate certain projects with proposed surface disturbance or disruptive activity. In order to claim that the overall relocation results in having no substantive impacts on sage-grouse, the "patch" of non-habitat would need to be quite large and activities would have to be further than 0.6mi from the edge of suitable habitat. This same principle would apply in the case of timing restrictions/limitations. In any case, relocation into least sensitive habitats or vegetation types would still be appropriate. Sage-grouse habitat indicators that may be useful to consider when identifying conservation measures may include existing disturbance, habitat availability, patch size, currently approved or proposed fragmentation of existing habitats, patch connectivity, patch dynamics (*i.e.*, seral stages of vegetation), habitat edge characteristics and corridors potentially used for seasonal migration. The interdisciplinary team will consider and weigh potential impacts on other resources, such as cultural resources, soils and water to determine siting within the least environmentally sensitive area. In all cases, direct, indirect and cumulative impacts of proposed action on sage-grouse, other wildlife and all other impacted resources must be described regardless of distance from the project or whether inside or outside sage-grouse core areas.

Disturbance Density Calculation Tool (DDCT) Review:
For activity proposals within core areas, the effort to establish compliance with this IM and support of the State's strategy and EO will be to evaluate habitat disturbance (*i.e.*, percent of lost habitat within core) and then determine density of disruptive activities (oil and gas and mining locations) by using a quantitative disturbance and density calculation called the DDCT. The DDCT utilizes a GIS platform to conduct this review. Within the DDCT process, where habitat assessment information is comprehensive enough to measure, unsuitable habitats including those associated with disturbances occurring within the DDCT area may be excluded in the disturbance calculations as described in Attachment 5. Impacts and habitat evaluations under NEPA should continue to be analyzed and described for all populations to extend out to the distances and locations appropriate to the population which is likely to be affected. To conduct a project-level review of disturbance and density using the DDCT, there is a detailed, step-by-step DDCT Process Manual in Attachment 5 of this IM. Updates and additional information will be made available as the strategy is implemented and updates to the DDCT Manual are expected to occur over time.

The remaining portion of Policy Statement 4 addresses BLM WY program activities that may occur within sage-grouse seasonal habitats and have varying degrees of impact to the health and

connectivity of the sage-steppe communities therein. There is a focus on minimizing impacts and improving the health of sagebrush habitats for sage-grouse and other sagebrush obligates in core areas.

Existing Activities:
The State's strategy and this policy IM recognize and acknowledge that certain activities related to valid existing rights (oil and gas leases and mining operations), agricultural grazing activities and other existing activities will continue to occur within core areas. It is also acknowledged that existing operations and activities may have localized impacts on Greater Sage-Grouse. To offset these potential impacts, the mapping of core areas included more habitat than that which is strictly necessary for long-term conservation of the sage-grouse within the State of Wyoming (Wyoming EO 2011-5, provision No. 14). Consideration of existing activities (e.g., existing permits and developments already in place) will be expected to continue. Any expansion or new individual development proposals that require new BLM permits or decisions will remain a case-by-case determination of the BLM AO and conservation measures must be considered and evaluated before making new decisions.

New Activity Proposals:
The BLM's goal for any new activity or development proposal within core areas is to provide consistent support for population management objectives of the State. Activities would be consistent with the strategy where it can be sufficiently demonstrated that no declines to core populations would be expected as a result of the proposed action. Published research suggests that impacts to sage-grouse leks associated primarily with infrastructure and energy development are discernible at a distance of at least 4 miles and that many leks within this radius have been extirpated as a direct result of development (Walker et al. 2007, Walker 2008). Research also suggests that an evaluation of habitats and sage-grouse populations that attend leks within an 11-mile radius from the project boundary in the context of "large" projects may be appropriate in order to consider all seasonal habitats that may be affected for birds that use the habitats associated with the proposal during some portion of the life-cycle of seasonally migratory sage-grouse (Connelly et al. 2000).

Based on this information, the potential for direct and indirect impacts to sage-grouse within core areas shall be evaluated at minimum, out to 4 miles from relatively small individual proposed actions. Effects analyses may extend out 11 miles or more from the project boundary for large-scale projects depending on local knowledge and information regarding the site-specific population. The evaluation of "large" or "small" projects is not related to the disturbance density calculation or DDCT. This determination of size will be based on the distance at which an appropriate effects analysis under NEPA should be conducted unless pertinent data and information indicates a greater distance would be appropriate.

For the purpose of illustrating the implementation of the "large" or "small" determination within this policy statement, examples of relatively small actions may include but are not limited to, minor exploratory natural gas well drilling proposals, individual rights-of-way (including below ground linear projects), vegetation treatments conducted in accordance with the sagebrush treatment protocols (See Integrated Vegetation Management below, and Attachment 6 – WGFD

Protocols for Treating Sagebrush to be Consistent with Wyoming Executive Order 2011-5), wind energy site testing and sage-grouse monitoring projects. Examples of large-scale actions may include, but are not limited to, oil and gas field developments, wind energy farm/field development projects, large interstate transmission power lines and vegetation treatments that eliminate functional habitat for sage-grouse. In all cases, these distances are only a suggested distance for evaluation and project specific distances for evaluation can be modified based upon available data and information. Additionally, in the event that these measures are all adopted in a final proposal, this does not mean that the proposed activity would be automatically approved. BLM must evaluate proposed actions on a case-by-case basis while meeting its obligations under NEPA, FLPMA, and other applicable laws.

Noise:
BLM WY FOs will work with proponents to limit project related noise where it would be expected to reduce functionality of habitats that support core area populations. BLM will evaluate the potential for limitation of new noise sources on a case-by-case basis as appropriate. BLM's near-term goal is to continue to limit noise sources that would be expected to negatively impact core area sage-grouse populations and to continue to support the establishment of ambient baseline noise levels for occupied core area leks. As additional research and information emerges, specific new limitations appropriate to the type of projects being considered will be evaluated and appropriate limitations will be implemented where necessary to minimize potential for noise impacts on core sage-grouse population behavioral cycles.

Integrated Vegetation Management
For vegetation treatments in sagebrush within core areas, refer to Attachment 6 – WGFD Protocols for Treating Sagebrush to Benefit Sage-Grouse (WGFD 2011, as updated). These recommended protocols will be used in determining whether proposed treatment constitutes a "disturbance" that will contribute toward the 5 percent threshold for habitat maintenance or not. Additionally, these protocols will be used to determine whether the proposed treatment configuration would be expected to have neutral or beneficial impacts for core populations or if they represent additional habitat loss or fragmentation. Treatments to enhance sagebrush/grasslands habitat for sage-grouse will be evaluated based upon habitat quality and the functionality/use of treated habitats post-treatment.

BLM will work collaboratively with partners at the State and local level to maintain and enhance sage-grouse habitats in a manner consistent with the core population area strategy for conservation.

Wildfire Emergency Stabilization (ES) and Burned Area Rehabilitation (BAR)
BLM will work collaboratively with partners at the Federal, State, and local level to maintain and enhance sage-grouse habitats in a manner consistent with the core population area strategy for conservation. Conduct DDCT reviews in coordination with the WGFD - Habitat Protection Program located in Cheyenne at the WGFD headquarters. Areas within core are high priority for restoration of sage-grouse habitat beyond immediate response.

Wildfire Suppression and Fuels Management

Wildfire suppression efforts in core areas should be emphasized, recognizing that other local, regional, and national suppression priorities may take precedence. Public and firefighter safety remains the number one priority for all fire management activities. BLM WY will recognize and implement the measures found in WO IM No. 2011-138 (Sage-Grouse Conservation Related to Wildland Fire and Fuels Management), or successor guidance, regarding suppression operations and fuels management which is consistent with the State plan. For fuels management, BLM WY will consider multiple tools for fuels reduction in subject NEPA compliance documentation before electing to implement prescribed fire in sage-grouse core areas. Avoid the use of prescribed fire in areas of Wyoming big sagebrush and/or within areas of less than 12 inches of annual precipitation.

Rights-of-Way (ROW), (e.g. Powerline Transmission, Wind Energy Projects)

Powerline Transmission:

In conducting review of powerline transmission proposals, the use of the Framework for Sage-Grouse Impacts Analysis for Interstate Transmission Lines is necessary. The framework for analysis focuses on the evaluation of direct and indirect impacts to sage-grouse specific to large interstate transmission lines, as well as direct loss of birds that may occur and finally, mitigation (which includes the use of habitat equivalency analysis or HEA). Secondarily, a DDCT will be required for all areas of core habitat that would be crossed by transmission if proposals or alternatives are identified outside the State's preferred corridors for transmission (see EO 2011-5; Statement 15; pg. 4). The results of the DDCT would be used to evaluate opportunities to: minimize density of disturbance within core areas that are outside the State's preferred disturbance corridor, as identified in the Wyoming Governor's Executive Order 2011-5; and to identify opportunities to restore and/or enhance important sage-grouse habitat as a part of project-related mitigation. The site-specific habitat evaluation of a DDCT will enable BLM to: (a) demonstrate compliance with the Greater Sage-Grouse Habitat Management Policy on Wyoming BLM Administered Public Lands including Federal Mineral Estate (IM WY-2012-019); and (b) demonstrate consistency with the Greater Sage-Grouse Core Area Protection, Wyoming Governor's Executive Order 2011-5 which requires use of designated corridors to traverse core areas. For clarity, the DDCT is not, by itself, an analysis of impacts from proposed transmission on BLM-administered properties for the purposes of NEPA and thus, BLM WY FOs are directed to observe the Framework for Sage-grouse Impacts Analysis for Interstate Transmission Lines.

Wind Energy:

It is the policy of BLM WY to consider, based on site specific analysis, deferral of approval of new applications and proposals for wind power development inside Greater Sage-Grouse core areas until the WY RMP updates have been finalized (*i.e.,* on-going RMP revision or on-going amendments for Greater Sage-Grouse management), unless it can be sufficiently demonstrated that the development activity would not result in declines of core sage-grouse populations. Sufficient demonstration of "no declines" should be coordinated with the WGFD and U.S. Fish and Wildlife Service. BLM WY will continue to contribute and support research and monitoring efforts to study the various environmental consequences of wind energy development on Greater Sage-Grouse or their habitats.

Leasable Minerals:

Energy Development and Valid Existing Rights:

Many sage-grouse seasonal habitats within and outside of core areas are encumbered by valid existing rights, such as mineral leases or existing rights-of-way. Fluid mineral leases often will include less stringent lease stipulations than the timing, distance, and density requirements identified for consideration in this policy. BLM WY FOs will work with project proponents in these situations to promote measurable sage-grouse conservation objectives such as but not limited to, consolidation of project related infrastructure to reduce habitat fragmentation and loss and to promote effective conservation of seasonal habitats and connectivity areas that support population management objectives set by the State. BLM WY FOs will continue to work with project proponents (including those from within the BLM) to site their projects in locations that meet the purpose and need for their project, but have been determined to contain the least sensitive habitats and resources whether inside or outside of core areas. Valid existing rights will be recognized and respected. In some cases, the goals of this strategy may not be met but, it remains the objective of the BLM to limit habitat loss and fragmentation within core areas.

Solid Mineral Leases (Coal, Oil Shale and Non-energy):

For all new coal and non-coal leasing applications, BLM will assess the potential impacts to sage-grouse through the NEPA process and as applicable identify mitigation to minimize habitat loss, fragmentation and direct and indirect effects to Greater Sage-Grouse and its habitat. The State regulatory agency would apply any BLM identified mitigation attached to the final lease document, as well as protective measures consistent with the State Policy for solid leasable minerals mining actions at the permitting stage. For solid non-energy leasable minerals, the BLM has regulatory authority to approve surface disturbing activities on Federal land only. In Wyoming, the State Department of Environmental Quality also has the regulatory authority to approve surface disturbing activities associated with Federal and non-Federal non-energy solid leasable mineral operations. Wyoming Department of Environmental Quality (DEQ) is the regulatory authority on non-Federal surface disturbing activities and is best suited to determine if development of a DDCT is required for permitting and may also impose restrictions that are not described for evaluation by BLM in this BLM WY policy IM.

Fluid Mineral Leasing Screen

In review of parcels nominated for lease of Federal fluid minerals in Wyoming, FOs are directed to utilize the following lease screen instruction.

Evaluate all proposed lease parcels by answering the following questions (Sage-Grouse Lease Screen - Attachment 7):

1. Is the parcel wholly or partially inside a Sage-Grouse Core Area? YES or NO?
   - If YES, then move to question 2.
   - If NO, then recommend the parcel or portion of parcel outside core, be offered for lease sale after attaching Lease Notice No. 3, Stipulation - Controlled Surface Use for Threatened, Endangered, and Sensitive Species, and also attach all other land-use plan derived stipulations, as appropriate.

* Note that specialists must continue to use the most up to date GIS information and layers that reflect any changes in core areas or their boundaries.

2. Is the parcel part of at least eleven square miles of contiguous, manageable, Federal fluid mineral estate? YES or NO?

- If YES, then move to question 3A by referring the parcel to the State Office Reservoir Management Group (RMG) for preliminary review regarding potential drainage and/or whether the parcel is part of an oil and gas unit.
- If NO, then move to question 3B.

* Note: This component of the screen will assist BLM in identifying opportunities where BLM can conserve large contiguous blocks of manageable, unleased habitats for Greater Sage-Grouse within core areas. Many factors will be considered in determining manageability such as land and mineral ownership patterns, lease or land ownership arrangement, expiration date of adjacent leases and any existing development capable of production or disturbances that would affect or influence habitat functionality. Include a review of any adjacent fee and State lands as practicable.

3.A. Did the BLM WY RMG identify the parcel as having any potential drainage issues, or is the parcel part of an oil and gas unit? YES or NO?

- If YES, then recommend the parcel or portions be offered for lease sale after attaching Lease Notice No. 3, Stipulation - Controlled Surface Use for Threatened, Endangered, and Sensitive Species, and also attach all other land-use plan derived stipulations, as appropriate.
- If NO, then recommend parcel for deferral.

* Note: For all nominated parcels that meet all of the criteria, the FO may recommend deferral for sage-grouse habitat conservation. Deferred parcel areas will remain deferred from leasing until conservation planning and management potential can be evaluated in the context of a Land Use Planning action (*i.e.*, revision, maintenance, or amendment). This approach will ensure appropriate conservation measures and strategy can be effectively applied within core areas.

3.B. Is the parcel partially or entirely within 0.6-mi. of an occupied core area sage-grouse lek? YES or NO?

- If YES, move to question 4.
- If NO, the recommend that the parcel be offered for lease sale after attaching Lease Notice No. 3, Stipulation - Controlled Surface Use for Threatened, Endangered, and Sensitive Species, and also attach all other land-use plan derived stipulations, as appropriate.

4. Is parcel entirely within 0.6 mile? YES or NO?

- If YES, move to question 3A for review by RMG for potential drainage issues and possible deferral.
- If NO, then the parcel must be divided using geographic coordinate database (GCDB) aliquot parts to determine the approximately 40-acre portions of parcel touching or within the 0.6 mile buffer of the occupied lek.

a. For the portions entirely outside the 0.6mi lek buffer, recommend they be offered for lease sale after attaching Lease Notice No. 3, Stipulation - Controlled Surface Use for Threatened, Endangered, and Sensitive Species, and also attach all other land-use plan derived stipulations, as appropriate.

b. For portions touching or within the 0.6 mile buffer of the lek, move to question 3A.

Grazing Management:
Properly managed livestock grazing activities and sage-grouse conservation are compatible. According to the U.S. FWS's March 2010 listing determination for Greater Sage-Grouse, the influence of livestock grazing on sage-grouse habitats varies across the range of the species. This variability of potential impacts is one factor used in determining the appropriate administrative level to prescribe proper livestock grazing management practices that would maintain or enhance localized habitat conditions for sage-grouse. It is the policy of BLM WY to promote proper livestock grazing management practices that maintain or enhance desired sage-grouse habitat conditions. In order to ensure the necessary implementation of these types of practices and protections, this policy IM directs FOs to implement the following practices for all on-going and proposed permits for livestock grazing authorizations and activities in the context of the Wyoming Governor's core population area strategy for Greater Sage-Grouse. These measures have been adapted from and are in conformance with WO IM 2012-043 for grazing management guidance.

Ongoing Authorization Activities

- If periods of drought occur, where appropriate, the AO will evaluate the season of use and stocking rate and adjust through coordination with grazing permittee/lessee and annual billings processes.
- Continue to coordinate with other Federal agencies, State agencies, and non-Federal partners. Leverage funding to implement habitat projects and implement the recent Memorandum of Understanding between the BLM, NRCS, FWS, and USFS maintain or enhance core habitats through grazing practices.
- Continue to prioritize oversight and effectiveness monitoring of grazing activities to ensure compliance with permit conditions and that progress is being made on achieving WY land health standards.
- Continue to evaluate existing range improvements (e.g., fences, watering facilities) associated with grazing management operations for impacts on Greater Sage-Grouse and its habitat.
- Livestock trailing that is authorized through crossing permits under Section 123 of H.R. 2055-228 and 43 CFR 4130.6-3 will include a trailing plan that is designed to avoid sensitive areas and/or time periods for sage-grouse. The plan will include specific routes and timeframes for trailing.

Proposed Authorizations/Activities – Permit/Lease Renewal/Issuance

- When several small or isolated allotments occur within a watershed or delineated geographic area, strive to evaluate all of the allotments together. Prioritize this larger geographic area against other core areas for processing permits/leases for renewal.
- Coordinate BMPs and vegetative objectives with NRCS for consistent application across jurisdictions where the BLM and NRCS have the greatest opportunities to benefit Greater Sage-Grouse, particularly as it applies to the NRCS's National Sage-Grouse Initiative (http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/farmbill/initiatives/and cid=steldevb1027671).

- Evaluate opportunities to coordinate management plans and strategies on multiple allotments where coordination under a single management plan/strategy would result in enhancing Greater Sage-Grouse populations or its habitat as determined in coordination with the State wildlife agency.
- Where current livestock grazing management has been identified as a causal factor in not meeting Land Health Standards (43 CFR 4180), use the process in WO-IM-2009-007, Process for Evaluating Status of Land Health and Making Determinations of Causal Factors When WY Land Health Standards Are Not Achieved, to identify appropriate actions.
- Evaluate progress towards meeting standards that may affect Greater Sage-Grouse or its habitat prior to authorizing grazing on an allotment that was not achieving land health standards in the last renewal cycle, and livestock was a significant causal factor. Where available, use current monitoring data to identify any trends (e.g., progress) toward meeting the standards. Where monitoring data are not available or are inadequate to determine whether progress is being made toward achieving WY Land Health Standards. An interdisciplinary team should be deployed as practicable to conduct a new land health assessment in coordination with the grazing permittee/lessee. The NEPA analysis for the permit/lease renewal must address a range of reasonable alternatives including alternatives that maintain or enhance Greater Sage-Grouse habitat.
- If livestock grazing was the cause of not achieving land health standards that have potential to impact Greater Sage-Grouse or its habitat in the last permit renewal cycle, an interdisciplinary team should be deployed as practicable to conduct a new land health evaluation to determine if the allotment is making progress and if livestock grazing remains a causal factor.
- Plan and authorize livestock grazing and associated range improvement projects on BLM lands in a way that maintains and/or improves Greater Sage-Grouse and its habitat. Analyze through a reasonable range of alternatives any direct, indirect, and cumulative effects of grazing on Greater Sage-Grouse and its habitats through the NEPA process:
    - Incorporate available site information collected using the Sage-Grouse Habitat Assessment Framework and utilize these data when evaluating existing resource conditions and to develop any necessary resource solutions.
    - Incorporate management practices that will provide for maintenance and/or enhancement of sage-grouse habitats, including specific attention to maintenance of desired understories of sagebrush plant communities. When developing objectives for residual cover and species diversity, identify the ecological site(s) within the planning area and refer to the appropriate Ecological Site Description(s).
    - In determining appropriate management actions that will be considered, refer to the document, “Grazing Influence, Management, and Objective Development in Wyoming's Greater Sage-Grouse Habitat” (Cagney et al. 2010) for guidance. This peer reviewed document is the result of a collaborative effort in Wyoming to ensure proper livestock grazing practices with sage-grouse habitats. It is the culmination of efforts to gather and integrate current knowledge and practices regarding livestock grazing in respect to important sage-grouse habitats within Wyoming. The information and discussion materials found within this document

will provide resource professionals in BLM WY in planning livestock grazing strategies that meet the objectives of the Wyoming policy and strategy. Additional instruction for use and implementation of this document is described in Attachment 8 - Management of Livestock Grazing in Sage-Grouse Habitats on Lands Administered by the Bureau of Land Management in Wyoming.

- Evaluate and implement grazing practices that promote the growth and persistence of native shrubs, grasses, and forbs. Grazing practices include kind and numbers of livestock, distribution, seasons of use, and other livestock management practices needed to meet both livestock management and Greater Sage-Grouse habitat objectives.
- Evaluate the potential risk to Greater Sage-Grouse and its habitats from existing structural range improvements. Address potential for modification of those structural range improvements identified as posing a risk during the renewal process.
- Balance grazing between riparian habitats and upland habitats to promote the production and availability of beneficial forbs to Greater Sage-Grouse in meadows, mesic habitats, and riparian pastures for Greater Sage-Grouse use during nesting and brood-rearing while maintaining upland conditions and functions. Consider changes to season-of-use in riparian/wetland areas before or after the summer growing season.

- To ensure that the NEPA analysis for permit/lease renewal has a range of reasonable alternatives:
  - Include at least one alternative that would implement a deferred or rest-rotation grazing system, if one is not already in place and the size of the allotment warrants it.
  - Include a reasonable range of alternatives (e.g., no grazing or a significantly reduced grazing alternative, current grazing alternative, increased grazing alternative, etc.) to compare the impacts of livestock grazing on Greater Sage-Grouse habitat and land health from the proposed action.
    - If land treatments and/or range improvements are the primary action for achieving land health standards for Greater Sage-Grouse habitat maintenance or enhancement, clearly display the effects of such actions in the alternatives analyzed.

Fence Construction:

As stated above, fence proposals are subject to necessary provisions that support the goals of the core area strategy and consideration of necessary impact minimization and mitigation measures that avoid sage-grouse conflicts (*i.e.*, seasonal timing or spatial restriction, etc.). Evaluate the need for proposed fences, especially within 1.25 miles of occupied core area leks (Stephens 2010). Consider deferral of fence construction unless the objective is to maintain or enhance Greater Sage-Grouse habitats, maintain or enhance land health, promote successful reclamation, protect human health or safety or provide resource protection. Fence construction proposals will not require the development of a DDCT.

Where fence construction is authorized then, where appropriate, apply mitigation (e.g., timing limitations for construction/maintenance, proper siting outside scientifically supported buffer

zones, marking, or adjustment to post and pole construction of fences, etc.) to minimize or eliminate potential impacts to grouse, as determined in coordination with WGFD.

Consider and evaluate opportunities to modify or increase visibility of fences that are identified as posing a high risk of collision for sage-grouse. Prioritize evaluations of fences within 1.25 miles of occupied leks within core areas.

Water Developments:
See Policy Statement 7 below.

Special Recreation Permits (SRP) and Recreation Sites:
BLM will work collaboratively with partners at the Federal, State and local level to maintain and enhance sage-grouse habitats in a manner consistent with the core population area strategy for conservation. New proposals for SRPs or recreation site would be subject to "new activity proposals" as discussed above.

Travel Management:
For new road proposals, consider an alternative that would locate new primary and secondary roads greater than 1.9 mi from the perimeter of occupied sage-grouse leks inside core areas. Additionally, for new proposals, consider and evaluate an alternative that would locate new tertiary roads greater than 0.6 mile from the perimeter of occupied leks.

Construct new roads to a minimum design standard needed for proposed activity.

Locatable Mineral Activities:
Existing Notices and Approved Plans of Operations under 43 CFR 3809: For projects that overlap core areas, operators may be requested to submit modifications to the accepted notice or approved plan of operations so that the operations minimally impact core area habitats. The AO may convey to the operator suggested conservation measures, based upon the notice or plan level operations and the geographic area of those operations [also called the project area which is defined in CFR 3809.5]. These suggested conservation measures include measures that support the overall goals and objectives of the core population area strategy, though measures listed for evaluation in Policy Statement 2 of this IM may not be reasonable or applicable to the BLM's determination of whether the proposed operations will cause unnecessary or undue degradation under 43 CFR 3809.5. The request containing the suggested conservation measures must make clear that the operator's compliance is not mandatory.

Notices or Plans of Operation, or modifications thereto, submitted following the issuance of this guidance: As part of the 15 day completeness review of notices [or modifications thereto] and 30 day completeness review of plans of operations [or modifications thereto], the proposed project area(s) where exploration, development, mining, access and reclamation would take place should be reviewed for overlap of sage-grouse core areas in the corporate GIS database. If there is overlap, the BLM AO may notify the operator of ways that they may minimize impacts to core area habitats and request the operator to amend its notice or plan to include such measures. The request to amend the submitted notice or plan of operations must make clear that the operator's

compliance is not mandatory and that including such measures is not a requirement for completeness of either the notice or a plan of operations, nor is it a condition of acceptance of the notice or approval of the plan of operations.

Saleable Minerals:
Where valid existing rights exist, work with permit holders to develop mutually agreeable actions such as siting/design of infrastructure or timing that will avoid or minimize effects to core populations and habitats.

For processing new permits, refer to "New Activity Proposals" above where consideration and evaluation of measures in Policy Statement 2 of this IM would be necessary.

Grasshopper/Mormon Cricket Control and Management:
FOs may implement treatments within sage-grouse core areas where outbreaks of grasshopper or Mormon cricket populations are expected to rise above economic levels. Treatments must be conducted only following reduced agent-area treatments (RAATS) protocols. BLM will work collaboratively with partners at the Federal, State, and local levels to maintain and enhance sage-grouse habitats in a manner consistent with the core population area strategy for conservation. FOs are directed to utilize http://www.blm.gov/wy/st/en/info/NEPA/documents/ghopper.html as a resource for updated information when conducting analysis of grasshopper and Mormon cricket control in sage-grouse habitats.

Wild Horse and Burro Management:
FOs will prioritize the management of wild horse populations in core areas to within established Appropriate Management Levels (AML). In accordance with National direction, wild horse herd management areas within the State's core areas should be considered for priority removal of excess horses, except where removals are necessary in non-core population areas to prevent catastrophic environmental issues, including herd health impacts.

Realty Actions – (e.g. Land Exchanges, Transfers, and Sales):
BLM WY will consider, based on site specific analysis, deferring final action on public land disposals within core areas where such authorizations or approvals could result in a net loss of core sage-grouse habitat until the RMP amendments or revisions are completed. Evaluation of lands identified as suitable for disposal in current RMPs will be conducted through the RMP amendment or revision process.

Vegetation and Resource Monitoring:
See Policy Statements 3 and 9 for guidance and information regarding objectives and importance of monitoring.

Policy Statement 5: Resource Management Plans (RMPs)

For ongoing and future RMP revisions, follow Section 1.3.1 of BLM's National Sage-Grouse Habitat Conservation Strategy (USDI BLM 2004a) as well as WO IM No. 2012-044, BLM

National Greater Sage-Grouse Land Use Planning Strategy, for sagebrush habitat conservation in BLM RMPs.

As WY BLM RMPs undergo revision, amendment, or modification, BLM FOs will identify any areas that would be considered under at least one alternative as unavailable for oil and gas leasing or wind energy development, ROW exclusions, etc., as appropriate. As part of this consideration FOs are encouraged to consider when existing leases are set to expire. BLM will also review the recommended management practices and sage-grouse conservation measures from section 1.4.1 of BLM's National Sage-Grouse Habitat Conservation Strategy (USDI BLM 2004a), the Wyoming Greater Sage-Grouse Conservation Plan, LWG plans and recommendations, peer reviewed research, and other available information, to the extent possible, for public lands and the Federal mineral estates.

Observe and analyze the objectives for maintenance and improvement of sage-grouse habitats that support population management objectives set by the State of Wyoming. The objectives and associated management practices will be designed to limit habitat loss, degradation, simplification, and fragmentation (US EPA 1993).

BLM WY FOs will develop plans addressing RMP objectives and to monitor sage-grouse habitats in order to assess effectiveness of conservation measures that will be applied in achieving the long-term conservation of sage-grouse habitats. All BLM authorized activities located in sage-grouse habitats will require appropriate sage-grouse conservation measures.

BLM WY RMP revisions and/or amendments will follow all applicable principles laid out in WO IM No. 2012-044 and analyze appropriate sage grouse habitat conservation regulatory mechanisms in at least one alternative of the RMP/EIS.

BLM WY RMP revisions and/or amendments will develop specific exception criteria for sage-grouse restrictions and application of greater or lesser restrictions for short or long-term activities. Exception, waiver, or modification evaluation factors may include, but are not limited to, localized population conditions, relative quality or condition of the habitat, presence/absence of sage-grouse or their sign, presence of other activities in the area, importance for migration or genetic connectivity, duration and timing of the proposed activity, local topography, severity and forecast of weather, beneficial aspects of the project for sage-grouse habitats, including possible reclamation activities, and cover or forage availability.

Consider landscape scale conservation strategies that may include special management of seasonal habitats and linkage zones. Use program-specific BMPs such as, but not limited to, temporary set-asides, phased development and/or off-site mitigation if offered by the proponent, sage-grouse habitat reclamation objectives, buried power lines, and other efforts that reduce or consolidate surface-disturbing and disruptive activities in these strategies.

Policy Statement 6: Lek Data

The official Wyoming sage-grouse lek database is maintained by the WGFD in accordance with Appendix 4B of the Umbrella Memorandum of Understanding (MOU) between the WGFD and BLM (WGFD and USDI BLM 1990).

Use of WGFD lek data in conducting DDCT review is required.

BLM WY FO specialists and local WGFD personnel will meet at least annually to locally coordinate and review the accuracy of data and incorporate the most up-to-date information as necessary. Scheduling of these annual coordination meetings is up to the individual FOs with their local WGFD counterparts. For data to be included in the WGFD database, it must be collected using techniques and accuracy standards agreed upon by WGFD and BLM. Annual lek surveys and lek counts will be coordinated between WGFD and the BLM to reduce duplicated efforts and minimize disturbance in accordance with the Umbrella MOU.

Policy Statement 7: West Nile Virus

Artificial water impoundments will be managed to the extent of BLM's authority for the prevention and/or spread of West Nile virus (WNv) where the virus poses a threat to sage-grouse. This may include but is not limited to: (a) the use of larvicides and adulticides to treat waterbodies; (b) overbuilding ponds to create non-vegetated, muddy shorelines; (c) building steep shorelines to reduce shallow water and emergent aquatic vegetation; (d) maintaining the water level below rooted vegetation; (e) avoiding flooding terrestrial vegetation in flat terrain or low lying areas; (f) constructing dams or impoundments that restrict seepage or overflow; (g) lining the channel where discharge water flows into the pond with crushed rock, or use a horizontal pipe to discharge inflow directly into existing open water; (h) lining the overflow spillway with crushed rock and construct the spillway with steep sides to preclude the accumulation of shallow water and vegetation; and (i) restricting access of ponds to livestock and wildlife (Doherty 2007).

Field Offices should consider alternate means to manage produced waters that could present additional vectors for WNv. Such remedies may include re-injection under an approved Underground Injection Control (UIC) permit, transfer to single/centralized facility, etc.

Policy Statement 7 regarding WNv does not apply to naturally occurring waters.

Impoundments for wildlife and/or livestock use should be designed to reduce the potential to produce vectors for WNv where the virus may pose a threat to sage-grouse.

Policy Statement 8: Use of Dogs

Based on current research and consultation of experts, BLM WY cannot consider any technique other than radio telemetry to be effective for detecting individual nesting sage-grouse. Field Offices are not to utilize or accept domestic dogs as the sole mechanism for conducting site

clearances for provision of exception for activities to occur within sage-grouse nesting habitat during the nesting season. BLM WY FOs are directed to carefully consider the impacts of disturbing sage-grouse during this crucial season and the potential for mortality of birds before approving any use of this methodology. Further, given the knowledge that detection of nesting grouse is so unlikely, BLM WY FOs must consider whether any exceptions to this important seasonal protection can be granted at all within the context of your own RMP's existing analysis of the criteria for exception. The use of well-trained dogs and experienced handlers for conducting clearances of winter concentration areas is permissible only when conducted with simultaneous verification of bird presence by visual observation of sage-grouse or their sign. This policy is in compliance with the WY BLM policy (USDI BLM 2009c) which does not allow employees to transport dogs in Government vehicles.

Policy Statement 9: Monitoring Effectiveness

It is extremely important that the directives contained in this IM are monitored to determine the effectiveness of their implementation until RMPs are updated. BLM WY FOs are to establish monitoring protocols that will be incorporated into individual project approvals as appropriate and necessary. Small or in-house projects within core areas will also have a monitoring plan for sage-grouse incorporated in the approval document.

Policy Statement 10: Deviations from the Policy and Strategy

This statewide policy is intended to provide consistent sage-grouse habitat management directives on BLM administered public lands including Federal mineral estate in Wyoming. Because Wyoming is a diverse State, there may be occasional circumstances which could justify deviation from the policies stated herein. FOs may vary in the implementation of this policy IM **where locally collected scientific data and information supported by comprehensive and objective NEPA analysis of a proposed action presents compelling justification for deviation**. In all cases, prior to actions where deviations from policy may take place, FOs will coordinate with WGFD counterparts and advise the Deputy State Director for Resources Policy and Management (WY 930) and the Deputy State Director for Minerals and Lands (WY 920) through the District Office of their intent to take such actions. The purpose of such notification and interaction is to ensure State Office awareness of the number and type of such actions, and not to request advance WY BLM State Office approval for such actions.

Timeframe: Effective immediately.

Budget Impact: There may be a significant effect on budgets.

Background:

In March 2010, the FWS published its finding on the petition for the Greater Sage-Grouse to be listed as Threatened or Endangered. The finding was that the species is "warranted, but precluded." The inadequacy of regulatory mechanisms was identified as one of the major factors in the FWS's finding on Greater Sage-Grouse. The FWS has identified the principal regulatory

mechanism for the BLM as protective measures embedded in land use plans. The BLM is identifying sage-grouse conservation measures for consideration through the planning process, with a target decision date of September 2014. The goal of the overall planning effort is to conserve and manage habitats necessary to sustain Greater Sage-Grouse populations and reduce the likelihood of listing under the Endangered Species Act.

In July 2011, the BLM announced the National Greater Sage-Grouse Planning Strategy which provides a framework for establishing adequate regulatory mechanisms (conservation measures) in applicable BLM LUPs throughout the range of the Greater Sage-Grouse. BLM WY will be working to incorporate the Wyoming Core Strategy into LUPs throughout the State and this IM will assist in preserving decision space that may be needed in the selection of potential alternatives.

Manual or Handbook Sections Affected: No manual or handbook sections are affected.

Coordination: This IM was coordinated among the BLM Washington D.C. Directorate, WY BLM Field Offices, other BLM State Offices, the Wyoming Office of Governor Mead and the Wyoming Game and Fish Department.

Contacts: Chris Keefe, Wildlife Biologist, 307-775-6101, and Buddy Green, Deputy State Director for Resources Policy and Management, 307-775-6113.

Signed By:	Authenticated By:
Donald A. Simpson	Sherry Dixon
State Director	Secretary

9 Attachments:

1 – Wyoming Sage-Grouse Definitions (4 pp)
2 – Seasonal Sage-grouse Habitat Component Descriptions (2 pp)
3 – Wyoming Core Areas Map ver. 3 (1 p)
4 – Coordination with Wyoming Game and Fish - Diagram (1 p)
5 – DDCT Process Manual (31 pp)
6 – Wyoming Game and Fish Department Protocols for Treating Sagebrush to be Consistent with Wyoming Executive Order 2011-5; Greater Sage-Grouse Core Area Protection (5 pp)
7 – BLM Wyoming Sage-Grouse Fluid Mineral Lease Screen (1 p)
8 – Management of Livestock Grazing in Sage-Grouse Habitats on Lands Administered by the Bureau of Land Management in Wyoming (4 pp)
9 – References (3 pp)

Distribution

Director (230), Room 204, LS	1 (w/o atchs)
CF	1(w/atchs)

OIL AND GAS DEVELOPMENT

Synthesis of Research Results

Oil and gas development is an issue for sage-grouse conservation in Wyoming and across the Intermountain West because development has accelerated rapidly since 1990 and areas being intensively developed contain large sage-grouse populations (Copeland et al. 2009). The bulk of studies researching the impact of oil and gas development to sage-grouse have been conducted in Wyoming but most of the peer-reviewed papers resulting from this research were published after Wyoming's local conservation plans were completed in 2007 and 2008.

Sage-grouse populations are impacted at oil and gas well densities commonly permitted in Wyoming (Naugle et al. 2011 Hess and Beck 2012, Kirol 2012). Impacts have not been detected at well densities less than about 1 well/mi^2, but above this threshold, losses of leks have been 2-5 times greater inside than outside of development, and numbers of grouse at remaining leks decline by 32 to 77% (Doherty et al. 2010). The magnitude of loss has varied from one field to another, but impacts are always negative and typically severe (Harju et al. 2010). High site fidelity (loyalty) of adult males to leks and adult females to nesting habitat and lower survival of adult sage-grouse combine with lek avoidance by younger birds (Holloran et al. 2010) to result in time lags of 2-10 years between when development began and the loss of local sage-grouse leks (Holloran 2005, Walker et al. 2007a, Harju et al. 2010). Energy development also impacts sage-grouse habitats and vital rates outside the breeding season away from leks. Vital rates are measures such as nest success, hatching success and survival (Taylor et al. 2012). The risk of chick death has been shown to be 1.5 times higher for each additional well site visible within 0.6 mi of brood locations compared to random locations (Aldridge and Boyce 2007), and sage-grouse avoid otherwise suitable winter habitat disturbed by energy development (Doherty et al. 2008, Carpenter et al. 2010, Dzailak et al. 2012, 2013).

The specific mechanisms that lead to avoidance and decreased fitness have not been empirically tested but rather suggested from multiple correlative and observational studies. For example, abandonment may increase if leks are repeatedly disturbed by raptors perching on power lines near leks (Ellis 1984), by vehicle traffic on nearby roads (Lyon and Anderson 2003), or by noise and human activity associated with energy development during the breeding season (Remington and Braun 1991, Holloran 2005, Kaiser 2006, Blickley and Patricelli *2012*). However, recently completed research in Wyoming (Blickley et al. *2012*), experimentally demonstrated that noise from natural gas drilling and roads resulted in a decline of 29% and 73% respectively in male peak attendance at leks relative to paired controls; declines were immediate and sustained throughout the experiment. Collisions with nearby power lines and vehicles and increased predation by raptors may also increase mortality of birds at leks (Connelly et al. 2000a). Alternatively, roads and power lines may indirectly affect lek persistence by altering productivity

of local populations or survival at other times of the year. For example, sage-grouse deaths associated with power lines and roads occurs year-round (Beck et al. 2006, Aldridge and Boyce 2007), and mosquitoes bred in ponds created by coal bed natural gas development may increase the risk of West Nile virus mortality in late summer (Walker et al. 2004, Zou et al. 2006, Walker et al. 2007b). Anthropogenic developments (e.g. produced water features and distance to wells) appear to facilitate depredation (Dzialak et al. 2011, Webb et al. 2012). Loss and degradation of sagebrush habitat can also reduce carrying capacity of local breeding populations (Swenson et al. 1987, Connelly et al. 2000a, 2000b, Crawford et al. 2004). Birds may avoid otherwise suitable habitat as the density of roads, power lines, or energy development increases (Lyon and Anderson 2003, Holloran 2005, Kaiser 2006, Doherty et al. 2008, Carpenter et al. 2010, Hess and Beck 2012, Kirol 2012).

Long-term studies in the Pinedale Anticline Project Area in southwest Wyoming present the most complete picture of impacts over time. Early in the field development, nest sites were farther from disturbed than undisturbed leks, the rate of nest initiation from disturbed leks was 24 percent lower than for birds breeding on undisturbed leks, and 26 percent fewer females from disturbed leks initiated nests in consecutive years (Lyon and Anderson 2003). As development progressed, adult females remained in traditional nesting areas regardless of increasing levels of development, but yearlings that had not yet imprinted on habitats inside the gas field avoided development by nesting farther from roads (Holloran 2005). The most recent study confirmed that yearling females avoided gas field infrastructure when selecting nest sites, and yearling males avoided leks inside of development and were displaced to the periphery of the gas field (Holloran et al. 2010). Recruitment of males to leks also declined as distance within the external limit of development increased, indicating a high likelihood of lek loss near the center of developed oil and gas fields (Kaiser 2006). The Pinedale work also showed that population level sage-grouse declines are explained in part by lower annual survival of female sage-grouse. (Holloran 2005).

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South Central Sage-Grouse Conservation Plan

March 14, 2007

PREPARED BY:

The South Central Sage-grouse Working Group

PREFACE

The South Central Sage-grouse Local Working Group (LWG) was established in September 2004 as a part of a statewide program by the Wyoming Game and Fish Department to establish local working groups within the State. The purpose of local working groups is to develop local conservation plans, design projects that benefit sage-grouse and other sagebrush obligate species, and to implement on-the-ground habitat and population related projects for the species.

The group includes 12 members representing major interests within the South Central Conservation Area (SCCA). Working Group representation includes the Wyoming Game and Fish Department (WGFD), the Bureau of Land Management (BLM), the U.S.D.A. Natural Resources Conservation Service (NRCS), agriculture, mining, oil and gas, conservation groups, citizens at-large, and sportspersons. Working Group members represent their particular interests and provide liaison with the groups they represent.

Significant activities of the South Central Working Group during the first year included information gathering regarding sage-grouse populations, trends, habitat use, and current status; publication of an informational brochure; seminars to learn more about the potential for sage-grouse management within the SCCA; and the endorsement of several projects. Working Group meetings are 1 day every month, and always include a public comment period.

The major task of the Working Group is to develop a local conservation management plan for sage-grouse within SCCA. This plan will provide guidelines for cooperative management for all stakeholders in the area. The results of the conservation planning effort serve as the basis for this report.

While this group does not have statutory management authority, the working group members represent their particular interests and provide liaison with the groups they represent that will bring a cohesive, cooperative approach to sage-grouse management.

TABLE OF CONTENTS

PREFACE ii
TABLE OF CONTENTS iii
SOUTH CENTRAL WORKING GROUP MEMBERS v
EXECUTIVE SUMMARY vi
INTRODUCTION 1
Background 1
Purpose 1
CONSERVATION ASSESSMENT 2
General Sage–grouse Biology 2
Most Recent Research Specific to the SCCA 2
Conservation Plan Area 3
Sage-grouse Population Status and Trend 6
Sage-grouse Density by Area 13
FACTORS AFFECTING SAGE-GROUSE POPULATIONS 15
Conflicting Wildlife and Feral Horse Management 15
Farming 16
Hunting 17
Invasive Plants 18
Grazing 19
Mineral and Energy Development 20
Parasites and Diseases 25
Pesticides 26
Predation 26
Recreation 27
Residential Development 27
Vegetation Management 28
Weather/Climate 30
GOALS AND OBJECTIVES 31
Goal 1: Improve the ability to evaluate, estimate, and monitor sage-grouse populations in the SCCA 31
Goal 2: Identify threats/opportunities to sage-grouse populations 32
Goal 3: Improve habitat conditions for sage-grouse and associated wildlife in SCCA 33
Goal 4: Reduce the effects of predation on sage-grouse where applicable 35
Goal 5: Initiate education and information efforts for sage-grouse 36
Goal 6: Develop mineral and energy resources in a manner compatible with maintenance and enhancement of sage-grouse populations and habitat. 37
IMPLEMENTATION 38
Funding 38
Monitoring and Adaptive Management 39
Table of Commitments and Recommendations 40
RECOMMENDED MANAGEMENT PRACTICES (RMPs) 46
Conflicting Wildlife and Feral Horse Management 47
Farming 47
Hunting 47
Invasive Plants 48

Grazing 48
General Mineral and Energy Development 48
Oil and Gas Development and Sand and Gravel Mining (Also See General Mineral Development RMPs) 49
Other Solid Mineral Mining Operations (Also See General Mineral Development RMPs) 49
Parasites and Diseases 50
Pesticides 50
Predation 50
Recreation 51
Residential Development 51
Vegetation Management 51
Weather/Climate 52
LITERATURE CITED 53
SAGE-GROUSE DEFINITIONS 53
GLOSSARY 56
APPENDICES 58
APPENDIX A Fluid Mineral Recommended Management Practices 58
APPENDIX B Identification of South Central Sage-grouse Conservation Issues 60
APPENDIX C Funding Opportunities for Sage-grouse Conservation Efforts 70

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Karen Larsen, At-large, (Past Chair, 2004-2005)

Tom Clayson, Industry

John Espy, Agriculture

Jack Berger, Agriculture

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Glen Leavengood, Conservation Districts

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EXECUTIVE SUMMARY

The South Central Sage-grouse Local Working Group (LWG) was established in September 2004 to develop a local conservation plan, design projects that benefit sage-grouse and other sagebrush obligate species, and to implement on-the-ground habitat and population related projects for the species. This conservation plan identifies strategies and commitments for the purpose of improving sage-grouse numbers and precluding the need for listing under the Endangered Species Act. The group includes 12 members representing major interests and government agencies within the South Central Conservation Area (SCCA). Working Group members represent their particular interests and provide liaison with the groups they represent. The SCCA generally includes The Platte Valley, Laramie Plains, Great Divide Basin, North Ferris, south Sweetwater, Little Snake River Valley, in the counties of Carbon, Sweetwater, Albany, Fremont, and Natrona in southern Wyoming. The mission statement of the South Central Sage-Grouse Local Working Group is "to develop and promote best management practices that will conserve, enhance, and restore habitat for sage-grouse and other wildlife while supporting the principles of multiple use."

According to the recently completed range-wide Conservation Assessment of Greater Sage-Grouse and Sagebrush Habitats (Connelly et al., 2004), sage-grouse have declined across their range during the past 50 years, as has the quality and distribution of the bird's requisite sagebrush-steppe habitat.

Sage-grouse are found in sagebrush/grassland habitats of the Great Divide Basin, Little Snake River Valley, south-west Laramie Plains, and Platte Valley throughout the SCCA. About 61% of the identified leks are on BLM administered land, 33% private, and 6% state. Sagebrush habitat is essential for sage-grouse survival. Suitable habitat consists of plant communities dominated by sagebrush and a diverse native grass and forb (flowering broadleaf plants) understory. The composition of shrubs, grasses and forbs varies with the subspecies of sagebrush, the condition of the habitat at a location, and the site's potential. Seasonal habitats must occur in a patchwork or mosaic across the landscape. Both quantity and quality of the sagebrush environment determines suitability and productivity of sage-grouse.

Providing for all habitat needs on the scale required by sage-grouse may be the most challenging element of managing the landscape in the context of other existing land uses. There is also a need to identify structure and cover components. These challenges are greatest in breeding (pre-nesting, nesting and early brood-rearing) habitats. Winter range is increasingly being recognized as a critical component of sage-grouse habitat.

Factors such as vegetation management, conflicting wildlife and feral horse management, predation, energy development, livestock grazing, and invasive plants are higher priority and include large areas that could be affected by project actions. Limiting factors such as climate may have the most influence on sage-grouse populations, but we have the least control. Farming or residential development are limiting in only a few isolated areas of the

SCCA. Hunting, recreation, pesticides, parasites and disease are considered to be low priority factors at this time, but may become more important in the future. Because of the diverse nature of the SCCA, we will evaluate proposed projects on a site-specific basis and how they address key factors. While water availability was not listed as a limiting factor, it can be significant in some areas. Any one factor may not be in itself extremely limiting, but a combination of factors may be extremely limiting.

Goals of the LWG are to: 1) Improve the ability to evaluate, estimate, and monitor sage-grouse populations in the SCCA, 2) Identify threats/opportunities to sage-grouse populations, 3) Improve habitat conditions for sage-grouse and associated wildlife in SCCA, 4) Reduce the effects of predation on sage-grouse where applicable, 5) Initiate education and information efforts for sage-grouse, 6) Develop mineral and energy resources in a manner compatible with maintenance and enhancement of sage-grouse populations and habitat. Objectives and action items are also included in this plan and are used to achieve the above goals.

INTRODUCTION

Background

Throughout their range greater sage-grouse (*Centrocerucus urophasianus)* numbers have declined significantly during the last 50 years, which is generally sagebrush/grassland habitats in 12 western states, and 3 Canadian provinces. Likewise, sagebrush (*Artemisia sp*.) habitats have also undergone degradation and loss within the same time period causing concern among scientists. The sage-grouse was petitioned to be listed as endangered under the Endangered Species Act in 2002-2003, and was determined by the U.S. Fish and Wildlife Service to be not warranted for listing after review in January 2005. There is; however, still a need for continued emphasis on sage-grouse management and conservation through local working groups. Within the South Central Conservation Area, sage-grouse populations have generally remained distributed throughout the region (see Conservation Assessment for specific analysis).

Throughout the SCCA sage-grouse are found in sagebrush/grassland habitats of the Great Divide Basin, Little Snake River Valley, south-west Laramie Plains, and Platte Valley. Within the SCCA, about 61% of the identified leks are on BLM administered land, 33% private, and 6% state. The WGFD collects and compiles lek survey data, lek count data, wings from harvested birds, brood counts, and harvest statistics from hunters to monitor populations. The WGFD manages sage-grouse through the environmental commenting process, enhancement of habitats through habitat improvement projects, and hunting seasons. The commenting process is how the WGFD makes recommendations on affected species, although the recommendations have no statutory authority and their incorporation into a project is voluntary. Protections occur through the project review process conducted by State and Federal agency personnel, primarily by minimizing disturbance during the breeding season within and around the lek sites and nesting habitats. There are many other actions Federal Land Managers use to manage sage-grouse habitat.

Purpose

The purpose of the South Central Sage-Grouse Local Working Group is to develop and facilitate implementation of a local conservation plan for the benefit of sage-grouse and potentially, other species that use sagebrush habitats. This conservation plan identifies management practices and the financial and personnel means to accomplish these practices, within an explicit time frame, for the purpose of improving sage-grouse numbers. The mission statement of the South Central Sage-Grouse Local Working Group is “to develop and promote best management practices that will conserve, enhance, and restore habitat for sage-grouse and other wildlife while supporting the principles of multiple use.”

CONSERVATION ASSESSMENT

General Sage–grouse Biology

The greater sage-grouse (*Centrocercus urophasianus*) is 1 of 3 species of grouse found in the SCCA, and the largest species of grouse in North America. Males can weigh 5.5–7.0 lbs (2.5-3.2 kg) whereas females range from 2.9-3.7 lbs. (1.3-1.7 kg). Sagebrush (*Artemisia* spp.) is important for nesting, food and cover, although insects and forbs (dicot/broadleaf flowering vegetation) are important foods during the breeding season and have significant importance during the brood rearing periods. Sage-grouse differ from other game birds because they have relatively low productivity and high survival, with typical hens fledging 1-3 young/year (Connelly et al. 2004) and living as long as 7-8 years (WGFD 1992). Sage-grouse hens are bred on leks during the spring, generally, in the months of March and April. Leks, an area where males display for females each spring, are usually located on a site with low densities of shrubs like on ridge tops, playas, meadows, or hills. Hens will nest under a sagebrush or other shrub that has sufficient understory residual vegetation, and will incubate 6-9 eggs for 22-24 days (WGFD 1992). Nesting and incubation varies by region from March to mid-May and renesting can occur as late as mid-July (Connelly et al. 2004). Females will renest if the first, and rarely if the second, clutch is lost. Early brood rearing habitat ideally is a mosaic of diverse vegetation with high amounts of forbs and insects in close proximity to escape cover. Late brood rearing habitat consists of mainly riparian areas, upland meadows, irrigated meadows, or other moist places with diverse forbs, especially during dry years. Fall habitat use is dependant on weather and can vary from moist upland habitats to sage lowlands. Sagebrush consumption increases as fall progresses. Winter habitats are primarily stands of sagebrush above the snow in traditional locations, but locations can vary depending on winter severity.

Most Recent Research Specific to the SCCA

Between April 1996 and June 1998, Heath et al. conducted research on sage-grouse on 3 ranches: Stone Ranch (SR), Miller Ranch (MR), and Ferris Mountian Ranch (FMR) north of Rawlins, Wyoming. Their research focused on evaluating the effects of grazing practices, predator control, and harvest on sage-grouse populations within Small Game and Upland Bird Management Area 45. Shrub coverage and density were similar among the three ranches, although SR had lower residual grass height compared to the other 2. Sage-grouse nests were found at sites with higher residual grass levels on SR and MR, and taller current year's grass growth on FMR, and differed from random sites suggesting selection by nesting hens. Nesting efforts by marked hens were statistically similar among all 3 ranches. Breeding success averaged 45%, with higher adult breeding success on MR compared to SR. Yearling breeding success was similar among the ranches. Productivity, as measured by number of chicks/hen on 15 August, was 1.7 (SR), 1.4 (FMR), and 1.0 (MR) chicks/hens, and broods used areas of tall sparse shrubs with taller grass and total herbaceous cover. Annual survival of radioed hens was 72% in 1996, and

73% in 1997. Mortality was highest in September with 43% (6/14) occurring during this month (only 1 harvested, most unknown cause but thought to be predation), whereas the remainder (8/14) was recorded for the other months of the year. Nesting success and survival were similar on FMR and SR where 30-40% of the annual herbaceous production was removed by grazing and recreational predator control occurred. On SR with predator control, more nests hatched, but survival rates of chicks up to 21 days, and adult females did not increase.

Conservation Plan Area

The SCCA generally includes The Platte Valley, Laramie Plains, Great Divide Basin, North Ferris, south Sweetwater, Little Snake River Valley, in the counties of Carbon, Sweetwater, Albany, Fremont, and Natrona in southern Wyoming (Figure 1). The SCCA is bordered on the east by the Bates Hole/Shirley Basin Conservation Area, the north by the Wind River/Sweetwater River Basin Area, and the West by the Southwest Conservation Area. The SCCA is about 64% public (7249 mi^2) land and is managed by the Bureau of Land Management (5292 mi^2), the USDA Forest Service (1321 mi^2), State of Wyoming (542 mi^2), U.S. Fish & Wildlife Service (13 mi^2), and Bureau of Reclamation (35 mi^2). A major portion of the SCCA is of "checkerboard" land ownership (alternating public and private within 20 miles of the railroad) along the railroad corridor in the center of the western portion of the area (Figure 2). Major habitat types include shortgrass prairie, sagebrush/grassland, salt desert shrub, mixed mountain shrub, mixed forest types, agricultural, riparian, and urban types. Transportation corridors include, Interstate 80 (I-80), Union Pacific Railroad (mostly parallel along I-80), and State Highways (SH) 70, 789, 287, 230/130. Major cities and towns found in the area are Rawlins, Laramie, Saratoga, Encampment, Baggs, and Wamsutter. The SCCA encompasses all or a portion of the WGFD's Small/Upland Game Management Areas 9, 10, 24-26, 45, (Figure 3), which are formed for primarily data collection and do not correspond to population boundaries, as do big game Herd Units.

Figure 1. The SCCA and other local work group areas.

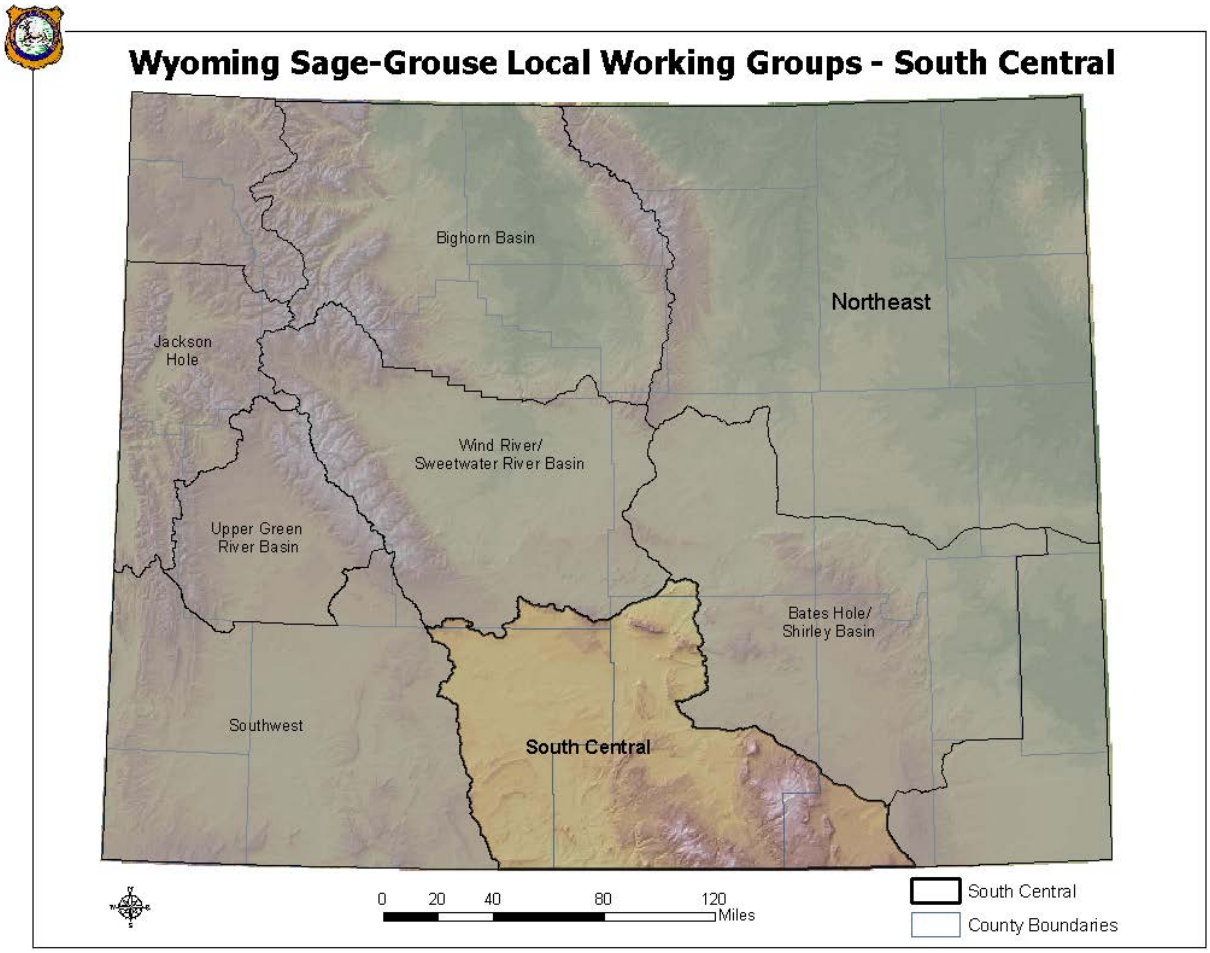


Figure 2. Land ownership and lek locations in the SCCA.

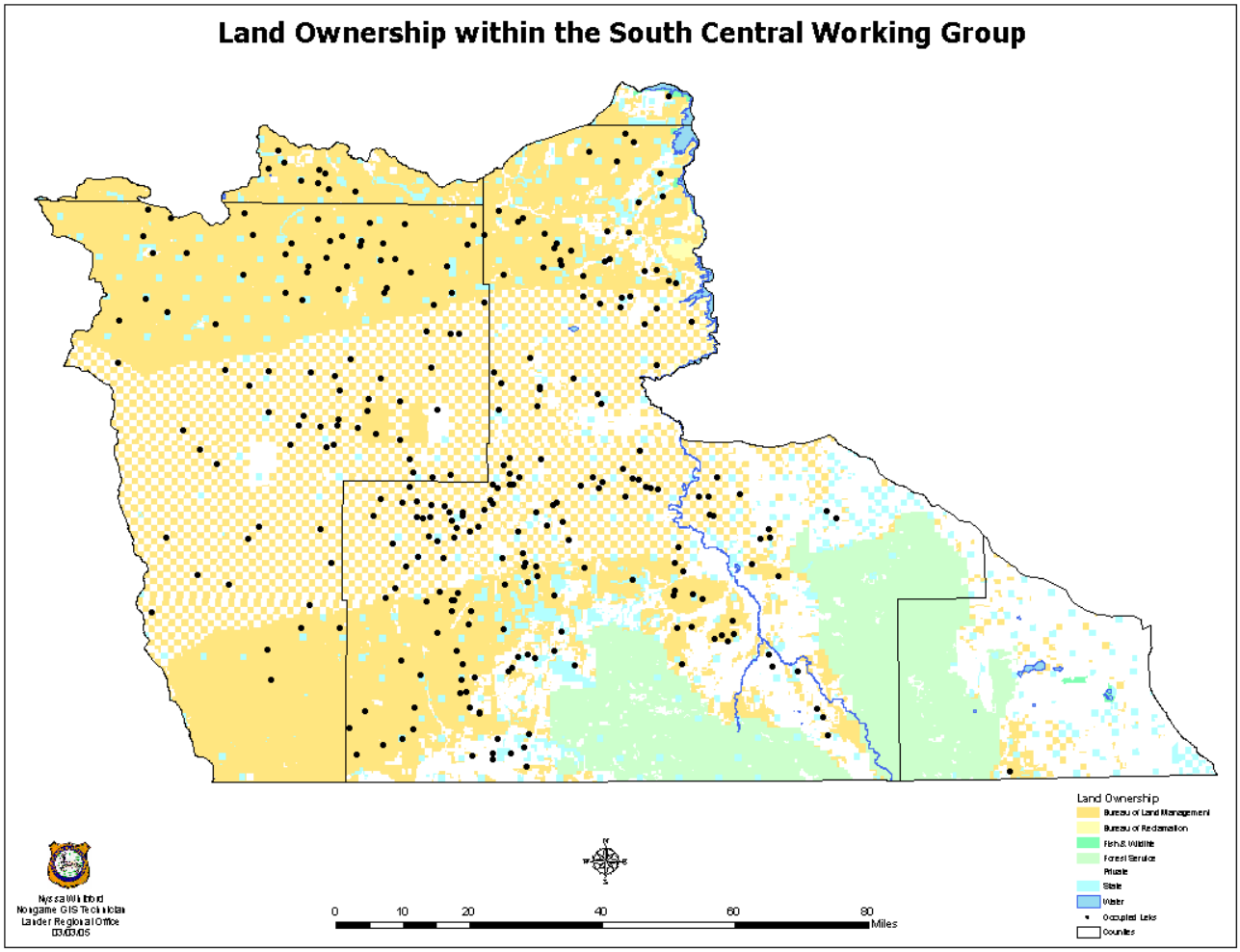
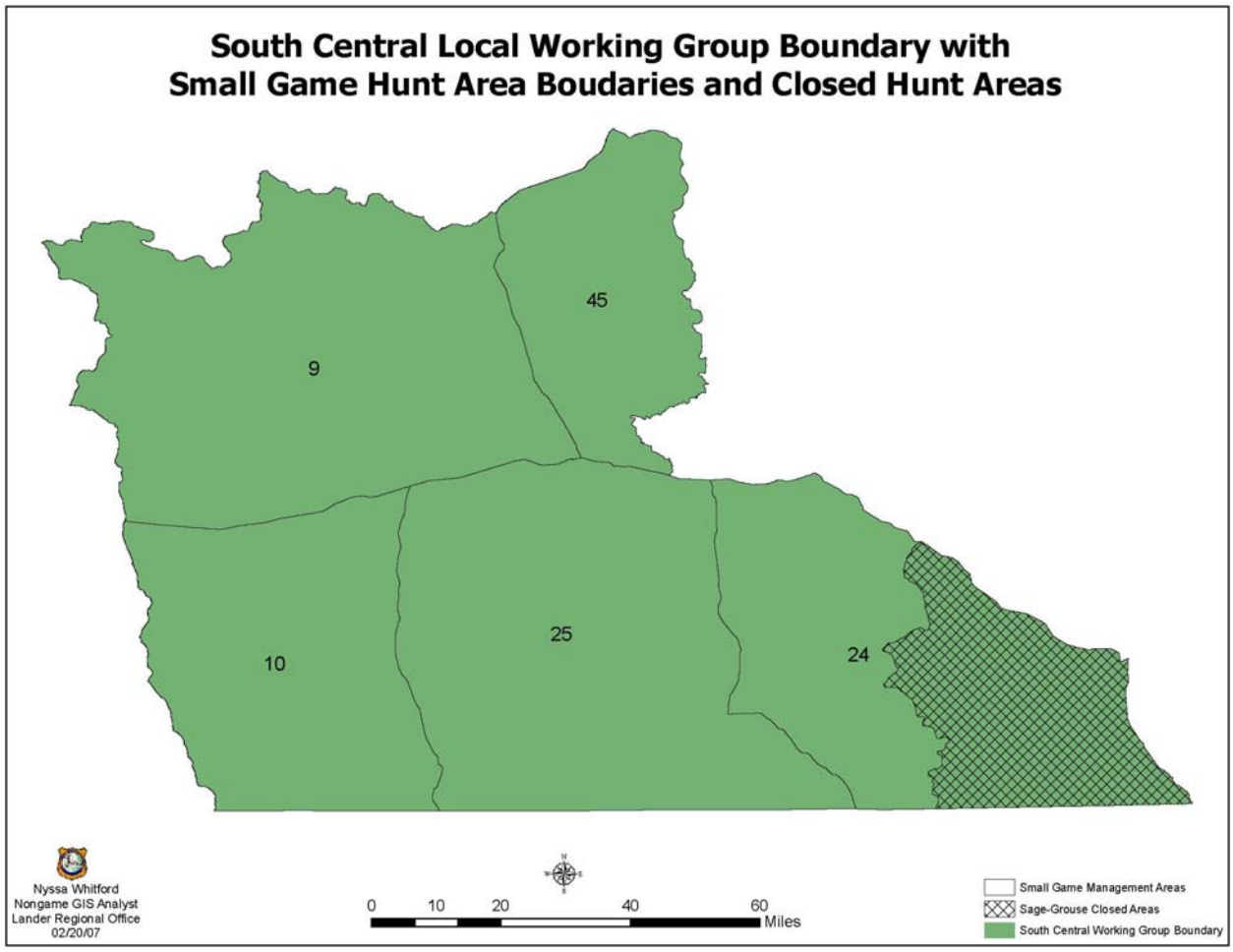


Figure 3. The SCCA and WGFD small and upland game management areas.



Sage-grouse Population Status and Trend

Sage-grouse within the SCCA are primarily found within the sagebrush grassland habitats, with some birds occupying areas of mountain mixed shrub, and salt desert shrub habitats. A breakdown of where sage-grouse leks occur within biologist districts, warden districts, BLM office, WGFD region, counties and by land status can be found in Table 1. There are 296 (84%) occupied leks, 26 (7%) unknown status leks, and 30 (9%) unoccupied leks within the SCCA (Table 1).

Table 1. Sage-grouse lek characteristics within the conservation planning area of the South Central Sage-grouse Conservation Area (2006).

Region	Number	Percent
Green River	95	27.0%
Lander	205	58.2%
Laramie	52	14.8%

Working Group Area	Number	Percent
South Central	352	100.0%

Classification	Number	Percent
Occupied	296	84.1%
Unknown	26	7.4%
Unoccupied	30	8.5%

BLM Office	Number	Percent
Casper	1	0.3%
Lander	20	5.7%
Rawlins	321	91.2%
Rock Springs	10	2.8%

Unoccupied Leks	Number
Abandoned	29
Destroyed	1

Biologist District	Number	Percent
Baggs	95	27.0%
Laramie	52	14.8%
Rawlins	190	54.0%
South Lander	15	4.3%

Game Warden District	Number	Percent
Baggs	103	29.3%
East Rawlins	52	14.8%
Elk Mountain	6	1.7%
Rock Springs	10	2.8%
Saratoga	41	11.6%
South Laramie	5	1.4%
West Rawlins	135	38.4%

County	Number	Percent
	0	0.0%
Albany	5	1.4%
Carbon	248	70.5%
Fremont	11	3.1%
Natrona	1	0.3%
Sweetwater	85	24.1%

Land Status	Number	Percent
BLM	203	57.7%
BLM/Private	9	2.6%
Not Determined	2	0.6%
Private	116	33.0%
Private/BLM	1	0.3%
State	19	5.4%
State/Private	1	0.3%
USF&WS	1	0.3%

Management Area	Number	Percent
10	32	9.1%
24	27	7.7%
25	153	43.5%
45	39	11.1%
9	101	28.7%

The WGFD, volunteers, and other Land Management agencies complete sage-grouse lek surveys and counts each spring to monitor populations. Methods to monitor sage-grouse populations and habitat are provided in the Wyoming Game and Fish Department's Biological Techniques Manual. These monitoring methods are consistent with "Monitoring of Greater Sage-grouse Habitats and Populations" (Connelly et al. 2004).

Lek surveys are used primarily to determine presence/absence of birds on a lek to find out if a lek is occupied, whereas counts are used to monitor population trends. Lek surveys require that an observer arrive at lek during early morning hours and count the birds present, although the accuracy is secondary. If a lek does not have birds, the lek must be revisited or the area should be walked to look for sign (cecal droppings and feathers). The lek location must be known. Count leks use a standardized protocol that requires observers to accurately count males on a lek at least 3 times, 7-10 days apart, between the 2nd week of April through the 1st week of May. Observers must arrive between ½ hour before to ½ hour after sunrise, and accurately count the total number of males.

Lek count, survey, and wing data can be used to evaluate general trends for local populations with the earliest data found in the statewide database starting in 1986. Lek counts were started in about 1996, although count data before about 1998 is not as reliable due to small sample sizes. Number of males on a lek has been the main parameter used to track population performance, although influences such as observer, weather, and other influences can affect estimates.

Generally, the trend in males on count leks increased from 1996-2000. After 2004, males increased sharply, with several leks topping 100 males. Lek counts in the SCCA demonstrated an increase starting in 1998 with an average of 29.2 males/lek (n=23 leks counted) and topped at 52.4 males/lek (n=40) in 2005 (Table 2, Figure 4). Increases from 1996 to 1998 may be primarily due to increases in number of leks counted, although survey leks exhibited a similar decrease in trend during this time (Table 3, Figure 5). In 2003, lek counts declined to 32.2 males/lek (n=41) and then climbed to 37.4 males/lek (n=36) in 2004. Increases observed in 2005 and 2006 were correlated with significant late-spring moisture. Lek survey data from 1986 to 2004 indicate the average number of males remained steady in 80's and early 90's and then dropped during the mid 90's, rising again to similar levels from the late 90's until 2004. In 2005 and 2006 lek survey data increased again to the highest level observed since data were available (1986) in the statewide database. Number of leks checked indicated that survey effort increased since 1986, with an increase of about 29% from 162 leks checked in 1986 to 229 in 2006 (Table 3). Number of known leks has also increased since 1986 from 227 to 324 in 2006 most likely is a result of increased survey effort and possibly because of higher populations due to better moisture during 2005-2006 (Table 3). Number of destroyed leks remained at 1 for all years between 1985 and 2006, while abandoned leks increased from 1 in 1986, to 27 in 2006, most likely reflecting an increase in survey effort in that time.

Table 2. Lek counts in SCCA between 1995 and 2007.

			Percent	Max/lek		Avg/lek	
Year	Known	Counted	Counted	Males	Females	Males	Females*
1996	314	3	1.0	40	13	13.3	4.3
1997	315	1	0.3	18	1	18.0	1.0
1998	316	25	7.9	671	384	26.8	15.4
1999	322	33	10.2	1288	593	39.0	18.0
2000	330	36	10.9	1473	837	40.9	23.3
2001	328	38	11.6	1611	407	42.4	10.7
2002	331	28	8.5	1213	428	43.3	15.3
2003	323	41	12.7	1319	660	32.2	16.1
2004	316	39	12.3	1466	317	37.6	8.1
2005	322	27	8.4	1415	459	52.4	17.0
2006	324	40	12.3	1953	717	48.8	17.9

* female counts are not a suitable indicator of overall population trend

Table 3. Lek surveys between 1985 and 2007 in the SCCA.

			Percent		
Year	Known	Surveyed	Surveyed	Max total males	Avg. Males/lek
1986	227	164	72.2	2477	22.9
1987	236	138	58.5	1905	19.4
1988	249	183	73.5	2163	20.0
1989	259	166	64.1	2849	21.6
1990	269	159	59.1	2410	20.1
1991	272	191	70.2	2312	20.8
1992	282	201	71.3	2570	21.4
1993	288	158	54.9	2324	20.2
1994	297	169	56.9	2122	17.4
1995	303	187	61.7	1582	13.4
1996	314	222	70.7	1663	12.3
1997	315	227	72.1	1563	13.1
1998	316	167	52.8	1837	20.0
1999	322	208	64.6	2099	17.9
2000	330	196	59.4	3174	27.8
2001	328	210	64.0	2480	22.1
2002	331	202	61.0	2739	22.3
2003	323	210	65.0	2608	21.4
2004	316	204	64.6	2501	21.2
2005	322	225	69.9	5145	37.3
2006	324	229	70.7	5601	39.2

Figure 4. Average number of males per lek for count leks within the SCCA (1998-2006).

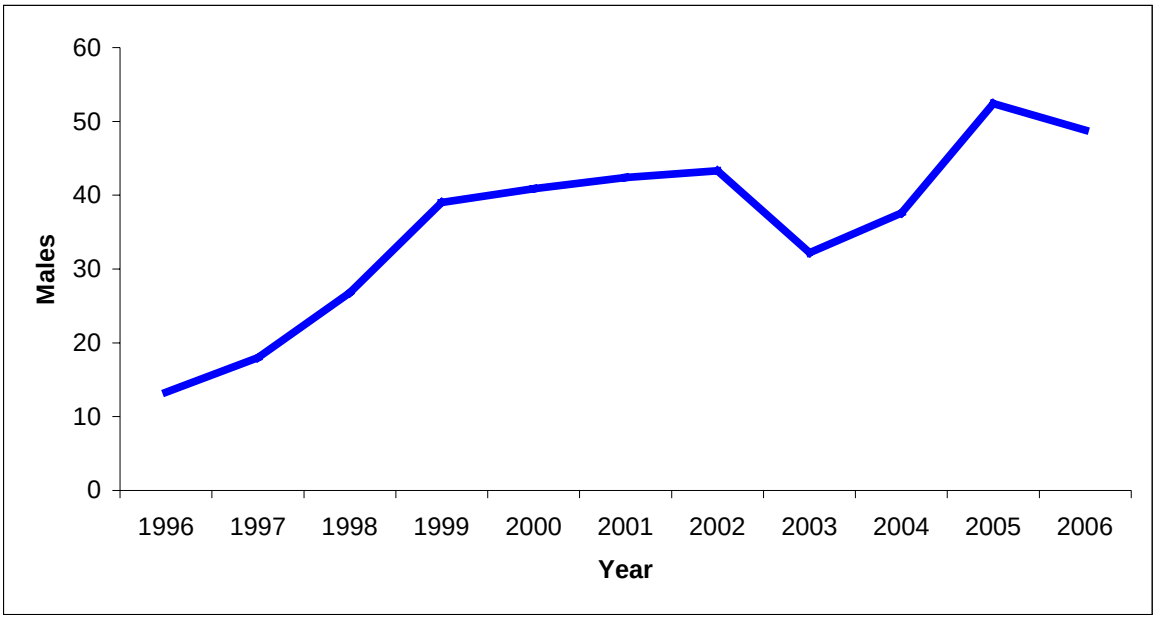
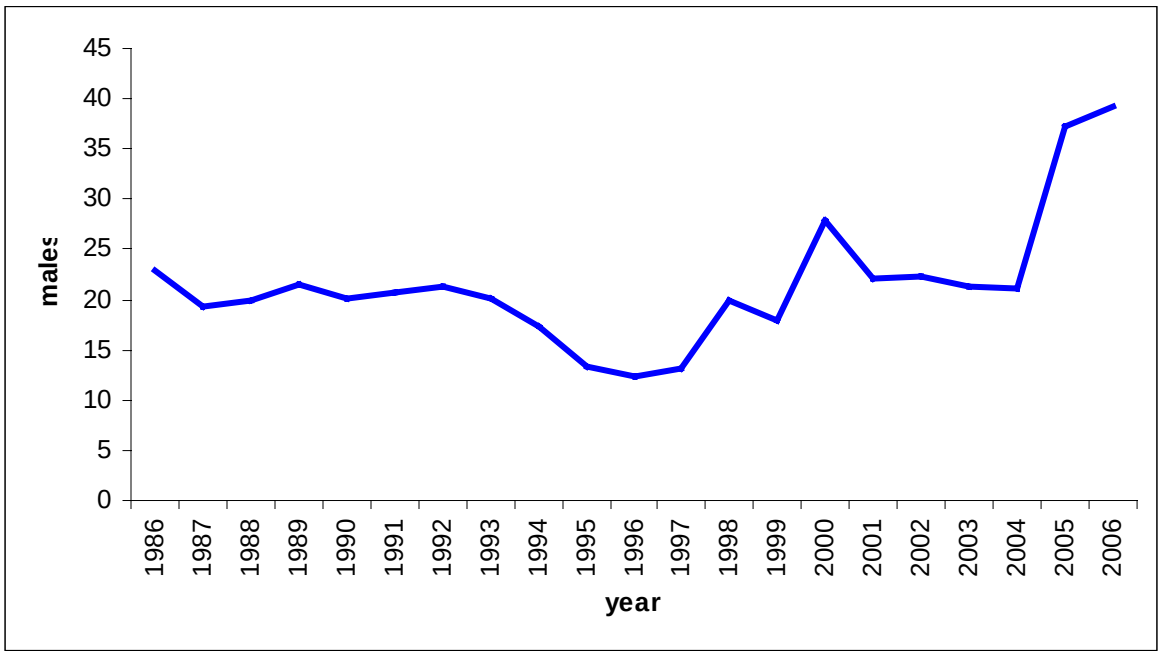
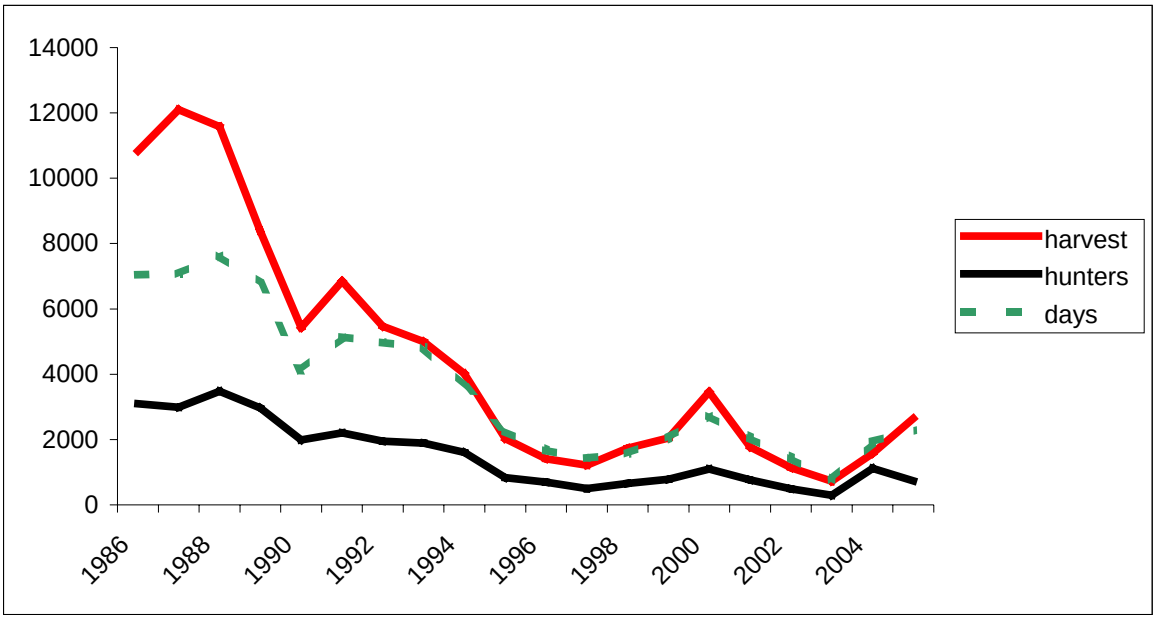


Figure 5. Average number of males per lek for survey leks within SCCA (1986 to 2006).



Hunter harvest and participation have decreased since 1986 and harvest has to some extent mimicked lek count data between 1995 and 2006. Harvest data starting in 1986 indicate a steady decline in hunter harvest, and participation (Figure 6). This general trend does not appear to correlate well with the variable season length or opening date (Table 4); however, there are some changes in seasons in 1991, and 1995 that match changes in harvest. In 1991, season length peaked at 31 days after being only 16 days the year before, and harvest increased by about 1,400 birds. And in 1995 the opening day was changed to later in September resulting in a decrease in hunter participation and harvest (Figure 6). Peak Harvest for the SCCA was 12,102 birds in 1987 and steadily declined until 1999 when 2,043 birds were bagged. A slight increase occurred in 2000 when 3,460 birds were recorded in the harvest. But, after 2000, harvest again declined again to 1,777 to 1,140 and finally to 728 birds in 2003. During 2005 and 2006 harvest again increased to 1,573 and 2,647, respectively. Composition of harvest by sex and age are included in Table 5, and generally show that percentage of males has increased since about 1986, and all other classes have remained steady or decreased slightly. Also, females and juvenile birds make up a bulk of the harvest.

Figure 6. Total harvest, hunters and days for sage-grouse in the SCCA between 1985 and 2006.



Note: hunting regulation changes in Table 4, especially the later opening date beginning in 1995. Similar changes in 1990 and 2002 also impacted harvest statistics.

Table 4. Season dates, length, bag/possession limits by year for SCCA.

Year	Season Dates	Length	Bag/Possession Limit
1986	Sept 6-Sept 21	16	3/6
1987	Sept 5-Sept 20	16	3/6
1988	Aug 29-Dept 20	23	3/6
1989	Aug 26-Sept 17	23	3/6
1990	Sept 1-Sept 16	16	3/6
1991	Aug 31-Sept 30	31	3/6
1992	Sept 1-Sept 30	30	3/6
1993	Sept 1-Sept 30	30	3/6
1994	Sept 1-Sept 30	30	3/6
1995	Sept 16-Sept 30	15	3/6
1996	Sept 21-Oct 4	14	3/6
1997	Sept 20-Oct 5	16	3/6
1998	Sept 19-Oct 4	16	3/6
1999	Sept 18-Oct 3	16	3/6
2000	Sept 16-Oct 1	16	3/6
2001	Sept 22-Oct 7	16	3/6
2002	Sept 28-Oct 6	9	2/4
2003	Sept 27-Oct 5	9	2/4
2004	Sept 23-Oct 3	11	2/4
2005	Sept 23-Oct 3	11	2/4
2006	Sept 23-Oct 3	11	2/4

Table 5. Composition of harvest for SCCA.

Year	Sample Size	Percent Adult Male	Percent Adult Female	Percent Ylg Male	Percent Ylg Female	Percent Young Male	Percent Young Female	Chicks /Hen
1986	2432	6.5	18.8	2.7	9.3	23.4	39.4	2.2
1987	2916	3.3	20.1	2.4	10.3	25.9	38.0	2.1
1988	2287	5.5	22.3	6.9	12.8	20.5	32.0	1.5
1989	1394	7.5	33.6	2.9	6.8	20.5	28.6	1.2
1990	1339	4.9	26.5	2.1	5.0	28.1	33.3	2.0
1991	1218	5.7	24.4	4.6	9.9	22.9	32.3	1.6
1992	778	7.2	27.2	6.4	7.3	20.6	31.2	1.5
1993	1042	4.1	25.2	4.0	8.7	20.1	37.7	1.7
1994	721	6.7	24.5	6.9	16.6	15.8	29.4	1.1
1995	316	4.7	28.8	0.9	12.0	18.4	35.1	1.3
1996	357	5.9	25.5	3.1	10.9	22.1	32.5	1.5
1997	291	6.5	18.9	3.4	13.4	22.3	35.1	1.8
1998	549	7.8	19.7	6.6	7.5	20.8	37.7	2.2
1999	631	6.3	21.9	3.8	12.5	24.1	31.1	1.6
2000	474	10.8	25.3	4.6	12.9	21.7	24.7	1.2
2001	693	6.3	25.1	1.2	6.1	23.1	38.1	2.0
2002	203	10.8	29.1	2.0	8.4	13.3	36.5	1.3
2003	310	13.2	28.4	0.3	4.5	24.8	28.4	1.6
2004	284	7.4	22.5	0.4	5.3	30.3	34.2	2.3
2005	345	13.6	27.8	3.8	4.6	20.0	30.1	1.5

Sage-grouse Density by Area

Sage-grouse densities within the SCCA (Figures 7-8) were calculated using peak counts of males on leks. These density maps are color coded to separate regions where sage-grouse densities differ. The highest densities were found in the regions between Baggs and Rawlins, the Platte Valley, and south of the Green and Ferris mountains, and those areas appeared to increase in size between 2000 and 2005.

Figure 7.

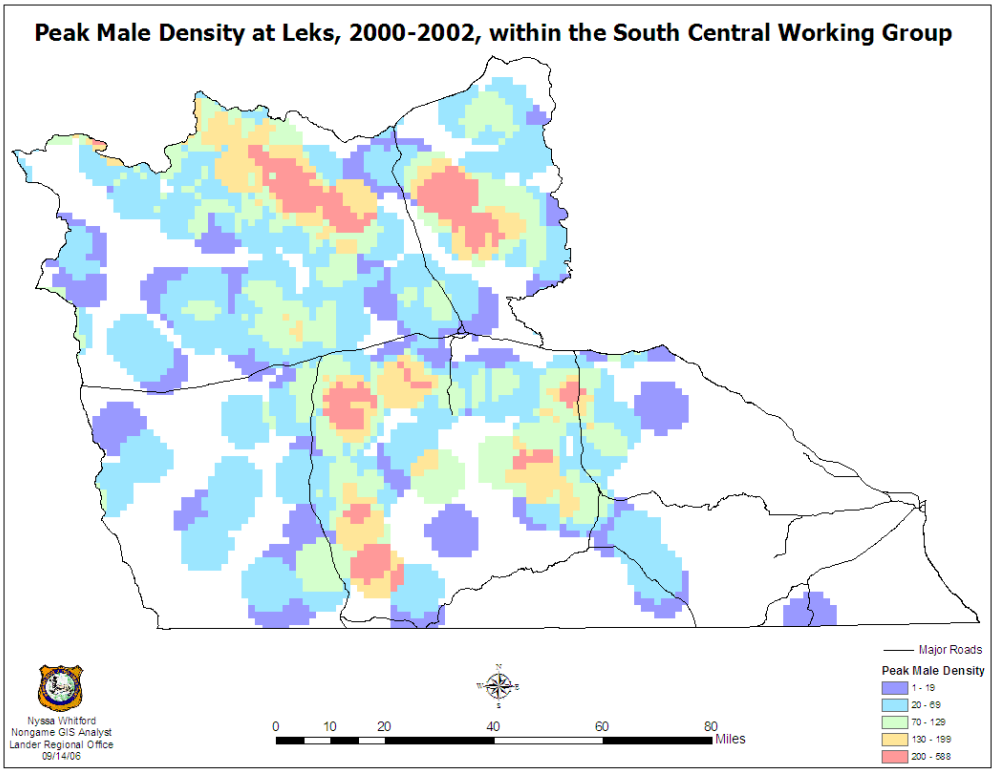
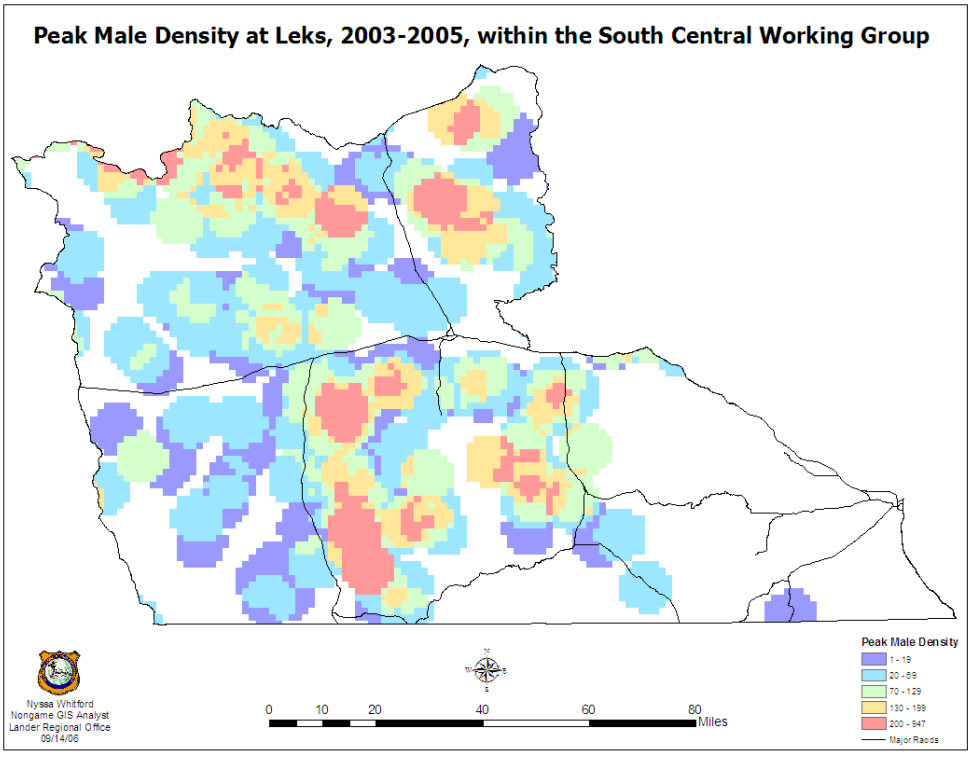


Figure 8.



FACTORS AFFECTING SAGE-GROUSE POPULATIONS

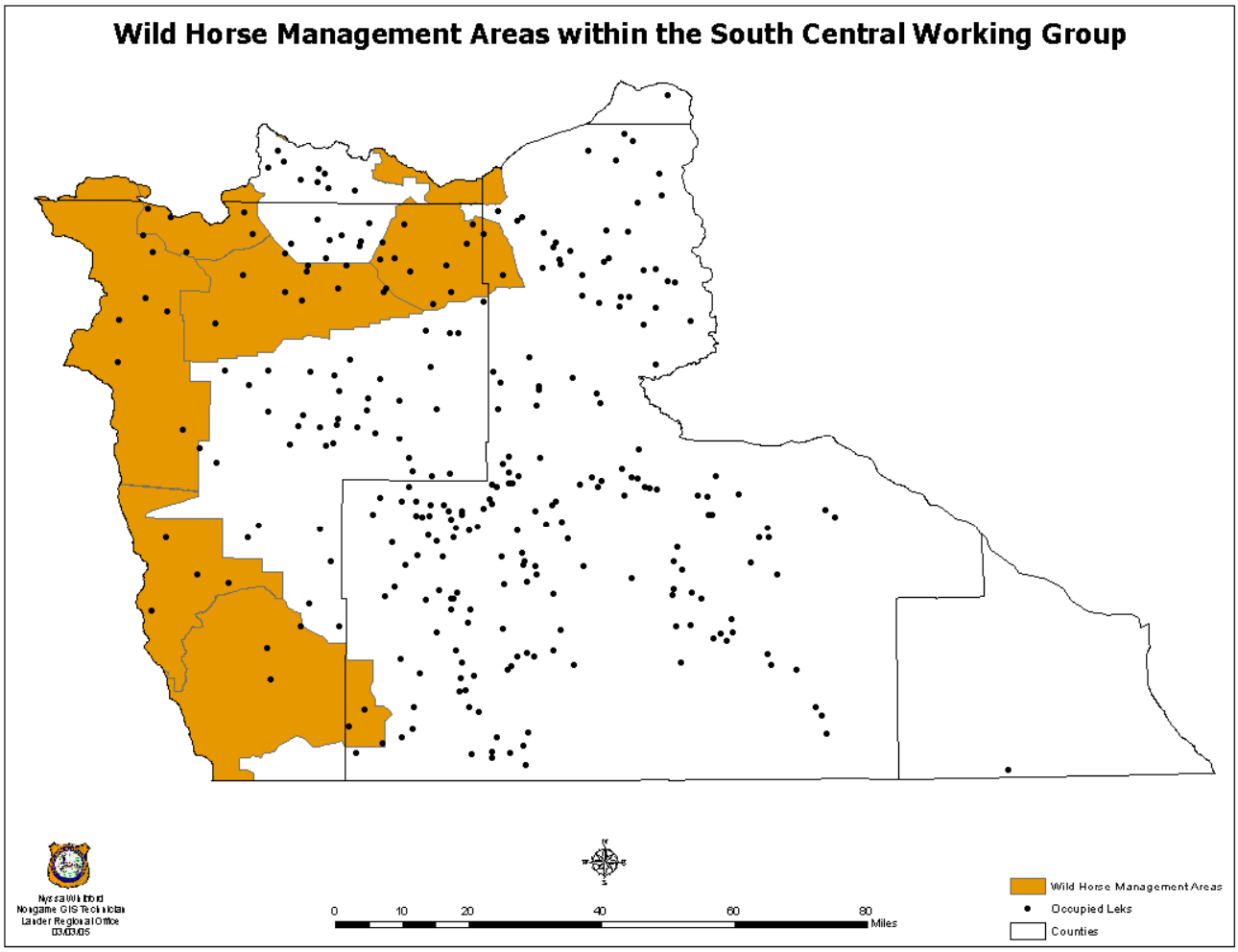
Limiting factors such as climate may have the most influence on sage-grouse populations, but we have the least control. Farming or residential development are limiting in only a few isolated areas of the SCCA. Hunting, recreation, pesticides, parasites and disease are considered to be low priority factors at this time, but may become more important in the future. Vegetation management, conflicting wildlife and feral horse management, predation, energy development, livestock grazing, and invasive plants are higher priority and include large areas that could be affected by project actions. Because of the diverse nature of the SCCA, we will evaluate proposed projects on a site-specific basis and how they address key factors. While water availability was not listed as a limiting factor, it can be significant in some areas. Any one factor may not be in itself extremely limiting, but a combination of factors may be extremely limiting.

Conflicting Wildlife and Feral Horse Management

Management goals for other wildlife species using sagebrush ecosystems can conflict with sage-grouse population and habitat management goals. Managing a single sagebrush site for all wildlife species that may inhabit sagebrush communities is impractical or not possible because practices that benefit some species can be detrimental to others. Approximately 100 bird species, 70 mammal species, and several reptiles are found in sagebrush habitats including many sagebrush obligates or near-obligates such as the sage-grouse, sage sparrow, Brewer's sparrow, sage thrasher, pygmy rabbit, sagebrush vole, sagebrush lizard, and pronghorn. A number of other priority or sensitive wildlife species are dependent upon or inhabit the sagebrush ecosystem including white-tailed prairie dog, ferruginous hawk, mountain plover, midget-faded rattlesnake, Columbian sharp-tailed grouse, and swift fox among others. Using a mosaic of seral stages and vegetation types on a landscape scale, the specific seasonal habitat requirements of the various wildlife species that in habit sagebrush ecosystems can be accommodated.

Elk, mule deer and pronghorn are the primary wild ungulates that occur within occupied sage-grouse habitat in a large part of the South Central area. Feral horses are present in most of the western portion (Figure 9). Grazing and browsing can contribute to long-term changes in plant communities and can alter various habitat components that contribute to the health of sagebrush ecosystems and the sage-grouse habitat it supports**.** As with livestock these grazing/browsing effects may be positive, negative or neutral depending on site-specific conditions. Areas of concern may be where there is annual heavy sagebrush browsing by large winter concentrations of mule deer, pronghorn or where high densities of feral horses or wintering elk reduce residual grasses in nesting habitat. Federal and state laws, rules and regulations have been enacted that limit management options for various wildlife or plants. Some may conflict with sage-grouse management goals. Some threatened, endangered or candidate species have habitat requirements or other needs that directly conflict with sage-grouse habitat requirements or preferences.

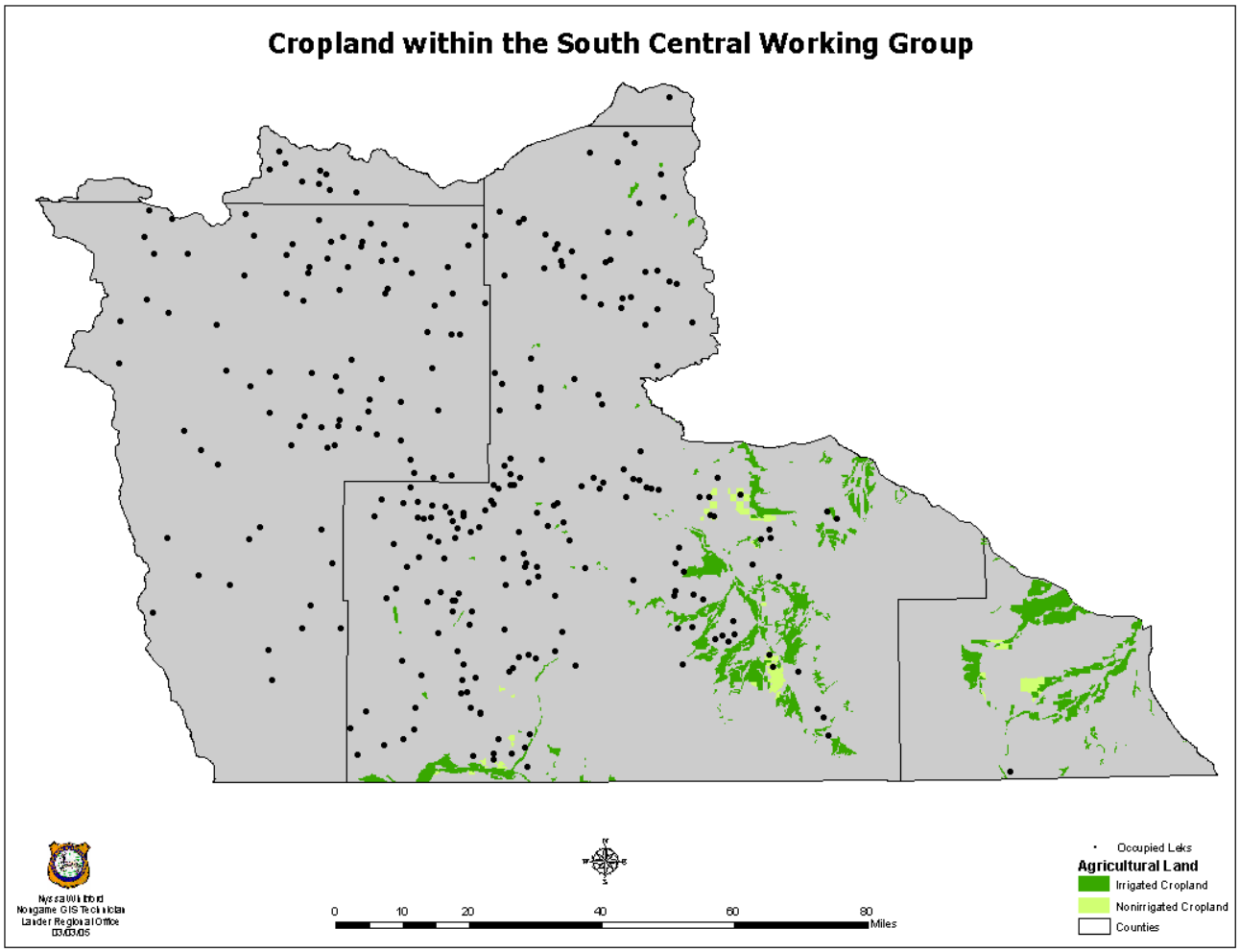
Figure 9.



Farming

Farming occupies a small portion of the South Central area (Figure 10) compared to other areas in Wyoming, and is primarily native hay in meadows along streams and rivers. There is a very small amount of cash crop farming in the South Central area. Habitat impacts from farming occurred during the homesteading of Wyoming. Sagebrush habitats with the best soils were converted to hay and small grains, but today only limited areas are being converted from sagebrush habitats to farmlands and these impacts in the South Central area are minimal. Alfalfa or native hay may be beneficial to sage-grouse; however, some degree of habitat fragmentation may occur as a result of farming and associated infrastructure. The value of habitat and open space provided by private land farm operations “are” recognized. Ecological and economic constraints limit the amount of land in the South Central area that could be converted to farmland.

Figure 10



Hunting

Sage-grouse hunting in Wyoming is a traditional recreation activity in modern times and historically contributed to human subsistence. Sage-grouse have been hunted annually under regulation of the WGFD since 1948. From 1937 to 1947 the hunting season was closed because of concern over low grouse populations. Sage-grouse hunting provides recreational, cultural and economic values. The biological data from harvested birds from harvest surveys and wing collections supply data for population evaluation. Hunting also creates a constituency of sage-grouse advocates who are interested in seeing that sage-grouse are properly managed. Some concerns have been expressed about the impacts of recreational hunting to sage-grouse populations in Wyoming. No studies have shown that sage-grouse population declines are caused by hunting alone (Connelly et al. 2004).

Harvest of adult hens may have a detrimental impact on population depending on the level of harvest. Sage-grouse hunting was traditionally done in late August or early September; however, research suggests late summer hunting increases hen harvest, because hens with chicks are still concentrated on late brood-rearing habitats (Heath

1997). Adult female grouse are more successful hatching clutches and raising chicks than are yearling hens. Thus, maintaining a higher proportion of adult hens in the population allows the population to grow faster under favorable habitat conditions. Hunting seasons have been moved to late-September to reduce harvest on hens when typically cooler, wetter weather, along with the fact that chicks are more independent, result in dispersal of these family groups. This dispersal makes adult hens less vulnerable to harvest since they are more scattered across their habitat and mixed with barren hens and males. Harvest rates of successfully nesting hens have declined since the hunting season dates were changed in 1995, and harvest declined due to a decrease in hunter participation since big game seasons begin in mid-September. Lek attendance and harvest surveys are used to check population status and trend to ensure that sage-grouse populations are not impacted. Hunting season data (harvest, hunter numbers, and hunter effort) also help monitor fall sage-grouse population status.

Two areas in Wyoming have been closed to hunting in southeast Wyoming and northwest Wyoming to maintain a conservative management approach because sage-grouse habitat and numbers are limited in these areas. Within the SCCA there is a portion of HA 24 that is closed to hunting (Figure 3), but only includes one known lek near Woods Landing. It is not anticipated the closures will result in large population increases. In areas where large population decreases are observed, the WGFD has management flexibility to close the season.

Recent research in Idaho (Connelly 2003) suggests that a conservative hunting season, like what currently is used in Wyoming, has no negative affects on sage-grouse populations. The results of all research efforts should be evaluated prior to consideration of closing hunting seasons in Wyoming.

Invasive Plants

Invasive plants may become established anyplace there is a disturbance in the soil. They are nature's response to protect soil from erosion as the first step in succession. There is potential for invasive plants to out compete vegetation critical for sage-grouse nesting and brood-rearing habitat; however, the direct effect of invasive plants on sage-grouse in Wyoming is not well documented. Invasive plants are spread in many ways: seeds falling from vehicles and machinery, carried by birds and animals, wind, water, livestock feeds, and some have been imported and planted originally as ornamental plants. Primary species of concern in South Central Wyoming in sage-grouse habitats appear to be knapweeds, leafy spurge, halogeton, cheatgrass, musk thistle, burdock and salt cedar.

Treatments for controlling the spread of invasive plants include mechanical, chemical, biological, and grazing. Prevention though proper grazing management, treatment of pioneering plants, and reclamation practices favoring native or desirable plants is necessary to control the proliferation of undesirable plants.

The South Central LWG will be working closely with the Petroleum Association of Wyoming Reclamation Work Group with the goal of timely reclamation success and

improving species diversity. Tracking and monitoring of reclamation success will be a key component.

Grazing

Livestock grazing on sage-grouse habitats can be positive or negative, depending on management. Domestic livestock grazing has been identified as a factor that may affect the suitability and extent of sage-grouse habitat across the western United States. Grazing and browsing can contribute to long-term changes in plant communities and can alter various habitat components. Short duration grazing in late spring and early summer has been reported to improve both quantity and quality of summer forage (forbs) for sage-grouse. Conversely, continuous heavy use by livestock, feral horses, and/or wild ungulates rarely leaves suitable residual cover for nesting or maintains the site potential for riparian areas in sage-grouse habitat. Few research efforts have been made linking specific livestock grazing practices to sage-grouse population levels.

The sagebrush ecosystem evolved with grazing by a variety of wildlife species. The timing, duration, location, and intensity of that grazing are not quantified. The introduction of livestock grazing into the sagebrush landscape presented a shift from migrating, free ranging wildlife grazers and browsers toward a mixture of wildlife, feral horses, and managed domestic livestock. Since that time, there have been changes over the landscape in terms of the location, class and season of use, grazing management systems, and total numbers of herbivores on the range. A focus on “improving range condition”, defined by past management practices that emphasized growing more grass, coupled with a shift from sheep to cattle also affected sage-grouse habitats but these effects are not well documented.

Active management aimed toward opening the canopy in decadent sagebrush stands and creating and maintaining a diversity of desirable micro-sites is beneficial to sage-grouse. Forb diversity and forb-associated insects are important to pre-nesting condition of hens and early brood-rearing of chicks. There is some evidence that there has been a reduction of these important habitat components as a result of current and historic grazing and fire management policies in some areas. The interaction between fire and grazing may be important to habitat diversity, but is not well understood.

A healthy sagebrush ecosystem provides the diverse age groups and vegetative seral stage classes necessary to sustain and increase sage-grouse populations while providing for other wildlife, and multiple uses of the area, including livestock grazing. Ecosystems that do not provide this diversity need long-term management strategies to allow recovery. Management changes should be analyzed so that those made on behalf of sage-grouse do not inadvertently cause unacceptable harm to other species.

Several state and federal agencies are in the process of developing a balance literature synthesis and voluntary livestock management options to achieve desired vegetative outcomes specific to sage-grouse seasonal ranges in the sagebrush-grassland habitat found in Wyoming. The resource produced by the team will be incorporated in the

document “Understanding and enhancing sage-grouse habitat in Wyoming” to be completed by the Wyoming Game and Fish Department in 2007. The South Central LWG will evaluate and use those recommendations where appropriate.

Mineral and Energy Development and Wind Energy

The production of natural gas is a major activity (Figure 11) in the South Central area, with over half of the area having moderate to high potential for production (Figure 12 and 13). Coal and natural gas from coal formations, or coalbed natural gas (CNG) is also present in the SCCA (Figure 14). Mineral and energy development impacts on sage-grouse have not been adequately quantified. Mineral and energy development has impacted habitat. Impacts can be long-term, short-term, direct, indirect, positive, or negative. Some potential impacts are: (1) increased forb production (2) increased habitat diversity, (3) additional water sources, (4) direct habitat loss and fragmentation from mine, well, road, pipeline, wind turbine, transmission and power line construction, (5) alteration of plant and animal communities, (6) increased human activity which could cause animals to avoid the area, (7) increased noise which could cause animals to avoid an area or reduce their breeding efficiency, (8) increased motorized access by the public leading to legal and illegal harvest, (9) direct mortality associated with water evaporation ponds and production pits, (10) reduced water tables resulting in the loss of herbaceous vegetation, and (11) collisions with structures. Minimizing negative impacts will require mitigation, reclamation, and planning for sage-grouse life history and habitat needs.

Roads built to accommodate mineral and energy activities often result in the establishment of permanent travel routes, improved public access, increased long-term traffic related disturbance, indirect noise impacts, and direct mortality. Research suggests (Lyon 2000) that road-related disturbances during the breeding season may cause sage-grouse leks to become inactive over time, reduce the number of hens bred on disturbed leks, and may increase the distance from the lek that individual hens will move to selected nesting habitat. Dust from roads and other surface disturbances can adversely affect plants and animals. Transmission and power line construction does not cause direct habitat loss, but sage-grouse tend to avoid areas associated with these lines (as they provide potential raptor perch sites), thus resulting in an indirect loss of habitat in the vicinity of overhead lines. Research into the potential effects of noise on sage-grouse that influence courtship and mate selection is underway elsewhere in Wyoming and the results will be considered by the LWG.

Mineral and energy operations are managed pursuant to a wide array of state and federal statutes and regulations, each with specific provisions. No single set of RMPs for sage-grouse will work for all forms of mineral development; therefore, flexibility and a familiarity with the applicable and appropriate controlling regulations are necessary to adapt these operations to provide for the needs of sage-grouse. Mineral development companies and land managers will be encouraged to work with the South Central local working group to devise appropriate local solutions based on RMPs identified in this plan. The selection and implementation of RMPs will also need to be accepted by the surface management agency, and the state regulatory agency to be successful. RMPs have been divided into

categories that may be considered for all operations including those specific to oil and gas/coal bed methane, coal mining, other mining and sand and gravel operations. Wind energy has a generally high potential in some areas within the SCCA (Figure 15). There is a major wind project that is currently generating power on the Foote Creek Rim, which is adjacent to the SCCA. There are several areas in the SCCA that have high potential for development and are currently being evaluated.

Figure 11

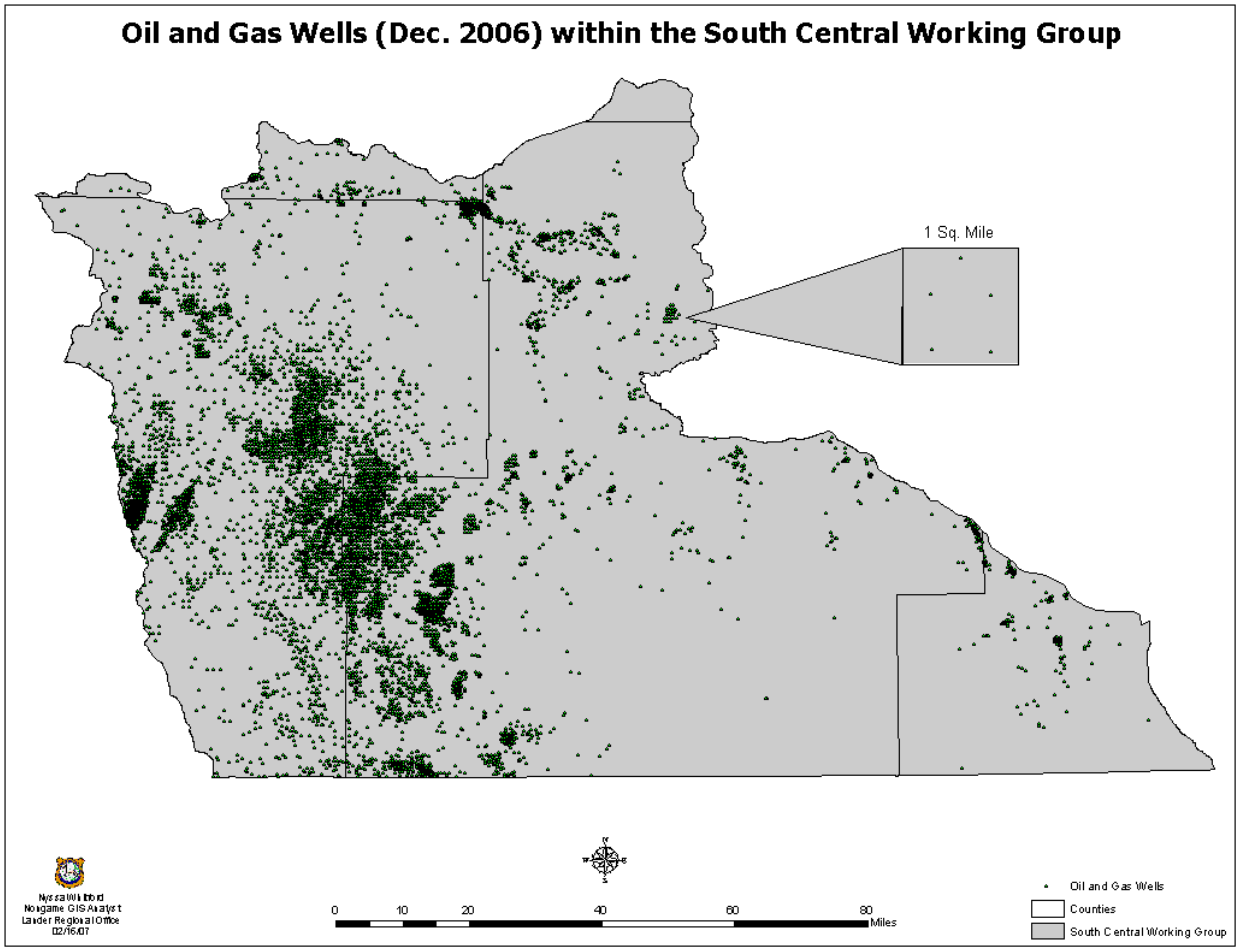


Figure 12

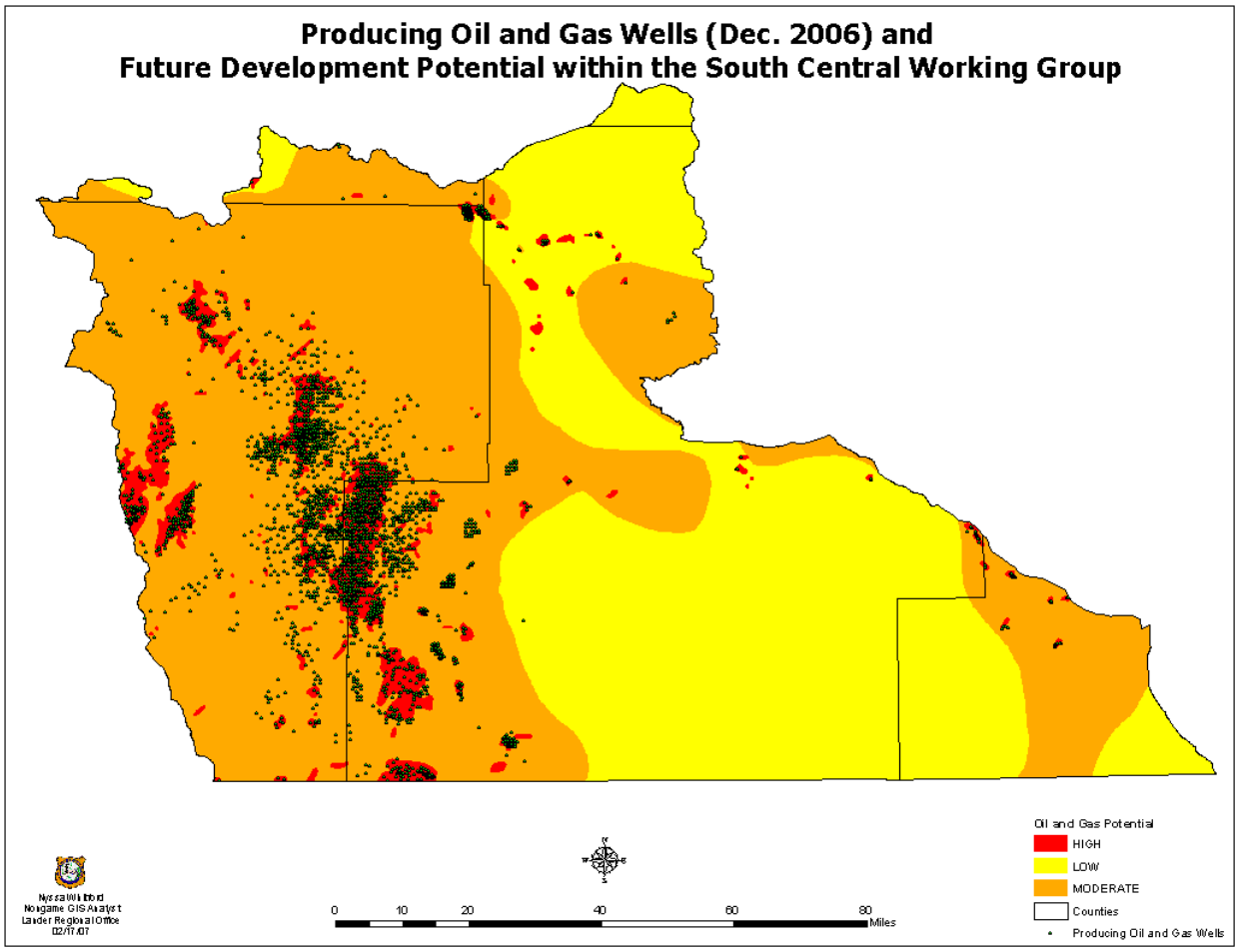

Producing Oil and Gas Wells (Dec. 2006) and
Future Development Potential within the South Central Working Group
Nyssa Wildbird
Nongame GIS Analyst
Lander Regional Office
02/17/07
0
10
20
40
60
80
Miles
Oil and Gas Potential
HIGH
LOW
MODERATE
Counties
Producing Oil and Gas Wells

Figure 13

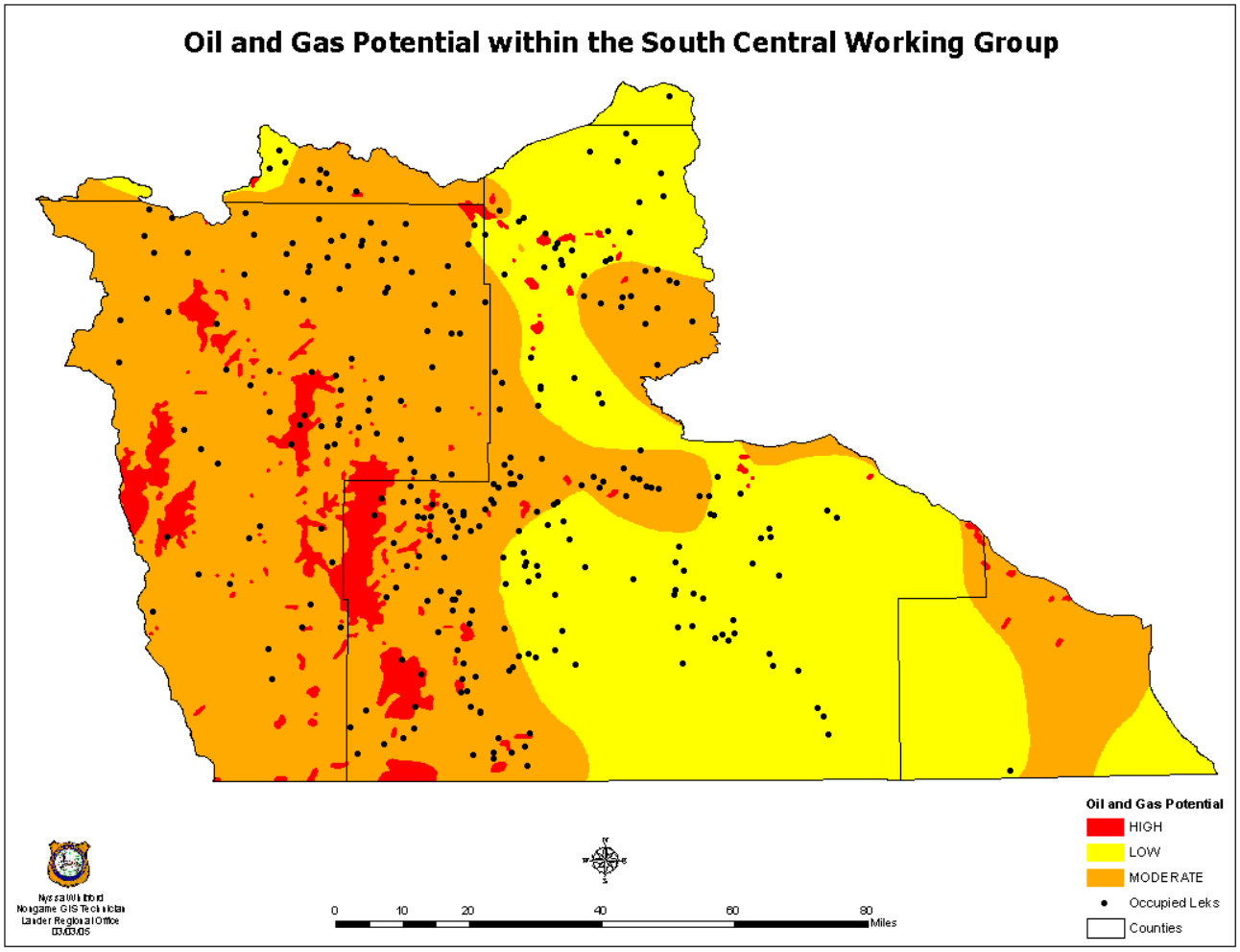

Oil and Gas Potential within the South Central Working Group
Oil and Gas Potential
HIGH
LOW
MODERATE
Occupied Leks
Counties
0
10
20
40
60
80
Miles

Figure 14

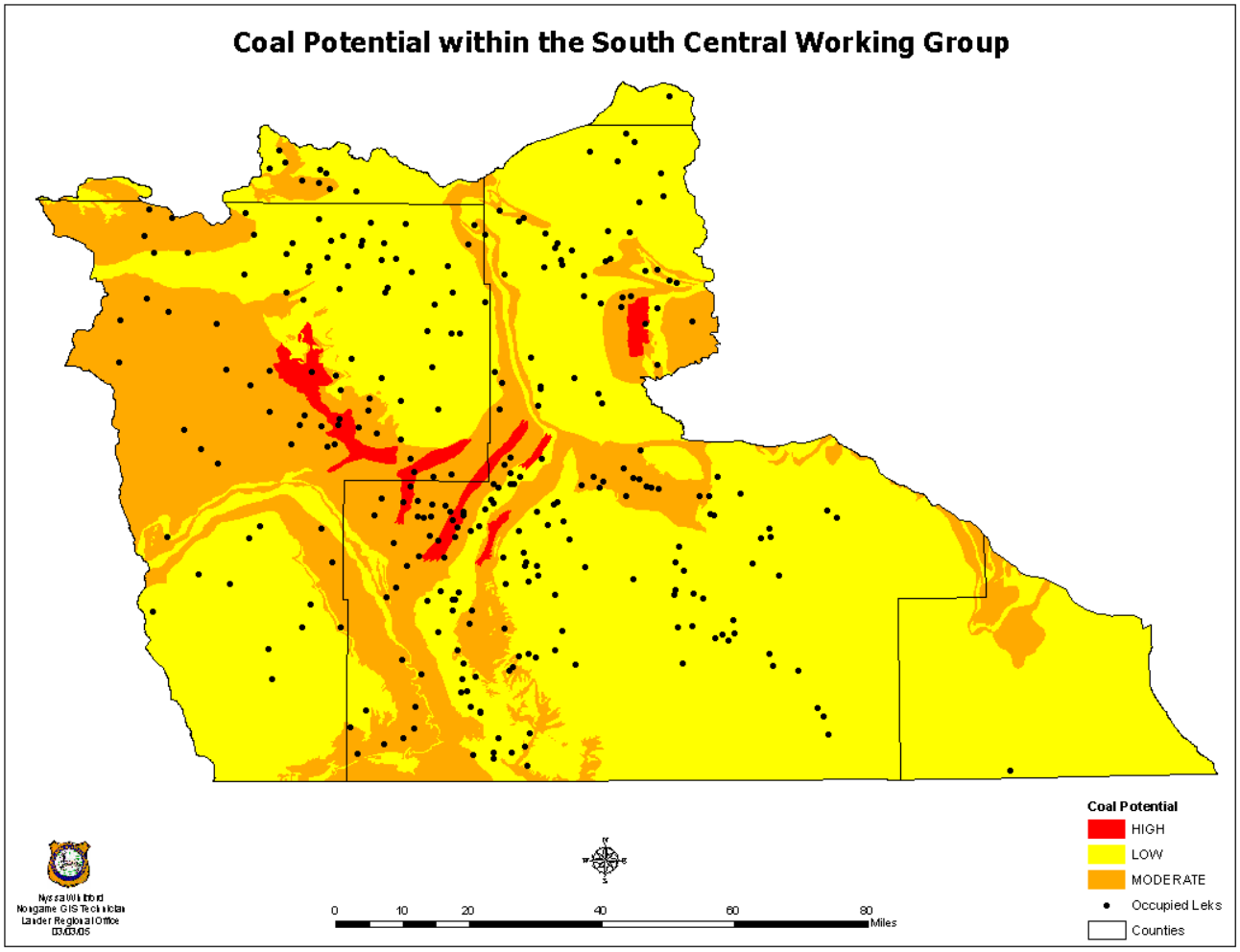
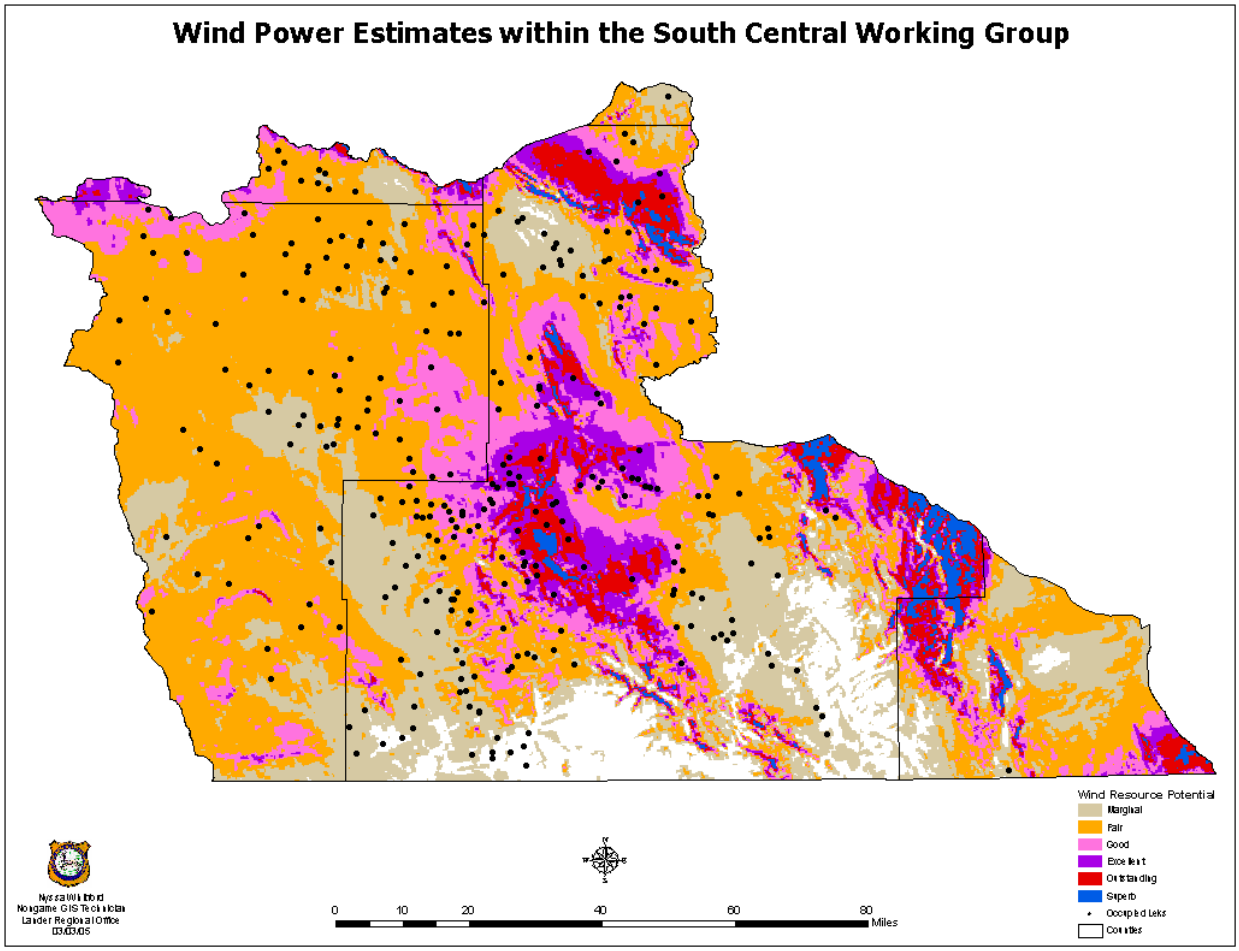

Coal Potential within the South Central Working Group
Coal Potential
HIGH
LOW
MODERATE
Occupied Leks
Counties
0
10
20
40
60
80
Miles

Figure 15



Parasites and Diseases

Sage-grouse can have a number of different parasites and diseases, although most diseases and parasites evolved with sage-grouse. Most are not a serious concern unless sage-grouse are stressed. Diseases and parasites affecting sage-grouse include various bacteria, protozoa, worms and ecto-parasites. Most of the common parasites and diseases carried by sage-grouse appear to be non-pathogenic, but may increase the vulnerability of infected birds that are stressed or concentrated. Coccidiosis and West Nile Virus are diseases that cause sage-grouse mortality. The potential population effect of West Nile Virus is unknown at this time, although several mortalities have been documented throughout Wyoming. Initially high elevation and dry climate were thought to preclude the potential impact of WNV on sage-grouse in the SCCA, but 5 radio-collared sage-grouse, from a study that originated in northwest Colorado, died from WNV at altitudes above 6,000 feet. One grouse died in Wyoming near Pine Mountain, southwest of the SCCA.

Pesticides

Pesticides (herbicides, insecticides and rodenticides) are used throughout the state for a variety of purposes and have been identified as a possible influence on sage-grouse. However, it is not believed that pesticides are currently a major issue for sage-grouse under existing application practices in the South Central Area. No direct research on the effects of the field applications of currently used pesticides on sage-grouse has been conducted in Wyoming. Toxicity under laboratory conditions does not equate well to wildlife hazards under field conditions. Sage-grouse exposure and potential risk are dependent on numerous factors, such as application rate, pesticide formulation, and timing of treatment.

Pesticide impacts on sage-grouse in the field are difficult to quantify. This is exacerbated by the fact that these effects are believed to be sub lethal, such as predisposing animals to predation or reducing reproductive success. Elimination of insects, or reduction of forbs has been documented and may be locally significant, but not widespread. Loss of sagebrush to large-scale chemical treatments can eliminate sage-grouse habitat.

Predation

Predation has always been a major cause of sage-grouse mortality. Predation affects sage-grouse populations most during nesting and early brood-rearing. Nest predators identified in Wyoming studies include, badgers, red foxes, and ravens. In addition, golden eagles, coyotes, various hawks, bobcats, feral cats, and weasels prey on sage-grouse.

Humans have altered the landscape and influenced predator-prey relationships that evolved between sage-grouse and native predators. These activities have led to a change in the number, distribution and type of predators that prey on sage-grouse. As habitats are altered, and/or where predators dramatically increase in number or in type, impacts of predation may be magnified. “Newcomer” predators such as red fox and raccoons have expanded their range into sage-grouse habitats where they were not previously a factor. These newcomers and traditional sage-grouse predators have increased in numbers largely as a result of readily available food associated with human activities. Migratory bird protection has also allowed avian predator populations (Raven) to expand.

Lethal predator control to increase production and recruitment in bird populations has only been shown to be effective on small, intensively managed areas where efforts are continual. Management of predators may be necessary in localized situations to maintain a sage-grouse population. Predator management may mean lethal control, but may also include removing key elements that attract predators (e.g. perches, food sources) and/or increasing the quality of habitat for sage-grouse.

As with many issues surrounding sage-grouse management, predator-prey relationships are complex and difficult to quantify. It is important to identify potential unintended consequences of predator control as it relates to sage-grouse. Large-scale predator removal is not indicated as a statewide objective. Where predation is demonstrated to be of significant concern, planning groups should consider localized predator management.

Recreation

Recreational impacts to sage-grouse populations include disturbance of breeding and nesting activities, and habitat fragmentation due to road usage. Research suggests (Lyon 2000) that road-related disturbances during the breeding season may cause sage-grouse leks to become inactive over time, reduce the number of hens bred on disturbed leks, and may increase the distance from the lek that individual hens will move to selected nesting habitat. Dust from roads and other surface disturbances can adversely affect plants and animals. Recreational viewing of leks can cause disruption of breeding activities, especially when it is conducted from too close a distance and/or on a long-term basis. The increased use of off-road vehicles and other outdoor recreational activities may result in greater disturbance of sage-grouse and degradation of habitats. These impacts are more likely to occur on public lands, or on leks adjacent to public roads.

Residential Development

Major residential development has a low potential in most of the South Central area, although there are some areas where localized development may be significant to some segments of the population. The amount of private land in the South Central area is significant, but potential is currently low due to the low population base. Residential development can cause direct loss of lek sites and seasonal habitats and also fragment those habitats. Other factors that may impact sage-grouse populations include increased roads, fencing, power lines, human activity, and density of cats and dogs. In addition, new landfills/trash facilities may increase predator populations.

Research suggests (Lyon 2000) that road-related disturbances during the breeding season may cause sage-grouse leks to become inactive over time, reduce the number of hens bred on disturbed leks, and may increase the distance from the lek that individual hens will move to selected nesting habitat. Dust from roads and other surface disturbances can adversely affect plants and animals**.** Transmission and power line construction does not cause direct habitat loss, but sage-grouse tend to avoid areas associated with these lines (as they provide potential raptor perch sites), thus resulting in an indirect loss of habitat in the vicinity of overhead lines. The potential effects of noise on sage-grouse include masking sounds that influence courtship, mate selection, grouping, escape, etc.

Vegetation Management

Of the 6.9 million acres in the SCCA, 4.5 million acres are dominated by sagebrush (Figure 17). Sagebrush communities evolved as dynamic landscapes with climatic and soil type variation driving changes in fire frequencies, and in adaptive development of different sagebrush species. These sagebrush communities occur commonly in tracts occupying hundreds or thousands of acres. Many factors have contributed to dense, old, monotypic stands of sagebrush, reduction of herbaceous understories, and simplification of community diversity. Habitat conversion, sagebrush habitat treatments, and the introduction of invasive species have also affected these sagebrush communities.

Historic sagebrush communities were a mosaic of successional shrub age classes created and maintained by fire cycles ranging in frequency from 10 to greater than 100 years depending on species and site. Patchy fires appear to have been the norm; while larger fires at lower frequencies occurred in other areas, depending on climate, topography, plant composition, and aridity of the site.

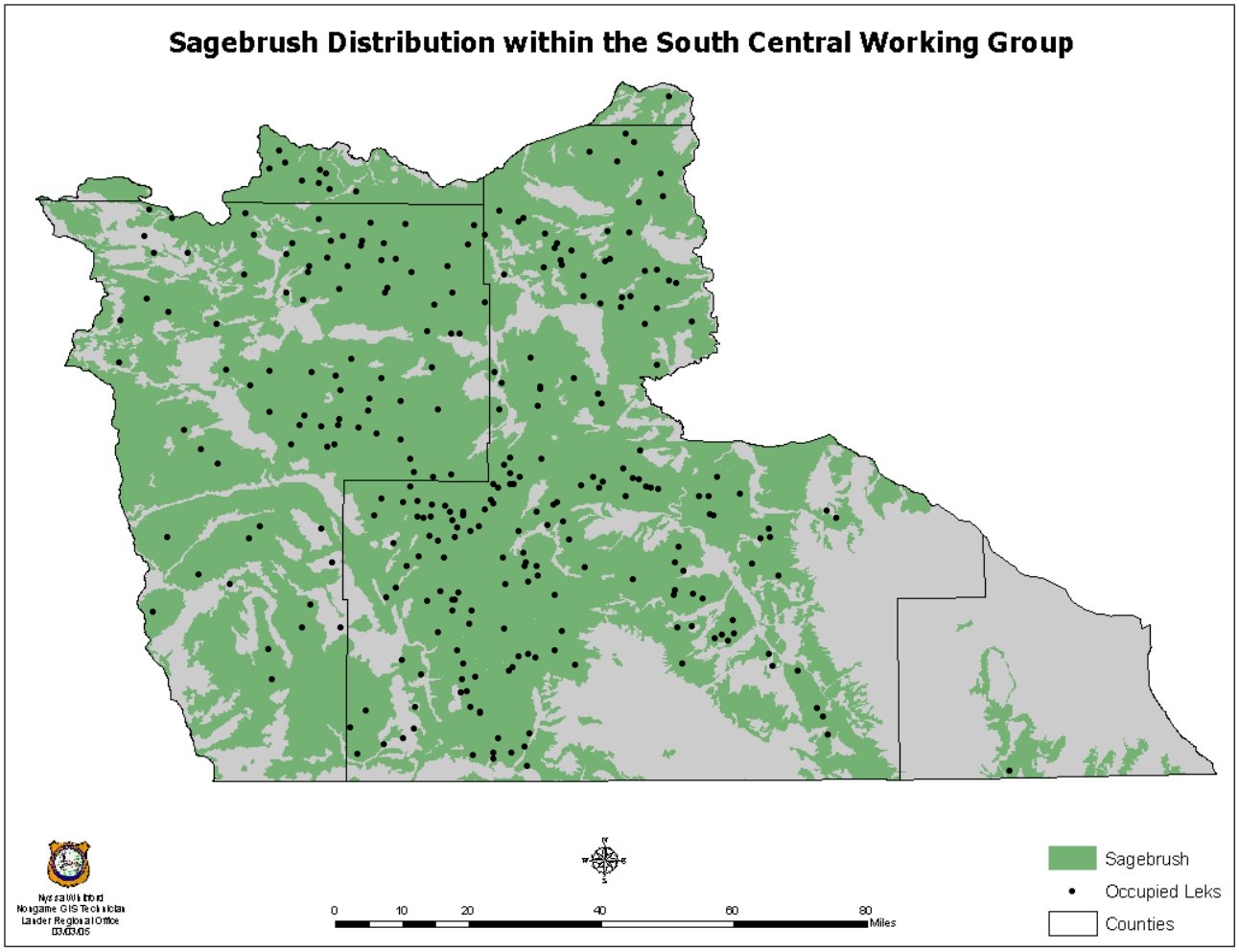
Vegetation management can be achieved through biological, mechanical, or chemical treatments. Biological treatments include prescribed fire, designed domestic livestock grazing, and insect pathogens. Fire, floods, insects, mammal and bird herbivory, plant diseases and allelopathy (chemical inhibition) are also biological processes. Chemical treatments to manipulate, control, enhance or remove sagebrush include a variety of herbicides and fertilizer. Mechanical brush control treatments in sagebrush systems include mowing, roto-beating, chaining, disking, roller harrowing, railing, and blading. Reseeding and planting shrubs is also common.

The use of fire and other treatments for improving habitat should be evaluated carefully prior to implementation because removal of large tracts of sagebrush is detrimental to sage-grouse populations. While some birds may be able to adjust by using adjacent sagebrush habitats, sage-grouse hens show fidelity for nesting in the same general area. Mosaic patches of sagebrush of different ages and structures benefit sage-grouse. Vegetation treatments influence the abundance and diversity of insects in sagebrush ecosystems, but the use of vegetative treatments requires planning and understanding of the sagebrush ecosystem so that sufficient stands of desirable sagebrush remain. Treated stands should provide adequate cover and food for the appropriate seasonal habitat within the area being treated.

Research in brood-rearing habitats indicates that sage-grouse tend to use untreated sagebrush habitat and adjacent treated areas or natural openings equally within 60 meters of the edge separating these two habitat types. Sagebrush treatments should be made to maximize the amount of sagebrush grassland habitat within 60 meters (200 feet) of an edge of untreated area for the greatest use by sage-grouse. Where brood-rearing habitat is of the greatest concern, attempt to create treated and untreated habitat patches no greater than 120 meters (400 feet) in width (Slater 2003). This may be reflected in relatively long narrow or patchy burns rather than large treated areas. However, treatments will vary based on the seasonal habitat type. Elimination of insects, or

reduction of forbs has been documented and may be locally significant, but not widespread. Loss of sagebrush to large-scale chemical treatments can eliminate sage-grouse habitat.

Figure 16



Weather/Climate

Annual weather fluctuations, multi-year weather events, and long term climatic change all influence sage-grouse populations and habitats. Annual variations in precipitation and temperature can affect annual sage-grouse production and can be very site-specific. Cold, wet weather during early-brood-rearing can physically stress and kill young chicks and have adverse affects on insect populations, but wet springs can promote forb growth that benefit sage-grouse. Dry conditions during the early summer concentrate sage-grouse on the riparian areas and can increase predation and disease transmission.

Short-term climatic cycles affect the length of the growing season and influence plant succession and the abundance and duration of herbaceous cover and forb availability. Extreme snow depths that cover most of the sagebrush can limit forage and cover. Long term and/or extreme drought change decrease the effectiveness of sage-grouse habitats resulting is decreased productivity and population decline. Several years of above normal precipitation enhances vegetation helping to increase sage-grouse populations. Weather remains a significant factor in determining the productivity of sage-grouse populations.

GOALS AND OBJECTIVES

Goal 1: Improve the ability to evaluate, estimate, and monitor sage-grouse populations in the SCCA

1. Objective: summarize existing sage-grouse lek count data for population evaluation within the South Central Conservation Area (SCCA)
    a. Action: summarize sage-grouse data for SCCA and include in conservation assessment.
        i. Who: WGFD
        ii. When: Ongoing
        iii. Benefit: Provides up to date status of populations for management
        iv. Standard: Completion of annual report each year
    b. Action: summarize sage-grouse data each year and produce annual report for SCCA
        i. Who: WGFD
        ii. When: Ongoing
        iii. Benefit: Provides up to date status of population for management
        iv. Standard: Completion of annual report each year
2. Objective: estimate sage-grouse population abundance using spring lek counts of males within the SCCA
    a. Action: The WGFD is working with the Western Association of Fish and Wildlife Agencies Sage-grouse Working Group on population estimation methodology based on range wide protocols on sage-grouse population estimation. The WGFD's objective is to integrate the most recent and statistically valid techniques that help estimate population abundance within the SCCA. Accurate population estimates will help guide habitat and population management decisions.
        i. Who: WGFD
        ii. When: Ongoing
        iii. Benefit: Provides up to date status of population for management
        iv. Standard: Completion of annual report each year
3. Objective: develop monitoring plan for sage-grouse in SCCA
    a. Action: WGFD will take yearly lek count and survey data incorporate into the statewide database. Data will then be used to evaluate yearly changes in sage-grouse abundance, production, and harvest, and then reported on an annual basis.
        i. Who: WGFD
        ii. When: Ongoing
        iii. Benefit: Provides up to date status of population for management
        iv. Standard: Completion of annual report each year
    b. Action: coordinate with special interests and conduct lek surveys in areas where threats have been identified and prioritized
        i. Who: WGFD, BLM, energy companies, volunteers
        ii. Status: 2006

iii. When: Provides up to date status of population for management, evaluates
iv. Standard: Data included in annual report each year

c. Action: Identify research needs of sage-grouse in SCCA
i. Who: BLM, WGFD, SCCA members
ii. When: completed in 2007
iii. Benefit: Provides site specific information on sage-grouse life history
iv. Standard: research completion report written

4. Objective: maintain sage-grouse lek database to store all lek monitoring data in SCCA.
a. Action: WGFD maintain statewide database for sage-grouse in Wyoming
i. Who: WGFD
ii. When: Ongoing
iii. Benefit: Provides up to date status of population for management
iv. Standard: Completion of annual report each year

5. Objective: Identify and map sage-grouse lek perimeters and map winter concentration areas in SCCA
a. Action: Identify and map perimeter of sage-grouse leks using GPS to include in state-wide database
i. Who: WGFD, BLM
ii. When: ongoing
iii. Benefit: allows land managers to better plan projects in vicinity of leks and protects leks
iv. Standard: data will be included in statewide database and included in annual completion reports

b. Action: Identify and map winter concentration areas for sage-grouse
i. Who: WGFD, BLM
ii. When: ongoing
iii. Benefit: Allows managers to better plan projects in the vicinity of winter concentration areas
iv. Standard: data will be included in annual completion reports

<u>Goal 2: Identify threats/opportunities to sage-grouse populations</u>

1. Objective: Identify issues/threats/opportunities in the SCCA that affect sage-grouse
a. Action: LWG members developed a list of issues/threats
i. Who: SCCA work group members
ii. When: 2005
iii. Benefit: Identified threats/opportunities can minimized/maximized through management and collaborative partnerships, projects, etc.
iv. Standard: Identified threats/opportunities included in Conservation Plan

2. Objective: Id/prioritize potential areas of activity (+control areas)
a. Action: Prepare maps of potential threats and overlay sage-grouse lek areas to see where greatest impacts may be realized (Figure 7-8).
i. Who: WGFD

ii. When: ongoing
iii. Benefit: Allows SCCA workgroup to identify areas for projects
iv. Standard: initiation/completion of projects in identified areas

Goal 3: Improve habitat conditions for sage-grouse and associated wildlife in SCCA.

1. Objective: Introduce vegetation beneficial for sage-grouse on previously reclaimed areas. Target 10% of areas identified as beneficial to sage-grouse in SCCA each year.
    a. Action: Identify appropriate areas and apply treatment as appropriate.
        i. Who: BLM, landowners, NRCS, local Conservations Districts, energy companies, WGFD, NGO's
        ii. When: 2008
        iii. Benefit: Improved vegetation condition and diversity will enhance chick survival and adult reproduction.
        iv. Standard: Number of acres will be included in yearly reports and evaluated by BLM, WGFD, project partners, and LWG.
2. Objective: Revegetate disturbed sites for sage-grouse in SCCA. Target 25% of the disturbance (during the same year of disturbance) and the remaining 75% the following year.
    a. Action: Reclaim all disturbed areas.
        i. Who: BLM, landowners, NRCS, local Conservations Districts, energy companies, WGFD, NGO's
        ii. When: 2008
        iii. Benefit: Improved vegetation condition and diversity will enhance chick survival and adult reproduction.
        iv. Standard: Number of acres will be included in yearly reports and evaluated by WGFD, project partners, and LWG.
3. Objective: Develop a source of native forbs favored by sage-grouse to be used for reclamation within the SCCA. This will require collecting native seed to be propagated and made available by the NRCS Plant Material Centers. Funding will be applied for by LWG from legislative grants, WGFD grants, and NGO grants
    a. Action: Work with the BLM, NRCS, CDs and Bridger PMC include these forbs in native seed mixes when available (2009 earliest).
        i. Who: BLM, landowners, NRCS, local Conservations Districts, energy companies, WGFD, NGO's
        ii. When: Start seed collections by 2006-9, propagate seeds by 2009
        iii. Benefit: Improved vegetation condition and diversity will enhance chick survival and adult reproduction.
        iv. Standard: Number of acres seeded using these forbs will be included (when seed is available) in yearly reports and evaluated by WGFD, project partners, and LWG.
4. Objective: Improve upland habitat conditions for sage-grouse by improving upland vegetation condition with 10 projects each year.
    a. Action: work with local grazing permittees to improve upland vegetation by initiating range improvement projects and developing partnerships with

government agencies and NGO's. Projects can include treatments to improve vegetative diversity, increase forbs and grass, and help regenerate healthy shrub stands, fence and water projects that help initiate rest rotational grazing, and potential "grass bank" projects
    i. Who: BLM, local Conservations Districts, NRCS, WGFD, landowners, energy companies, NGO's
    ii. When: Start projects in 2005, and evaluate success in 2010
    iii. Benefit: Improved habitat for nesting and late brood rearing, reduce predation by providing cover.
    iv. Standard: Number of projects and acres will be included in yearly reports and evaluated by WGFD, project partners, and LWG.

5. Objective: Improve riparian habitat conditions for sage-grouse broods within the SCCA with 5 projects of riparian habitat each year.
    a. Action: work with landowners, permittees, and BLM to improve riparian habitat by developing and completing riparian habitat projects beneficial for sage-grouse.
        i. Who: BLM, WGFD, NRCS, Local Conservations Districts, WGFD, landowners, NGO's
        ii. When: Start several projects in 2005, evaluate success in 2010
        iii. Benefit: Improved habitat for late brood rearing.
        iv. Standard: Number of projects and acres will be included in yearly reports and evaluated by WGFD, project partners and LWG.
6. Objective: Identify, Prioritize and aggressively treat and reduce invasive plants in identified areas of concern. Treat 10% of identified acres each year.
    a. Action: Work with weed and pest agency to reduce weeds in SCCA each year by developing and initiating annual projects
        i. Who: County Weed and Pest Districts, BLM, energy companies, landowners
        ii. When: start in 2006 after conservation plan is written
        iii. Benefit: Improved habitat in and around disturbed areas where weeds are problem
        iv. Standard: Evaluate number of projects and acres of treated weeds each year and include in annual report.
    b. Action: identify (species of) invasive plants (that are) of concern
        i. Who: BLM, LWGs, GF, etc.
        ii. When: start 2006
        iii. Benefit: know extent of problem
        iv. Standard: completion of list
    c. Action: map areas where invasive plants of concern already exist.
        i. Who: same as above
        ii. When: 2007
        iii. Benefit: know location of problem
        iv. Standard: completion of map
7. Objective: Increase coordination and number of habitat improvement projects to benefit sage-grouse.

a. Action: WGFD and NRCS jointly fund a position for habitat extension biologist to assist private landowners, WGFD, BLM, Energy companies, etc. to develop habitat projects.
    i. Who: WGFD, NRCS,
    ii. When: Develop and fill position by summer 2010 (depending on budget)
    iii. Benefit: a dedicated position can spend more time to work on funding, project development, coordination, grant writing, etc. than positions in other agencies that have other duties besides sage-grouse
    iv. Standard: continuation of position.

8. Objective: Ensure that habitat projects for other wildlife species do not conflict with sage-grouse habitat goals and objectives
    a. Action: Review each project in planning stages and design as a mutual benefit for sage-grouse and other species
        i. Who: WGFD, BLM, NRCS, Conservation Districts, others.
        ii. When: ongoing
        iii. Benefit: ensures projects will improve habitat for sage-grouse
        iv. Standard: Incorporated into agency planning process.
9. Objective: research and develop seed mixes for sage-grouse habitat to out-compete invasive plants.
    a. Action: Establish and monitor one trial planting per year.
        i. Who: BLM, CD, Industry, GF, etc.
        ii. When: 2007
        iii. Benefit: non-chemical control of invasive plants
        iv. Standard: include in yearly report

<u>Goal 4: Reduce the effects of predation on sage-grouse where applicable</u>

1. Objective: Identify and manage predation that affects sage-grouse.
    a. Action: initiate predator research in areas where predation is suspected to be a limiting factor
        i. Who: ADMB, local PABs, GF, BLM, and landowners
        ii. When: ongoing or as reported
        iii. Benefit: Identifying specific predators and sites where problems are occurring.
        iv. Standard: results included in reports as applicable
    b. Action: conduct lethal species-specific control where there is a demonstrated need.
        i. Who: ADMB, local PABs, GF, BLM, and landowners
        ii. When: ongoing or as reported
        iii. Benefit: manage specific predators
        iv. Standard: results included in reports as applicable
    b. Action: Identify predation RMPs that should be included in brochures for distribution
        i. Who: mangers
        ii. When: 2006

iii. Benefit: provide information to the public.
iv. Standard: plan completion

2.Objective: Identify habitat factors that may increase or affect predation. (e.g. roadways, trash, cover, etc.)

c. Action: Develop RMPs for habitat and vegetation to reduce predation
   i. Who: landowners and managers
   ii. When: 2006
   iii. Benefit: identify potential areas for habitat or vegetation management
   iv. Standard: plan completion

<u>Goal 5: Initiate education and information efforts for sage-grouse</u>

1. Objective: Distribute Recommended Management Practices (RMP's) within SCCA
   a. Action: Develop list of RMP's for factors affecting sage-grouse in SCCA, and include in Conservation Plan,
      i. Who: LWG
      ii. When: List completed in 2005,
      iii. Benefit: RMP's will help various resource users identify practices that benefit sage-grouse
      iv. Standard: Completion of plan
   b. Action: develop and produce educational materials for selected audiences for distribution within SCCA
      i. Who: LWG, extension biologist
      ii. When: 2007
      iii. Benefit: Educational materials will help communicate practices that benefit sage-grouse
      iv. Standard: publication of materials
   c. Action: develop and promote a self-reporting mechanism that tracks implementation of RMPs.
      i. Who: LWG
      ii. When: 2007
      iii. Benefit: Allow for quantification of effectiveness and application of RMPs.
      Standard: annual compilation of the reports returned.
   d. Action: Develop a lesson plan and traveling exhibit that could be used in the classroom at an appropriate level.
      i. Who: LWG, educators, extension biologist, University of Wyoming CES, etc.
      ii. When: 2008
      iii. Benefit: educate youth
      iv. Standard: completion of lesson plan and exhibit
   e. Action: Develop and present a program on the working group process, conservation plan and projects to local organizations, extension offices and at annual meetings (e.g. stockgrowers,)
      i. Who: LWG, extension biologist, WGFD

ii. When: 2007
iii. Benefit: the public would have an understanding of what working group has accomplished.
iv. Standard: program developed and presented

Goal 6: Develop mineral and energy resources in a manner compatible with maintenance and enhancement of sage-grouse populations and habitat.

1. Objective: Tailor reclamation to restore or augment needed habitat types.
    f. Action:
        i. Minimize roads and pads
        ii. Support incremental development
        iii. Use Coalbed Natural Gas water if available and suitable to reduce dust in applicable areas
        iv. Timing of reclamation to maintain viability of topsoil
        v. Reduce disturbance from pipelines, roads, power lines, better design
        vi. Establish tighter stipulations/guidelines on dust control on existing roads and new site construction
        vii. Identify potential areas for enhancing habitat to make more appealing to sagebrush obligates
        viii. Utilize forb rich seed mixtures and sagebrush seedlings
        ix. Timing and depth of seeds
        x. Plan out long term
        xi. Muffle compressor stations and generators to reduce noise
        xii. Trash containers that are raven proof
        xiii. Develop industry operations procedures document in conjunction with G&F and BLM for highly impacted areas
        xiv. Support strict enforcement of protocols on ported areas around leks
        xv. Encourage or support research for reclamation. (May also relate to vegetation management)
        xvi. Utilize/establish corridors for pipelines and proactively enhance disturbance to promote use by sagebrush obligates.
        xvii. Drilling from same pad
        xviii. Strive for no net loss of habitat
        xix. Strive for no net gain in roads
        xx. Reduce dust
        xxi. Limit traffic
        xxii. Better transportation planning to minimize impacts.
    g. Who: BLM, Industry , WGFD
    h. When: Ongoing
    i. Benefit: protection of sage-grouse habitats
    j. Standard: reclamation completed using above methods
2. Objective: Use protective stipulations during crucial periods for sage-grouse.
    a. Action: On Rawlins BLM administered lands no surface occupancy (NSO) of ¼ mile, and avoid activities within 2 miles between 1 March and 15 July for

nesting and brood rearing. Avoid activities in winter concentration areas from 15 November to 14 March.

i. Who: Rawlins BLM
ii. When: Ongoing
iii. Benefit: protection of sage-grouse during breeding period
iv. Standard: Compliance with BLM FO guidelines

b. Action: Lander BLM administered lands NSO of ¼ mile, and avoid activities within 2 miles between 15 March and 15 July.
    i. Who: Lander BLM
    ii. When: Ongoing
    iii. Benefit: protection of sage-grouse during breeding period
    iv. Standard: Compliance with BLM FO guidelines
c. Action: Rock Springs BLM administered lands NSO of ¼ mile between 1 March and 15 May (and no above ground structures), controlled surface use (CSU) rest of the year, and avoid activities within 2 miles of leks between 15 March and 15 July. Jack Morrow Hills recommended practices: CSU for nesting, brood rearing, and wintering sage-grouse.
    i. Who: Rock Springs BLM
    ii. When: Ongoing
    iii. Benefit: protection of sage-grouse during breeding period
    iv. Standard: Compliance with BLM FO guidelines

IMPLEMENTATION

Funding

In 2005, Governor Freudenthal requested a supplemental budget appropriation of $500,000 from the Wyoming State Legislature to be used to fund administration of the eight local sage-grouse working groups and conservation projects endorsed by them. The legislature approved this request. $425,000 of the $500,000 appropriation was to be used for conservation projects of which the South Central LWG approved projects received $28,500 that partially funded three of the projects shown in the Table of Commitments and Recommendations.

In 2006, the State of Wyoming's General Fund budget passed by the legislature included a $1.1 million appropriation for sage-grouse conservation. This includes about $135,000 for the administrative costs of local working group functions and mapping in addition to $1million for implementation of local conservation plan projects. This funding is available for expenditure from July 1, 2006 – June 30, 2008.

Seven of the 8 Local Working Groups (LWGs), Bates Hole, Big Horn Basin, Northeast, South-Central, Southwest, Upper Green River and Wind River/Sweetwater, shall receive $134,000 over the biennium ($67,000/yr) while the Jackson Hole LWG shall receive $62,000 over the biennium ($31,000/yr).

The funding is to be used for plan implementation as opposed to the interim funding that was used to fund the 2005-2006 projects. Projects the groups support (via consensus) should be outlined and justified in the LWG plans. Projects may be funded before plan finalization if necessary, but the project should then be included in the plan.

The groups may choose to utilize a revised project proposal form and solicit projects within their local communities. Or they may choose to fund projects already identified through their planning process. There will not be statewide ranking and evaluation aside from ensuring the projects follow state fiscal policies and procedures.

The funding may be spent at any time over the two-year period between July 1, 2006 and June 30, 2008 (with the possibility of encumbrance through the field season).

Cooperative funding partnerships are encouraged and a list of potential funding sources aside from the General Fund appropriation are listed in Appendix C.

Additional funding sources via the Western Association of Fish and Wildlife Agencies' Greater Sage-Grouse Conservation Strategy and/or other national scale funding sources may materialize in the coming years.

Monitoring and Adaptive Management

The success or failure of this conservation plan can only be determined through annual monitoring of sage-grouse population status and the success of projects being implemented to benefit sage-grouse. The impact from factors affecting sage-grouse populations will be demonstrated over time through changes in long-term population trends (indices) based on lek count data (see population assessment section). Therefore, monitoring leks will continue to be a priority, with results reported in the Wyoming Game and Fish Department's annual South Central Wyoming Working Group Sage-grouse Completion Report. Projects endorsed by the South Central Wyoming Sage-grouse Working Group should include a monitoring plan. A summary of conservation actions such as research and habitat projects will be included in the South Central Sage-grouse Annual Completion Report.

Monitoring the success and/or failure of conservation action implementation will provide additional information from which to make future conservation planning decisions. The South Central Wyoming Sage-grouse Working Group will continue to meet, although on a less frequent schedule. Updates to the plan will include the most up to date information garnered through population monitoring, research and habitat management. The Wyoming Game and Fish Department will continue to summarize population and habitat monitoring data as well as the status of project implementation and effectiveness in the South Central Wyoming Working Group Sage-grouse Completion Report. This report is distributed to land management agencies as well as others interested in the conservation of sage-grouse.

Table of Commitments and Recommendations

Goal/Obj/ Action	Project	Status	Who
1.1.a	Summarize existing sage-grouse data for evaluation in SCCA	Completed 2003	WGFD,
1.1.b	Append yearly data into database and evaluate	Ongoing	WGFD
1.2.a	Estimate sage-grouse populations each year using lek counts	Ongoing	WGFD, BLM, volunteers
1.3.a	Develop monitoring plan in SCCA and produce yearly report	Ongoing	WGFD
1.3.b	Coordinate and conduct lek surveys in areas where threats have been identified and prioritized	Ongoing	WGFD, BLM, Energy Industry, volunteers
1.3.a	Phase I Atlantic Rim Sage-grouse tracking study. This multiyear project will radio collar and track up to 100 sage-grouse in the Atlantic Rim Natural Gas development area to identify seasonal habitat use and baseline data. Phase I will cover data collection to be used in Phase II.	Ongoing	Anadarko Petroleum Corporation, Warren Resources, BLM, WGFD, LWG, LSRCD
1.3.c	Stratton sagebrush ecology research area: Assessing the effects of grazing treatments on sagebrush vegetation and wildlife communities across prescribed burns and habitat controls. Project Objectives: 1) Evaluate grazing regimes and grazing management after a prescribed burn. 2) Assess impacts of cattle and wild ungulates on plant species abundance and composition. 3) Within each grazing and burn treatment, assess greater sage-grouse (permanent pellet transects), songbird (transect-point counts), and small mammal (live trapping) abundance and habitat associations. 4) Compare current presence/abundance of wildlife species with that found 30 years ago to determine how historical management practices at the site (grazing) have affected wildlife populations within this high-elevation sagebrush system. 5) Maintain long-term monitoring to evaluate changes in the plant community and wildlife associations. 6) Ultimately, develop management guidelines related the impacts of grazing at different times of the year and after a prescribed burn on the vegetation and wildlife communities.	Ongoing	CSU/USGS, BLM, permittees, LWG
1.3.c	Identify research needs and opportunities in SCCA	By 2008	WGFD, BLM, LWG members
1.4.a	Use statewide database to store all SCCA lek data	Ongoing	WGFD
1.5.a	Map sage-grouse lek perimeters	Ongoing, by 2008	WGFD, BLM
1.5.b	Map winter concentration areas	Ongoing, by 2008	WGFD, BLM
2.1.a	Identify issues, threats, opportunities in SCCA	Completed 2005	LWG members
2.2.a	Identify prioritize areas of activity and control areas by producing maps (in Conservation Assessment section)	Ongoing	WGFD, LWG members

6.2.a	Protect potential nesting/brood rearing habitat within 2-miles of a lek (March 1 – July 15, no new surface disturbing activities)	Ongoing	Rawlins BLM, WGFD, Industry
6.2.b,c	Protect potential nesting/brood rearing habitat within 2-miles of a lek (March 15 – July 15, no new surface disturbing activities)	Ongoing	Rock Springs & Lander BLM, WGFD, Industry
2.2.a	Map sage-grouse habitat in SCCA	As funding becomes available	BLM, WGFD, Industry, other resource users
6.2.a,b,c	Prohibit surface disturbance or occupancy ¼ mile from lek perimeter	Ongoing	BLM, WGFD, Industry
6.2.a	Avoid human activity between 6PM to 9AM within ¼ mile of lek perimeter (March 1 to May 20)	Ongoing	Rawlins BLM, WGFD, Industry
6.2.b,c	Avoid human activity between 8PM to 8AM within ¼ mile of lek perimeter (March 1 to May 20)	Ongoing	Rock Springs & Lander BLM, WGFD, Industry
6.2.a	Winter concentration areas (Nov. 15 – March 14) no surface disturbing activities.	Ongoing	BLM, WGFD, Industry
6.2.a	Avoid severe winter relief habitat (avoidance area)	Ongoing	Rawlins BLM, WGFD, Industry
6.2.a	Avoid high profile structures from ¼ mile to 1 mile from lek perimeter (on case-by-case basis)	Future Rawlins RMP decision	Rawlins BLM, WGFD, Industry
5.1.b	Develop a "RMP's to maintain or enhance sage-grouse populations in areas of energy development within the SCCA" document for application on private, state, and federal lands. Will include RMP's for each type of development.	2008	LWG
5.1.b	Distribute "RMP's" pamphlet to energy developers	Commitment 2009	LWG, BLM, Trade Associations, WGFD
6.1.f	Encourage incentives for development of new technologies that reduce surface disturbing or disruptive activities. Support or participate in demonstration projects.	Recommended	LWG
5. 1. b.	Distribute sage-grouse place mats	Commitment: Completed	LWG members
5. 1. b.	Distribute informational brochure regarding sage-grouse and SCCA group.	Commitment: Brochure completed, distribution: Ongoing	LWG members
5. 1. b.	Initiate articles in local newspapers to promote and publicize SCCA sage grouse plan, projects and accomplishments.	Commitment: Ongoing	LWG members
5. 1. b.	Develop monitoring plan of SCCA and produce yearly report that will be publicly distributed.	Commitment: Ongoing with Annual Report	WGFD, LWG members
5. 1. b.	Hold public information meetings upon completion of plan in conjunction with WGFD season setting open houses and	Commitment: 2007	WGFD, LWG members

	meetings.		
5. 1. b.	Make presentations to target audiences i.e. sportsmen, agricultural operators, weed and pest board, predator control board etc. Help them identify "actions" they can take.	Recommended	LWG members
5. 1. b.	Annual sage-grouse lek site visit and educational program with 3rd grade class from Little Snake River Valley School.	Ongoing	WGFD
5. 1. b.	Prepare education package for teaching opportunities such as schools, Ag in the Classroom, Conservation Districts	Recommended	WGFD and LWG members
5. 1. b.	Work with other sage-grouse groups on educational presentations for public radio, public TV and other media sources	Recommended	WGFD, all Sage Grouse Groups
5. 1. b.	Develop and distribute "recommended practices" pamphlet to all users in sage grouse habitat.	Commitment: 2008	LWG members
5. 1. b.	Several state and federal agencies are in the process of developing several documents: -Literature synthesis (completed 2007) -Understanding and enhancing sage-grouse habitat in Wyoming -Sage-grouse and range technical team report from the literature synthesis. The South Central LWG will evaluate and use those recommendations where appropriate.	Commitment: 2007	BLM, WAFWA, WGFD, WY Dept. of Ag.
3.3.a	Collect, propagate, and use native forb seed adapted to low precipitation areas that may be favored by sage-grouse to restore disturbed lands in the SCCA.	Started 2006, Ongoing	LWG, BLM, WGFD, NRCS, Industry, LSRCD, other resource users
3.4.a	Explore NRCS cost-share for seeding adjacent to sage-brush habitats (private lands)	Recommended	

	16-Mile Project: **Project Description:** This project contains several smaller projects located throughout the Atlantic Rim/16-mile area, and consists of the development and protection of naturally occurring waters, while continuing to provide existing water sources outside of the riparian areas for livestock (and within for selected wildlife species.) Proposed spring developments consist of a collection system at the water source and a pipeline and water trough on adjacent uplands. At naturally occurring seep and spring sites, the collection system is designed so that only a portion of the produced water is removed to service the off-site stock tank, while the majority continues to free flow within and, in some cases, from the source site. This free-flowing water continues to feed valuable riparian habitat around and below the source, which is fenced from livestock use in order to protect the habitat. Depending on the size of the riparian zone and the amount of flow from the seep or spring, either all or a portion of the riparian zone can be fenced with a livestock exclosure. In cases where only a portion of the riparian habitat around a spring is fenced, grazing management including deferment, rest, and recovery periods will be utilized to control livestock pressure on the remainder of the habitat. Spring developments will be plumbed so that flow into the off-site troughs can be controlled and be excluded during periods when livestock are not utilizing the pasture, or other periods when it is desired that the troughs be drained such as during the winter months. The fenced exclosures around the water sources and riparian areas would be designed to be wildlife friendly, allowing use by species from sage grouse and song birds to big game such as antelope and mule deer. **Project Goals:** To improve upland and riparian vegetation, wildlife habitat, and watershed health. Specifically, the proposed spring developments are needed to improve habitat within the North Platte River watershed and the east edge of the Great Divide Basin meets the Standards for Healthy Rangelands on public lands administered by the BLM in the Rawlins Field Office (RFO), Wyoming. Specifically, goals of the proposed projects include bringing riparian habitat to properly functioning condition (or continue to provide currently functioning riparian/wetland habitat), providing healthy late brood-rearing habitat for greater sage-grouse, providing important riparian habitat for existing native animal populations ranging from small mammals and reptiles, song-birds, to big game species such as antelope, mule deer, and elk, and continuing to allow multiple use management of these habitats including the managed grazing of domestic livestock. **Project Objectives:** Objectives of the proposed projects are primarily to remove domestic livestock use from selected point-source seep and/or spring sites, while continuing to provide watering sources for ungulate and other animal use. Benefits that will be gained from the proposals include the maintenance or enhancement of native riparian vegetation (including diversity, density, vigor, and abundance), bringing riparian habitat towards properly functioning condition, and enhancing natural water production in terms of quality and quantity throughout the allotment.		
3.4.a	16-Mile Project: Upper Jeps Spring Development- 2 springs, 2 tanks, and 2 enclosures.	Commitment: Completed 2006	LWG, Blake Sheep Co., BLM, WGFD
3.4.a	16-Mile Project: Separation Drainage Spring Development- 3 springs, 3 tanks, and 3 enclosures.	Commitment: Completed 2006	LWG, Blake Sheep Co., BLM, WGFD, Cowboy 3-shot, RMEF
3.4.a	16-Mile Project: Separation Peak Spring Development Project- 4 springs, 4 tanks, and 4 enclosures.	Commitment: Completed 2006	LWG, Blake, BLM, WGFD
3.4.a	16-Mile Project: Dolittle Spring Development- 1 spring, 1 tank, and 1 pipeline.	Commitment: 2006, pipeline is ongoing	Blake, SER
3.4.a	16-Mile Project: Tank Battery Project- 1 spring, 1 tank, and 1 enclosure.	Commitment: Completed 2006	LWG, Blake Sheep Co., BLM, WGFD, RMEF
3.4.a	16-Mile Project: Jeps Range Fence (4.5 miles)	Commitment: Completed 2006	Blake, SER
3.4.a	16-Mile Project: Hadsel Draw Fence (8 miles)	Commitment: Completed 2006	Blake, Anadarko
3.4.a	16-Mile Project: 7-Mile-Lake fence (1.5 miles)	Commitment: Completed 2006	Blake, SER, BLM

	Found Spring Project: **Project Description:** The proposed project includes the development of off-site upland watering for livestock and wildlife, in coordination with the already protected spring site. A head-box or spring-box in the Found Spring site and a buried pipeline will be used to fill a tire tank located 2000 feet off-site. The excess water from the tire trough would be returned to the drainage of origin via an overflow pipe in the tire trough. The plumbing in the spring development would allow the tire trough to flow water only when livestock use is being made within the allotment to reduce pressure in existing riparian areas. Monitoring may dictate that the tire (off-site water) be operational during extend periods to aide wildlife watering during dry summer months. The spring site is currently surrounded by a wildlife friendly fence that excludes cattle use from the source site and surrounding riparian habitat. The fenced exclosures around the spring source allows for wildlife egress and aggress and is constructed to BLM standards. **Project Goals**: Increase and protect existing flows from Found Spring by preventing degradation to the source. Increase and protect important riparian habitats for all existing wildlife, for example Sage-Grouse, song birds, mule deer, antelope, elk, and small mammals. **Project Objectives:** Increase riparian vegetation diversity and abundance. Protect and existing riparian habitat as a seed source. Reduce large ungulate disturbance to the spring site. Provide much needed off-site water to both livestock and wildlife.		
3.4.a	Found Spring Improvement Project	Commitment: Completed 2006, monitoring ongoing	BLM, Miller Est. Cattle Co, SER
	Wildhorse Draw Spring: **Project Description:** The proposed project includes the development of off-site upland watering for livestock and wildlife and the protection of the existing spring site within the Buck pasture of the Seminoe grazing allotment. Developing the spring would provide off-site water using a head-box or spring-box and a buried pipeline to move water to a dirt tank located a few yards off-site with overflow returned to the drainage. The plumbing in the spring development would allow the tank to fill only when livestock use is being made within the allotment to reduce pressure in existing riparian areas. Monitoring may dictate that the tank (off-site water) be operational during extend periods to aide wildlife watering during dry summer months. Following the spring development the spring would be protected by construction of a wildlife friendly fence that would exclude cattle use from the source sites and surrounding riparian habitat. The fenced exclosures around the spring sources would allow for wildlife egress and aggress and would be constructed to BLM standards. **Project Goals**: Increase and protect existing flows from the Wild Horse Draw Spring by preventing degradation to the source. Increase and protect important riparian habitats for all existing wildlife, for example sage-grouse, song birds, mule deer, antelope, elk, and small mammals. **Project Objectives:** Increase riparian vegetation diversity and abundance. Protect and existing riparian habitat as a seed source. Reduce large ungulate disturbance to the spring site. Provide much needed off-site water to both livestock and wildlife.		
3.4.a	Wildhorse Draw Spring Improvement Project	Commitment: Completed 2006, monitoring ongoing	BLM, Miller Est. Cattle Co, SER
3.1.a	Carbon County Reseeding- Forb seed is planted in right-of-way areas within the county, by Road and Bridge employees as a part of reclamation in construction areas. Project areas reclaimed are in suitable sage-grouse habitat throughout the SCCA.	Commitment: Completed 2006, monitoring ongoing	Carbon County Road & Bridge, landowners, LWG
3.4.a	W.S. Baldwin Ranch Riparian Improvement. 1750 acres of riparian pasture fence with various riparian system improvements. Approximately 11 miles of fence protecting approximately 4.5 miles of creek bottom along Crook Creek to produce a large pasture that may be deferred for a few years. This fencing will reduce wild horse use of the riparian area while not drastically reducing access by other wildlife species. In addition, the project involves installing at least 4 grade stabilization structures to control head cutting, a permanent stream crossing to limit erosion caused by multiple, non-reinforced crossings at the present, watering facilities to better distribute livestock and wildlife, several miles of native vegetation will be planted in and around Crook Creek, and a prescribed grazing plan written.	Commitment: project will be started in spring/summer 2007	Permittee, NRCS, WGFD, Wyoming Grazing Board, Kinder-Morgan, Sinclair, Pacific Power
	The following 10 independent projects are a series of water development projects that were completed with the assistance of the Saratoga Encampment Rawlins Conservation District (SERCD), and the NRCS. All tanks have wildlife escape ramps, and overflows that allow water to be		

	returned to the drainage to improve sage-grouse habitat. All spring developments are fenced to exclude livestock grazing. In total approximately 80,000 acres are benefited by these projects. Additional water has allowed for changes in grazing periods and times, which will result in improved habitat for sage-grouse.		
3.4.a	Walcott Water development- 1 storage tank, pipeline, 3 drinking tanks.	Completed 2005	NRCS, SERCD, Landowner
3.4.a	Buck Draw water development- Spring development and protection, pipeline, 2 drinking tanks.	Completed 2005	NRCS, SERCD, Landowner
3.4.a	Tullis water development- 2 spring developments, 2 drinking tanks.	Completed 2005	NRCS, SERCD, Landowner
3.4.a	Midway Grazing Management- 8 pasture prescribed grazing system.	Ongoing, started in 2005	NRCS, BLM, SERCD, Landowner
3.4.a	Ninemile Solar Pump- 3 solar pumps, 3 drinking tanks.	Completed 2006	NRCS, FSA, Landowner
3.4.a	Sulfur Springs spring development- spring development, pipeline, drinking tank.	Started 2006	NRCS, BLM, SERCD, Landowner
3.4.a	Shamrock water development- 3 wells drilled, solar panels, 3 drinking tanks.	Completed 2006	NRCS, BLM, SERCD, Landowner
3.4.a	Seminoe water development- spring development, pipeline, tank.	Completed 2005	BLM, SERCD, Landowner
3.4.a	Whiskey Gap water development- pipeline, and 3 drinking tanks from existing spring.	Completed 2006	NRCS, BLM, SERCD, Landowner
3.4.a	Lamont center pivot Irrigation system for alfalfa. Management to favor sage-grouse	Completed 2006	NRCS, SERCD, Landowner
3.3.a	Coordinate with BLM, PAW, and Industry on reclamation committee	Recommended	LWG, BLM, PAW, Industry
2.2.a	Map sage-grouse habitats in SCCA	Recommended	LWG, LM, Conservation Districts, Industry
4.1.b	Coordinate with Predator Districts if needs arise	Recommended	ADMB, WGFD, Wildlife Services
4.1.a	Study the effect of predator control for livestock, and sage-grouse.	Recommended	ADMB, WGFD, Wildlife Services
4.1.b	Information on how to minimize predation (include in RMP brochure)	Recommended	LWG
4.1.a	Conduct study to identify key predators on sage-grouse in SCCA	Recommended	LWG

RECOMMENDED MANAGEMENT PRACTICES (RMPs)

This section covers general topics such as the common goal of developing or locating funding sources for public and private land to encourage the maintenance and improvement of sage-grouse habitat. Another general goal is to encourage wildlife professionals, livestock producers and other interested parties to become more tolerant, understanding, and respectful of each other's perspective, and focus on areas of mutual interest. All issues and projects will be targeted in areas of habitat occupied by sage-grouse.

RMP's common to all issues.

1) Develop and provide information on funding options available to landowners who wish to improve sage-grouse habitat.
2) Provide landowners with information on how to provide for and protect sage-grouse habitat.
3) Research and develop incentives that reward farmers who provide habitat that maintains and enhances sage-grouse populations.
4) Develop travel management plans that would restrict travel to permitted use.
5) Encourage the reclamation of unnecessary or redundant roads.
6) Design fences to reduce hazards to flying grouse.
7) Control dust from roads and other surface disturbances within the population's seasonal habitats.
8) Avoid human activity adjacent to leks during the breeding season between the hours of 8 p.m. and 8 a.m. This RMP may not be practical in active coal mining areas.
9) Develop travel management plans and enforce existing plans.
10) Avoid recreational activities between March 15 and July 15 within two miles of a lek site.
11) Control dust from roads and other surface disturbances.
12) Where necessary to build or maintain fences, evaluate whether increased visibility, alternate location, or different fence design will reduce hazards to flying grouse.
13) Develop travel management plans.
14) Avoid construction of overhead lines and other perch sites. Where these structures must be built, or presently exist, bury the lines, locate along existing utility corridors or modify the structures in key areas.

Conflicting Wildlife and Feral Horse Management

Minimize negative impacts to sage-grouse caused by management practices and habitat improvement projects intended for other species.

1) Evaluate effects to sage-grouse when managing for other wildlife species.
2) Evaluate effects feral horses have on sage-grouse.
3) Maintain feral horse numbers no higher than herd objectives.
4) Document areas where conflicting species management goals may negatively impact sage-grouse.
5) Assess how proposed habitat improvement projects geared toward other species could impact sage-grouse.
6) Reduce negative impacts to sage-grouse when planning mitigation projects.
7) Review big game herd goals. Modify and implement big game seasons to meet harvest objectives necessary to improve habitat conditions for sage-grouse.

Farming

Conduct farming operations in a manner that is compatible with the maintenance and enhancement of sage-grouse habitat.

1) Identify areas and focus conservation and management efforts where the most benefit can be realized.
2) Identify the types of agricultural practices that are beneficial or detrimental to sage-grouse.
3) Work with private landowners to prepare seasonal habitat maps for sage-grouse to aid in developing voluntary site-specific management programs.
4) Develop water sources to benefit both crop production and healthy riparian habitat. Avoid surface and sub-surface water depletion that impacts sage-grouse habitats.

Hunting

Conduct hunting of sage-grouse in a manner that is compatible with maintaining healthy populations and allows depressed populations to increase.

1) Establish hunt areas and objectives for sage-grouse populations. If populations are declining below established objectives (for 3 or more consecutive years based on lek count information) implement more conservative regulations that might include: reduced bag limits, adjusted season dates, limited quota seasons or closed seasons.
2) Populations should not be hunted where less than 300 birds comprise the breeding populations. (i.e. less than 100 males are counted on leks)
3) Improve hunter harvest data via hunter surveys and wing barrels. (Explore additional harvest survey techniques.)
4) Inform and educate the public about hunting impacts and benefits.
5) If populations are increasing liberalize seasons.

Invasive Plants

Prevent the introduction of and/or control invasive plants of concern.

1) Identify invasive plants of concern.
2) Identify and map areas where invasive plants of concern already exist.
3) Implement strategies to assist in prevention of the spread of invasive plants detrimental to sage-grouse.
4) Prioritize and aggressively treat invasive plants in identified areas of concern.
5) Research and develop seed mixes for sage-grouse habitat to out-compete invasive plants.
6) Employ appropriate site preparation techniques and timely reseeding with approved seed mixes of any disturbed areas to prevent encroachment of invasive plants.
7) Maintain cumulative records for invasive plants treatment and prevention programs to evaluate site specific and cumulative impacts to sage-grouse habitats.
8) Washing of equipment and vehicles to prevent spreading to new areas.

Grazing

Healthy and diverse rangeland.

1) Actively educate stakeholders about grazing strategies that can be used to improve or maintain sage-grouse habitats. Distribute Wyoming guide to enhancing sage-grouse habitat.
2) Monitor and evaluate effects of different grazing treatments on sage-grouse productivity, survival, and habitat use. Develop and implement management plans for grazing that take into consideration the seasonal habitat needs of sage-grouse. Management plans could include a variety of grazing systems designed to reach habitat goals.
3) Look for ways to minimize negative impacts and enhance sage-grouse habitat when establishing range improvement projects (e.g. water overflow for sage-grouse from water developments, placement of fences, facilities that provide raptor perch sites, construction of roads, salt grounds).
4) Encourage development of forage banks.

General Mineral and Energy Development

Develop mineral and energy resources in a manner compatible with maintenance and enhancement of sage-grouse populations and habitat.

1) Consider the local needs of sage-grouse when planning infrastructure.
2) Tailor reclamation to restore, or augment needed habitat types.
3) Minimize construction of overhead lines and other perch sites in occupied sage-grouse habitat.
4) Reduce noise from industrial development or traffic especially in breeding and brood-rearing habitats.

5) Manage water to enhance or maintain sage-grouse habitat.
6) Consider an exception or waiver of seasonal stipulations if technologies that significantly reduce surface disturbance are used.
7) Continue research efforts to determine the effects of mineral and energy development on sage-grouse populations.
8) Consider off-site mitigation as an alternative for mineral and energy development impacts on known sage-grouse habitat.
9) Consider non-lease or increase lease restrictions in areas of critical sage-grouse habitat on lands <u>not currently</u> leased for mineral and energy development???

<u>Oil and Gas Development and Sand and Gravel Mining (Also See General Mineral Development RMPs)</u>

1. As a general rule, do not drill or permit new or expand existing sand and gravel activities within two miles of active leks between March 1 and July 15. As seasonal habitat mapping efforts are completed, re-direct efforts towards protecting nesting habitat.
2. Avoid surface disturbance or occupancy on or within 1/4 mile of the perimeter of known active lek sites.
3. Evaluate well spacing and location requirements under Wyoming Oil and Gas Conservation Commission jurisdiction in light of sage-grouse habitat needs and consider spacing exceptions that protect habitat. The limitations of obtaining spacing exceptions must be recognized.
4. Where technically and economically feasible, use directional drilling or multiple wells from the same pad.
5. Where facilities are developed within sage-grouse habitat, minimize potential use by predators.
6. Encourage the development of new technologies that would reduce total surface disturbance within occupied sage-grouse habitat.
7. Encourage BLM and industry to consider “phased” development

<u>Other Solid Mineral Mining Operations (Also See General Mineral Development RMPs)</u>

1) When feasible, new or expanded exploration and/or mining activities within two miles of active leks should occur prior to March 15th or after July 15th. Following initiation of mining (i.e. topsoil stripping) this recommendation would not be applied. As seasonal habitat mapping efforts are completed, re-direct efforts towards protecting nesting habitat.
2) When feasible, plan to avoid new surface occupancy or disturbance activities on or within 1/4 mile of the perimeter of known active lek sites from March 1 to May 15.

Parasites and Diseases

Minimize impacts of parasites or disease on sage-grouse.

1) Investigate and record deaths that could be attributed to parasites or disease.
2) Develop and implement strategies to deal with disease outbreaks where appropriate.

Pesticides

Minimize negative effects from pesticides.

1) Determine the extent of pesticide use, and monitor what, if any, effects each pesticide use may have on sage-grouse populations and/or habitats.
2) Work with county Weed and Pest Districts to identify which pesticides and application strategies are simultaneously beneficial and least harmful to sage-grouse.
3) Support research of the effects of pesticides on sage-grouse.
4) Promote biological and/or mechanical control instead of pesticide use if applicable.

Predation

Minimize the negative effects of predation in order to increase sage-grouse recruitment.

1) Consider predator control to maintain or enhance local sage-grouse populations when it is determined there is a demonstrated need; downward trending population over a 3-year period; populations of "newcomer" predators are artificially high in sage-grouse habitat; specific sage-grouse populations need short-term help.

2) Avoid or minimize construction of overhead lines and other perch sites in occupied sage-grouse habitat. Where these structures must be built, or presently exist, bury the lines when feasible, locate along existing utility corridors or modify the structures in key areas.
3) Research impacts of structures in sage-grouse habitat.
4) Predator control to enhance sage-grouse survival should be targeted to predators identified as impacting that sage-grouse population.
5) Better quantify and qualify the role of predation on sage-grouse in SCCA.
6) Discourage the establishment, and bring into balance artificially high populations of “newcomer” predators in sage-grouse habitat.
7) Monitor the effectiveness of any predator control efforts that are implemented.
8) Request the U.S. Fish and Wildlife Service to do a species assessment on the raven. Encourage the FWS to include ravens in 50CFR21.43 “Control of Depredating Birds.”

Recreation

Minimize impacts of recreational activities.

1) When locating recreational facilities consider sage-grouse habitat needs.
2) Establish and maintain a small number of lek viewing sites. Viewing sage-grouse on leks (and censusing leks) should be conducted so that disturbance to birds is minimized.
3) Agencies should generally not provide all lek locations to individuals simply interested in viewing birds.
4) Develop and provide information related to recreation and its impacts on sage-grouse habitat.
5) Discourage dispersed camping within important riparian habitats occupied by sage-grouse during late summer.

Residential Development

Minimize the impacts of residential development on sage-grouse habitats and populations.

1) Encourage assimilation of sage-grouse information into county plans as they are developed. Develop and distribute appropriate literature for developers and county planners.
2) Limit free-roaming dogs and cats.
3) Encourage cluster development, road consolidation and common facilities that would have a reduced impact on sage-grouse.
4) Plan development to allow for sage-grouse movement.
5) Where possible protect habitat. (i.e. land exchanges, conservation easements,)
6) Provide education on the effects of residential development on sage-grouse habitat and populations. Facilitate conservation districts and extension agents' ability to educate the public about sage-grouse.

Vegetation Management

Maintain sagebrush ecosystems with a healthy understory of native grasses and forbs, diversity of species, diversity of age classes, and patches of varying size and density.

1) Develop priorities and implement habitat enhancements.
2) Develop and implement wildfire management guidelines that address sage-grouse habitat health.
3) Ensure vegetation treatments and post-treatment management actions are appropriate to the soil, climate, and landform of the site.
4) Recognize that fire provides a natural diversity component in sagebrush habitats; manage prescribed fire on a landscape and patch scale at a local level.
5) Evaluate wildfires to determine if rehabilitation of the burned area is needed with emphasis placed on habitats that would be susceptible to invasion by annual grasses.
6) When rehabilitation is necessary, the first priority is protection of the soil resource. Use appropriate mixtures of sagebrush, native grasses, and forbs that permit burned areas to recover to a sagebrush-perennial grass habitat.

7) Grazing management should be used as a tool following sagebrush treatments or manipulations to benefit long-term sagebrush diversity and ecosystem health.
8) Determine threshold levels of habitat alteration that can occur without negatively impacting specific sage-grouse populations. As a general rule, treat no more than 20% of any seasonal habitat type until results are evaluated.
9) Treat sagebrush in a mosaic rather than contiguous blocks.
10) Consider alternatives when designing sagebrush treatments.
11) Avoid removing sagebrush adjacent to sage-grouse foraging areas along riparian zones, meadows, lakebeds and farmland unless such removal is necessary to achieve habitat management goals.
12) Implement effective monitoring plans (and cumulative records) to determine the effectiveness of vegetation treatments.
13) Evaluate site specific and cumulative impacts to sage-grouse habitats and identify best management practices for successful vegetation treatments.
14) Use local/native sagebrush seed in reclamation.

Weather/Climate

Better define weather and climate related effects on sage-grouse populations and their interactions with other limiting factors in order to correctly understand and assess fluctuations in sage-grouse populations.

1) Correlate, on a local level, historical and present weather data with historical and present sage-grouse population data to determine impacts to sage-grouse populations and habitat.
2) Where drought has been documented for 2 consecutive years, consider accelerated implementation of Recommended Management Practices developed by the local sage-grouse working group.

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SAGE-GROUSE DEFINITIONS

Lek - A traditional courtship display area attended by male sage-grouse in or adjacent to sagebrush dominated habitat. A lek is designated based on observation of two or more male sage-grouse engaged in courtship displays. New leks must be confirmed by a survey conducted during the appropriate time of day, during the strutting season. Sign of strutting activity (tracks, droppings, feathers) can also be used to confirm a suspected lek. Sub-dominant males may display on itinerant (temporary) strutting areas during population peaks. Such areas usually fail to become established leks. Therefore, a site where small numbers of males (<5) are observed strutting should be confirmed active for two years before adding the site to the lek database.

Lek Complex - A group of leks in close proximity between which male sage-grouse may interchange from one day to the next. A specific distance criterion does not yet exist.

Lek Count - A census technique that documents the actual number of male sage-grouse observed attending a particular lek or lek complex. The following criteria are designed to

assure counts are done consistently and accurately, enabling valid comparisons to be made among data sets. Additional technical criteria are available from the WGFD.

- Conduct lek counts at 7-10 day intervals over a 3-4 week period after the peak of mating activity. Although mating typically peaks in early April in Wyoming, the number of males counted on a lek is usually greatest in late April or early May when attendance by yearling males increases.
- Conduct lek counts only from the ground. Aerial counts are not accurate and are not comparable to ground counts.
- Conduct counts between ½ hour before sunrise to 1 hour after.
- Count attendance at each lek a minimum of three times annually during the breeding season.
- Conduct counts only when wind speeds are less than 8 kph (5 mph) and no precipitation is falling.

Lek Survey - Ideally, all sage-grouse leks would be counted annually. However, some breeding habitat is inaccessible during spring because of mud and snow, or the location of a lek is so remote it cannot be routinely counted. In other situations, topography or vegetation may prevent an accurate count from any vantage point. In addition, time and budget constraints often limit the number of leks that can be visited. Where lek counts are not feasible for any of these reasons, status surveys are the only reliable means to monitor population trends. Lek status surveys are designed principally to determine whether leks are active or inactive, requiring just a single visit to each lek. Obtaining accurate counts of the numbers of males attending is not essential. Status surveys involve substantially less effort and time than lek counts. They can also be done from a fixed-wing aircraft or helicopter. Because multiple visits are not required to determine peak attendance, leks that are not on count routes can be surveyed from the initiation of strutting in early March until early-mid May, depending on the site and spring weather.

Annual status – Lek status is assessed annually based on the following definitions:

- **active** – Any lek that has been attended by male sage-grouse during the strutting season. Acceptable documentation of grouse presence includes observation of birds using the site or signs of strutting activity.

- **inactive** – Any lek where sufficient data suggests that there was no strutting activity throughout a strutting season. Absence of strutting grouse during a single visit is insufficient documentation to establish that a lek is inactive. This designation requires documentation of either: 1) an absence of birds on the lek during at least 2 ground surveys separated by at least 7 days. These surveys must be conducted under ideal conditions (4/1-5/7, no precipitation, light or no wind, ½ hour before to 1 hour after sunrise) or, 2) a ground check of the exact known lek site late in the strutting season (after 4/15) that fails to find any sign (droppings/feathers) of strutting activity. Data collected by aerial surveys may not be used to designate inactive status.

- **unknown** – Leks for which status as active or inactive has not been documented during the course of a strutting season.

Management status - Based on its annual status, a lek is assigned to one of the following categories for management purposes:

- **occupied lek** – A lek that has been active during at least one strutting season within the prior ten years. Occupied leks are protected through prescribed management actions during surface disturbing activities.

- **unoccupied lek** – (Formerly "historical lek".) There are two types of unoccupied leks, "destroyed" and "abandoned." Unoccupied leks are not protected during surface disturbing activities.

    - **destroyed lek** – A formerly active lek site and surrounding sagebrush habitat that has been destroyed and is no longer suitable for sage-grouse breeding. A lek site that has been strip-mined, paved, converted to cropland or undergone other long-term habitat type conversion is considered destroyed. Destroyed leks are not monitored unless the site has been reclaimed to suitable sage-grouse habitat.

    - **abandoned lek** – A lek in otherwise suitable habitat that has not been active during a period of 10 consecutive years. To be designated abandoned, a lek must be "inactive" (see above criteria) in at least four non-consecutive strutting seasons spanning the ten years. The site of an "abandoned" lek should be surveyed at least once every ten years to determine whether it has been reoccupied by sage-grouse.

- **undetermined lek** – Any lek that has not been documented active in the last ten years, but survey information is insufficient to designate the lek as unoccupied. Undetermined leks will be protected through prescribed management actions during surface disturbing activities until sufficient documentation is obtained to confirm the lek is unoccupied.

Winter Concentration Area - During winter, sage-grouse feed almost exclusively on sagebrush leaves and buds. Suitable winter habitat requires sagebrush above snow. Sage-grouse tend to select wintering sites where sagebrush is 10-14 inches above the snow. Sagebrush canopy cover utilized by sage-grouse above the snow may range from 10 to 30 percent. Foraging areas tend to be on flat to generally southwest facing slopes or on ridges where sagebrush height may be less than 10 inches but the snow is routinely blown clear by wind. When these conditions are met, sage-grouse typically gain weight over winter. In most cases winter is not considered limiting to sage-grouse. Under severe winter conditions grouse will often be restricted to tall stands of sagebrush often located on deeper soils in or near drainage basins. Under these conditions winter habitat may be limiting. On a landscape scale, sage-grouse winter habitats should allow sage-grouse access to sagebrush under all snow conditions.

Large numbers of sage-grouse have been documented to persistently use some specific areas, which are characterized by the habitat features outlined above. These areas should be delineated as “winter concentration areas”. Winter concentration areas do not include all winter habitats used by sage-grouse, nor are they limited to narrowly defined “severe winter relief” habitats. Delineation of these concentration areas is based on determination of the presence of winter habitat characteristics confirmed by repeated observations and sign of large numbers of sage-grouse. The definition of “large” is dependent on whether the overall population is large or small. In core population areas frequent observations of groups of 50+ sage-grouse meet the definition while in marginal populations group size may be 25+. Consultation and coordination with the WGFD is required when delineating winter concentration areas.

GLOSSARY

Avoid. The term “avoid” in this document means that there is flexibility to allow an activity consistent with goals and objectives of this plan.

Crucial Habitat. Any particular seasonal range or habitat that has been documented as the determining factor in a populations ability to maintain and reproduce itself at a certain level over the long term.

Degraded Habitat. Habitat that is reduced in quality as a result of fragmentation, invasive plants, overgrazing/browsing and/or shrub decadence or lack of understory due to advanced succession.

Drought. A prolonged chronic shortage of water, as compared to the norm, often associated with high temperatures and winds during spring, summer and fall or a period without precipitation during which the soil water content is reduced to such an extent that plants suffer from lack of water. (Society for Range Management)

Forb. Any broad-leafed herbaceous plant, other than grasses, sedges and rushes. These are generally flowering plants with tap roots, broad leaves, netlike veins and solid non-joint stems.

Habitat Fragmentation. The emergence of discontinuities (fragmentation) in an animal’s preferred environment (habitat). Habitat fragmentation can be caused by geological processes that slowly alter the layout of the physical environment or by human activity such as land conversion, which can alter the environment on a much faster time scale.

Herbaceous. Refers to a plant that has a non-woody stem and which dies back at the end of the growing season.

Invasive Plants. A species that is 1) primarily a non-native to the ecosystem under consideration and 2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

Landscape. The exact boundaries or scale of a landscape are established according to the objectives of a study or discussion. The area included may be as small as a pond or as large as several counties or states, but in all cases, ecologists recognize that energy, water, nutrients and organisms move back and forth across whatever boundaries are established (Knight 1994)

Monitor. To systematically and repeatedly watch, observe or measure environmental conditions to track changes.

Mosaic. A landscape composed of patches of discrete ecological sites and/or seral stages in a variety of sizes and shapes.

"Newcomer" Predator. Predators that did not occur or have expanded their range in Wyoming in recent times as the result of changes in management practices and other human activities (e.g. red fox, raccoon, etc.). "Newcomer" predators may also apply to native species such as ravens which have increased in number (as opposed to range) due to human activity.

Sagebrush Obligate. Species dependent on sagebrush habitat for all or part of its life and is therefore considered to serve as an indicator of the condition and trend of this habitat type.

Seral Stage. The relatively transitory communities that develop under plant succession generally described as early, mid and late seral stages. The mix of seral or successional stages on the landscape can be the result of disturbances, topography and soil, climate, uses of the land, management prescriptions, vegetation classification categories and evaluation procedures.

Site Potential. The potential plant community that a particular area (ecological site) is capable of producing as a climax plant community.

APPENDICES

APPENDIX A Fluid Mineral Recommended Management Practices

Recommended management practices (RMP) are innovative, dynamic, and economically feasible mitigation measures applied on a site-specific basis to' reduce, prevent, or avoid adverse environmental or social impacts. RMPs are applied to management actions to aid in achieving desired outcomes for safe, environmentally sound resource development, by preventing, minimizing, or mitigating adverse impacts, and reducing conflicts.

REDUCING IMPACTS TO SAGE-GROUSE HABITAT

The following RMPs should be applied to reduce impacts to sage-grouse habitat:
Directional drilling
Drilling of multiple wells from a single pad
Seasonal restriction of public vehicular access
Noise reduction techniques and designs
Use of low profile well facilities and tanks
Burying of power lines to avoid use of poles and other tall structures.
Transportation planning to align roads out of sight and sound of leks, and to schedule traffic to avoid sage-grouse activity periods
Design of roads to minimum safe standard for intended use
Partial reclamation of high-standard roads needed for project construction to lower standards necessary for maintenance operations
Monitoring of wildlife populations during drilling operations and design and employ additional best management practices whenever monitoring identifies undesirable impacts
Avoidance of surface disturbance or occupancy within Y4 mile of the perimeter of occupied sage-grouse leks
Avoidance of human activity between 6:00 p.m. and 9:00 a.m. from March 1 through May 20 within 1/4 mile of the perimeter of occupied sage-grouse leks (These times and dates reflect recommendations from Wyoming Game and Fish Department [WGFD] based on site-specific data, for the Resource Management Plan Planning Area [RMPP A].)
Avoidance of surface disturbance or other disruptive activity from March 1 through July 15, up 2 miles from an "active" lek in suitable Greater sage-grouse nesting habitat (These dates reflect recommendations from WGFD based on site-specific data for the RMPPA.).

Flareless well completions
Burying of distribution power lines and flow lines in or adjacent to access roads
Design and construction of all new roads to a safe and appropriate standard, "no higher than necessary" to accommodate their intended use
Reuse of old roads or pads
Interim reclamation of well locations and access roads soon after the well is put into production Avoidance of facility placement on steep slopes, ridge tops, and hilltops
Storage of chemicals within secondary containment in case of a spill

On-site bioremediation of oil field wastes and spills
Removal of trash, junk, waste, and other materials not in current use.

APPENDIX B Identification of South Central Sage-grouse Conservation Issues

This document summarizes the LWG's discussion on January 13, 2005. The purpose of the discussion was to examine the sage-grouse conservation issues identified in the statewide plan and determine how applicable they are to the South Central area. The table below identifies each issue and includes the points raised during the discussion, ideas for addressing the issue, and the group's overall conclusion about how important the issue is to the status of sage-grouse in the South Central area.

Issue	Discussion Points	Ideas	Conclusion
Conflicting Wildlife and Feral Horse Management Goals	Feral horses affect sage-grouse in isolated incidental areas (although it is not a cause and effect relationship) Some of the largest leks are in these isolated areas, e.g. Stewart Creek Weather is a related factor in Haystacks, as horses disburse when it is wet and return when it is dry There do not appear to be any other wildlife management issues, e.g. elk migration does not affect leks in the winter range There are select areas with high lek counts and a strong presence of winter range elk (and vice versa) At the same time, there are inherently going to be some conflicts between sage-grouse	• We need to identify the specific areas where feral horses exist, as they do impact the sage-grouse in these places • We need to focus on concentrated water sources that attract horses • Some projects of this nature already exist, we need to identify those and then determine where the gaps exist and focus here • We need to support the BLM management objectives to address the number of feral horses in the area	This is an important issue in select areas where both feral horses and leks exist. Many efforts to address feral horses already exist. It is important to identify and support those efforts and to identify areas where additional activities are needed for sage-grouse.

	and other species management– it is not possible to eliminate all conflicts There are big game conflicts with sage-grouse because of big game impacts on habitat and in sharing natural resources with the sage-grouse Habitat management goals for big game may conflict with those for sage-grouse		
Farming	Farming (alfalfa, legumes, etc.) can both benefit sage-grouse and adversely affect them. It depends on the scale of the activity, i.e. small scale farming is beneficial while large scale farming is less so Farming is an area that can increase sage-grouse habitat Sage-grouse are found in places where there is alfalfa There is seasonal use of farmlands by sage-grouse– this may have implications for land management by surface owners Other important questions are whether farmlands are critical for nesting and brooding	• The group could encourage farmers to reseed irrigated fields in a manner beneficial to/compatible with sage-grouse • The group could develop specific recommendations (RMPS) for reseeding for farmers • The group could work with operators and the BLM to reseed in one location as a test case • The group could develop a seed mix list for use that is acceptable to the BLM (which may be different than for private lands) • The group should	Farming can benefit and affect sage-grouse adversely. This issue presents many opportunities to ensure a intact sage-grouse community in conjunction with agriculture.

	and what time of year do sage-grouse occupy farmlands (in other words, when are farmlands most valuable to sage-grouse)– the answers could have implications for the timing of harvests The weather affects when birds occupy irrigated fields	also consider early forbes prior to nesting as another area for planting • It will be important to consider native versus non-native species and the impact of commercial fertilizer (it is a detriment to clover) • Any seeding approaches for farmers must be economically feasible	
Hunting	Sage-grouse hunting happens in this area, although the allowable harvest is low The hunting season parameters established by the WY Game and Fish Department have decreased sage-grouse hunting such that it is not that popular of an activity Hunting is acceptable with a limited harvest and a limited season The effects of hunting on mature versus juvenile hens should be considered (the WYGFD addresses this issue by limiting the season) The declining harvest is a result of seasonal	• One question is whether more regulation, such as requiring sage-grouse hunting licenses, would be helpful (in comparison to open season) • If hunting licenses were required, this could be a way to gather useful data (such as hunter surveys). The costs of such an approach would need to be considered and a concern is additional costs to hunters • It would be helpful to look at the lengths/times of hunting seasons	Hunting is an important issue and current efforts by the WYGFD are sufficient such that the LWG does not need to focus here. However, it may be helpful to consider other management tools in addition to the ones the WYGFD uses, although they may be less feasible

	restrictions	from an historical perspective • Other questions are whether developing hunt areas for sage-grouse or making season shifts for other birds has been considered	
Invasive Plants	Cheat grass has been an issue in places where there have been burns, although it is a minor issue here compared to other areas Cheat grass does not significantly affect sage-grouse, but a preventative approach should be taken Russian thistle and knapweed increased because of drought Knapweed could be a major problem This issues involves many types of plants—those that will compete with sage-grouse for the best forbes This issue should be considered in the context of establishing a healthy habitat community	• We can use this as an opportunity to understand the cheat grass issue further • We need to map weeds and pests • We need to consider this issue in relation to reclamation activities • The group could look at interim reclamation (before oil and gas project completion) as a way to prevent the introduction of invasive plants • If any of our RMPs include ground disturbance, we need to be aware of this issue • The Department of Agriculture has a cheat grass task force that may be helpful in providing information	Invasive plants is currently a minor issue in this area, although it is important for the group to keep an eye on it, as it could become more significant in relation to sage-grouse. The group should keep this issue in mind when considering reclamation activities.
Livestock	Grazing has been	• We need to	Current

Grazing	managed well in this area Land management agencies have been proactive and have done a good job Land managers have good relationships with the ranching community The ranching community has been open to management ideas The issue for sage-grouse is grass coverage– nesting opportunities need to be protected Ranchers need to know where nests are located so they can manage grazing to protect them However, trampling may not be an issue, as the Desert study indicates that animals do not step on nests and thus do not interfere with egg production A concern is that little research exists that links grazing to sage-grouse populations, particularly in relation to historical management efforts and their effectiveness	understand why sage-grouse numbers are low today– part of doing so may be to look at the conditions that existed when sage-grouse numbers were high • One historical example to consider is sheep– there were lots of sheep in the area when sage-grouse numbers were high • While we don't know the reason why numbers were high (e.g. did it have to do with sheep rotation?), we could take a look at what kind of management activities existed at the time and what could apply now • We need to look at the Deseret approach and the Lake DeSmet Conservation District Sage-Grouse Restoration Pilot Project • We need to document what works to	management efforts are effective and relationships are strong. Livestock grazing may present additional opportunities to enhance sage-grouse and their habitat.

		communicate to others • We could develop and encourage the use of RMPs for landowners • One management approach to consider is early season grazing─ would it be helpful? How would it impact sage-grouse? • We need to examine the impacts of coverage on sage-grouse	
Mineral Development	This issue should include wind farms (including the potential for more) This issues is a major concern because of energy development along the I-80 corridor This issue significantly impacts sage-grouse	• We need to understand what operators do (restoration, enhancements, etc.) to address both short and long term impacts • This is an area that presents opportunities for practice improvements through partnerships • Industry wants to learn and be involved, surface owners too • It would be helpful to understand BLM lease stipulations	Mineral development is a major issue that affects sage-grouse and also presents many opportunities to enhance sage-grouse and their habitat through partnerships.
Parasites and Diseases	This is not a major issue in the area now, although it has received attention because of		It is important to be aware of West Nile Virus

	West Nile Virus We are also still learning about how West Nile Virus affects sage-grouse populations While there have only been a few cases of West Nile Virus, we can't become complacent about it		although the LWG does not need to focus here.
Pesticides	There is some sense that mosquito control efforts in the Platte Valley have affected other bird species, although it is unknown whether sage-grouse have been affected Spraying has been targeted in areas where there are mosquitoes─ the effects on sage-grouse are not broad reaching because there are not sage-grouse in these areas This may be an issue in a few valleys but overall it is not a significant one for sage-grouse in the area	• It would be helpful to know about the direct and indirect effects of pesticides on sage-grouse • The group may want to consider specific herbicide applications and determine whether one is better than another (including the timing of their application) • There may be opportunities for educational efforts related to this issue	Pesticides is not a major issue for sage-grouse, although may have some localized significance. It would be useful to understand more about this issue as it may lead to some management recommendations.
Predation	This area has some of the best information on predation and predator control practices as they relate to sage-grouse Coyotes have increased, but with predator control sage-grouse numbers have also increased	• It would be useful to examine management practices, but not to advocate predator control • There may be specific measures that could be taken, such as breaking up	Predation is an important issue for sage-grouse conservation. The LWG could use existing information to develop

	Another factor is predation by species that can't be managed There are new predators, such as red foxes, raccoons, hawks, ravens, and ground squirrels, which an Idaho study addressed in relation to sage-grouse	coyote breeding pairs • This is another area where we may be able to develop management tools or best practices	additional recommendations for best management practices.
Recreation	One question is whether lek viewing is impacting sage-grouse While there is some viewing activity (by groups and individuals) in the area, there is not a huge demand There are no guidelines for lek viewing There is four wheeler use in the area, although the impacts are not necessarily visible (such as tire tracks through leks) Because the human population in this area is small, there may not be the same recreational impacts as there are in more populous areas Another aspect of this issue is the link between recreation and invasive weeds The importance of this issue may change with the expansion and		Recreation is not a major issue for sage-grouse, although it may become more significant. While the area is used for recreation, the impacts to sage-grouse are not clear as recreation typically doesn't take place near leks.

	proliferation of roads		
Residential Development	When the planning department receives a building request, it is important that they know where leks are Currently the zoning board asks the GFD to comment on development proposals, so the agency (and other agencies) has the opportunity to scrutinize the proposals. The GFD comments when it can It is important to get land use planners information on sage-grouse and make sure agencies are coordinating In the Saratoga area, subdivisions are taking up habitat The cumulative impacts of residential development need to be considered	• There may be management practices that this group could develop that pertain to this issue. • This group could do something to acknowledge that development is resulting in habitat loss. • The group could provide resources to land use planners on the relationship between development and sage-grouse.	Residential development is resulting in the loss of sage-grouse habitat and, thus, is an important issue. The zoning process provides a mechanism by which sage-grouse issues can be raised when development is planned.
Vegetation Management			Vegetation management is an important issue for the group as there are many things that can be done proactively for habitat.
Weather	This is a cross cutting issue– it relates to vegetation and other	• We could consider what happens when	Weather is an issue that affects sage-

	conservation issues	drought ends • We could examine climate data and trends • It may be useful to gain a deeper understanding of how weather affects sage-grouse, although this may be frustrating	grouse and it may be useful to understand more about it. At the same time, this issue is outside of the LWG's realm of control.

The LWG identified the following area-wide or cross cutting issues:

- A cross cutting issue identified by the LWG is the lack of historical data. It would be helpful to examine lek trends, but most of the available data only goes back a few (5?) years.

- On a broad scale we need to identify good habitat conditions for the South Central area

The LWG suggested the following activities that relate to all of the issues above:

- In order to raise public awareness, the LWG could develop an information tool to facilitate communication with the public.

- The LWG could compile a map of issues/activities that affect sage-grouse. It could be used by the LWG and as part of the public information tool.

- The availability of funding for possible activities needs to be considered in relation to all of the issues identified above. It should be used as a criterion in determining what kind of efforts to undertake. A first step is to compile a list of potential funding sources.

APPENDIX C Funding Opportunities for Sage-grouse Conservation Efforts

This list of potential funding sources is not intended to be all encompassing. Various private foundations, companies and individuals not listed below often partner in conservation efforts. Finding and making contact with these potential partners is best accomplished on a local level. The list below includes funding sources that can address various scales of projects ranging from the individual landowner to multi-state efforts. Contact the sources for detailed information, eligibility and application criteria.

State of Wyoming Sources:

Wyoming Wildlife and Natural Resource Trust Account - Created by legislative action in 2005 for the purposes of preserving and enhancing Wyoming's wildlife and natural resources. Income from the trust account is used to fund a wide variety of conservation programs. http://wwnrt.state.wy.us

Wyoming Game and Fish Department (WGFD) Trust Fund - Matching grants program for riparian or upland habitat improvement, water development, and industrial water projects. http://gf.state.wy.us

WGFD/U.S. Fish & Wildlife Service – Landowner Incentive Program (LIP) - Provides Federal funds to enhance habitats for sensitive fish and wildlife species on private lands. Priorities in Wyoming are grassland, sagebrush and prairie watersheds. Matching funds, goods or services are required. http://gf.state.wy.us

WGFD/Wyoming State General Fund – Wyoming Sage-Grouse Conservation Fund - Funding approved by the legislature via the Governor's budget request designed to implement projects identified in local Sage-Grouse Conservation Plans. http://gf.state.wy.us

Wyoming Animal Damage Management Board (ADMB) - Provides funding for the purposes of mitigating damage caused to livestock, wildlife and crops by predatory animals, predacious birds and depredating animals or for the protection of human health and safety. http://www.wyadmb.com

Federal Sources:

U.S. Dept. of Interior, Fish and Wildlife Service http://www.fws.gov

Partners for Fish and Wildlife Program – Provides assistance to private landowners who want to restore or improve habitat on their property. The landowner is reimbursed based on the cost sharing formula in the agreement, after project completion.

Private Stewardship Program – Provides grants or other assistance to individuals and groups engaged in private conservation efforts that benefits species listed or proposed as

endangered or threatened under the Endangered Species Act, candidate species, or other at-risk species on private lands. Maximum Federal share is 90%.

Cooperative Conservation Initiative - Supports efforts to restore natural resources and establish or expand wildlife habitat. Maximum Federal share is 50%.

Multistate Conservation Grant Program - Supports sport fish and wildlife restoration projects identified by the International Association of Fish and Wildlife Agencies. Maximum Federal share is 100%.

Tribal Landowner Incentive Program - For actions and activities that protect and restore habitats that benefit Federally listed, proposed, or candidate species, or other at-risk species on tribal lands. Maximum Federal share is 75%.

Tribal Wildlife Grants – Provides for development and implementation of programs for the benefit of tribal wildlife and their habitat. Maximum Federal share is 100%.

Conservation Grants - Provides financial assistance to States to implement wildlife conservation projects such as habitat restoration, species status surveys, public education and outreach, captive propagation and reintroduction, nesting surveys, genetic studies and development of management plans. Maximum Federal share is 75 % for a single state or 90% for two or more states implementing a joint project.

U.S.D.A. Farm Service Agency (FSA) http://www.fsa.usda.gov/pas/

Conservation Reserve Program (CRP) - A voluntary program for agricultural landowners. Through CRP, you can receive annual rental payments and cost-share assistance to establish long-term, resource conserving covers and enhance wildlife habitat on eligible agricultural land.

U.S.D.A. Natural Resource Conservation Service (NRCS)
http://www.wy.nrcs.usda.gov

Conservation Innovation Grants (CIG) - CIG is a voluntary program that enables the NRCS to work with public and private entities to accelerate the development and adoption of innovative conservation approaches and technologies in conjunction with agricultural production.

Conservation Technical Assistance (CTA) - Provides voluntary conservation technical assistance to land-users, communities, units of state and local government, and other Federal agencies in planning and implementing conservation systems. This assistance is for planning and implementing conservation practices that address natural resource issues.

Environmental Quality Incentives Program (EQIP) - Provides a voluntary conservation program for farmers and ranchers that promotes agricultural production and

environmental quality as compatible goals. EQIP offers financial and technical help to assist eligible participants install or implement structural and management practices on eligible agricultural land.

Wildlife Habitat Incentives Program (WHIP) – Provides a voluntary program to develop and improve wildlife habitat primarily on private land by providing both technical assistance and up to 75% cost-share assistance to establish and/or improve fish and wildlife habitat.

Sage-Grouse Restoration Project (SGRP) – Cooperative effort involving private landowners, agencies, organizations and universities in a process to evaluate and document, through research and demonstration areas, the effects of NRCS conservation practices in restoring sage-grouse habitat and populations.

Grazing Land Conservation Initiative (GLCI) grants - A nationwide collaborative process of individuals and organizations working to maintain and improve the management, productivity, and health of the Nation's privately owned grazing land. This process has formed coalitions that actively seek sources to increase technical assistance and public awareness activities that maintain or enhance grazing land resources.

Cooperative Conservation Partnership Initiative (CCPI) - A voluntary program established to foster conservation partnerships that focus technical and financial resources on conservation priorities in watersheds and airsheds of special significance. Under CCPI, funds are awarded to State and local governments and agencies; Indian tribes; and non-governmental organizations that have a history of working with agricultural producers.

Conservation Security Program (CSP) - A unique program that goes beyond the past approach of installing conservation practices. Instead, CSP offers rewards to those who have been good stewards of the soil and water resources on their working agricultural land. It also offers incentives for those who wish to exceed the minimum levels of resource protection and enhance the natural resources on the land they manage. The program is available in designated watersheds.

U.S. Dept. of Interior, Bureau of Land Management http://www.blm.gov

Challenge Cost Share – This program is designed to leverage funds with partners to monitor and inventory resources; implement habitat improvement projects; develop recovery plans; protect or document cultural resources; provide enhanced recreational experiences; and to better manage wild horse and burro populations. Matching funds, goods or services are required.

Cooperative Conservation Initiative (CCI) – CCI was designed to remove barriers to citizen participation in the stewardship of our natural resources and to help people take conservation into their own hands by undertaking projects at the local level. Projects must

seek to achieve the actual restoration of natural resources and/or the establishment or expansion of habitat for wildlife. Matching funds, goods or services are required.

U.S.D.A. Forest Service http://www.fs.fed.us

Cooperative project funding – Contact local U.S. Forest Service staff for information about opportunities to develop partnerships in projects involving National Forests or National Grasslands.

Partnership Resource Center - The Partnership Resource Center of the National Forest Foundation (NFF) and the USDA - Forest Service (FS) provides partnering organizations and FS staff with the information to enhance working relationships. Partnerships expand opportunities for obtaining grants. Many funding sources prefer or require them because projects involving partnerships have an increased potential for success. http://www.partnershipresourcecenter.org

Other potential funding sources include but are not limited to:

Wildlife Heritage Foundation of Wyoming - The Wyoming Wildlife Heritage Foundation is an independent, charitable organization whose purpose is to provide financial support, through philanthropy, to critical wildlife conservation efforts in Wyoming. http://whfw.org

Wyoming Governor's Big Game License Coalition - Funding generated from the sale of Governor's licenses placed in five accounts: bighorn sheep, moose, elk, mule deer and general wildlife. Funds administered by the Wildlife Heritage Foundation of Wyoming. http://whfw.org

National Fish and Wildlife Foundation (NFWF) - General Matching Grant Program - Provides matching grants to priority projects that address fish and wildlife conservation and the habitats on which they depend, work proactively to involve other conservation and community interests, leverage NFWF funding, and evaluate project outcomes. Government agencies, educational institutions, and nonprofit organizations may apply. Grants typically range from $10,000-$150,000. http://www.nfwf.org

National Fish and Wildlife Foundation - Native Plant Conservation Initiative (NPCI) - NPCI grants of federal dollars are provided to non-profit organizations and agencies for conservation of native plants. NPCI grants range from $5,000 to $40,000, averaging $15,000. Non-Federal matching funds, goods or services are required. There is a strong preference for "on-the-ground" projects that involve local communities and citizen volunteers in the restoration of native plant communities. http://www.nfwf.org/programs/npci.cfm

National Fish and Wildlife Foundation - Pulling Together Initiative (PTI) - Provides support for the formation of local Weed Management Area (WMA) partnerships. These partnerships engage federal resource agencies, state and local governments, private landowners, and others in developing weed management projects within an integrated

pest management strategy. Non-Federal matching funds, goods or services are required. http://www.nfwf.org/programs/pti.cfm

Intermountain West Joint Venture (IWJV) - Joint Venture Cost-Share - Habitats within the IWJV area support nearly 100% of the range of all high priority sagebrush steppe landbird species, such as: Sage Sparrow, Sage Thrasher, Sage-Grouse and Brewer's Sparrow. The purpose of Cost-Share is long-term conservation of bird habitat through partnerships. http://iwjv.org/costshare.htm

The Nature Conservancy (TNC) - TNC works with conservation supporters and partner organizations to create funding for conservation worldwide using a variety of creative methods. http://nature.org

Tom Thorne Sage-Grouse Conservation Fund – Provides grants for the conservation of sage-grouse in the Upper Green River Basin. The fund was created by Shell Exploration & Production Co. and managed by a board overseen by the Wyoming Community Foundation. www.wycf.com

Rocky Mountain Elk Foundation (RMEF) - RMEF is a wildlife conservation organization with an emphasis on elk. It advocates sustainable, ethical use of resources and seeks common ground among stakeholders. RMEF funds habitat restoration and improvement projects, acquires land or conservation easements. http://www.rmef.org

Mule Deer Foundation (MDF) - MDF's goals center on restoring, improving and protecting mule deer habitat. MDF achieves its goals through partnering with state and federal wildlife agencies, conservation groups, businesses and individuals to fund and implement habitat enhancement projects on both public and private lands. http://www.muledeer.org

One Shot Antelope Foundation -Water for Wildlife - Water for Wildlife is a conservation program designed to benefit wildlife and the environment in arid regions of the West. Emphasis focuses on the development of supplemental water resources in areas where both the habitat and wildlife are being impaired by lack of this vital resource. http://www.waterforwildlife.com

North American Grouse Partnership (NAGP) - Promotes the conservation of prairie grouse and the habitats necessary for their survival and reproduction. http://www.grousepartners.org

Pheasants Forever (PF) – Some sage-grouse populations in Wyoming occur within areas that have a local PF chapter. Local chapters determine how their funds are spent. Game birds other than pheasants may be eligible for funding. http://www.pheasantsforever.org/chapters/