Collbran Pipeline Project

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Rocky Mountain Bird Observatory
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In Cooperation With:

EnCana Oil & Gas (USA) Inc.

ROCKY MOUNTAIN BIRD OBSERVATORY

***Mission**: To conserve birds and their habitats*
***Vision**: Native bird populations are sustained in healthy ecosystems*
***Core Values**: (Our goals for achieving our mission)*

1. ***Science** provides the foundation for effective bird conservation.*
2. ***Education** is critical to the success of bird conservation.*
3. ***Stewardship** of birds and their habitats is a shared responsibility.*

RMBO accomplishes its mission by:

Monitoring long-term bird population trends to provide a scientific foundation for conservation action.

Researching bird ecology and population response to anthropogenic and natural processes to evaluate and adjust management and conservation strategies using the best available science.

Educating people of all ages through active, experiential programs that create an awareness and appreciation for birds.

Fostering good stewardship on private and public lands through voluntary, cooperative partnerships that create win-win situations for wildlife and people.

Partnering with state and federal natural resource agencies, private citizens, schools, universities, and other non-governmental organizations to build synergy and consensus for bird conservation.

Sharing the latest information on bird populations, land management and conservation practices to create informed publics.

Delivering bird conservation at biologically relevant scales by working across political and jurisdictional boundaries in western North America.

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Male Greater Sage-Grouse by Bill Schmoker.

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Executive Summary

Rocky Mountain Bird Observatory conducted surveys for Sage Grouse and their sign in February, March, and April of 2009. The survey was accomplished by walking through selected stands of sagebrush habitat in the Sunnyside and Plateau Creek area where a pipeline is being constructed by EnCana Corporation.

We conducted surveys on lands managed by the Grand Junction Field Office of the Bureau of Land Management, the White River National Forest (U.S.D.A. Forest Service), the state of Colorado, and on private lands. We chose 55 primary stands of sagebrush habitat to survey in the survey area and 18 stands to serve as backups if the primary stands were inaccessible. We contacted local biologists for historical information for Sage Grouse records in the survey area.

We surveyed 49 stands of sagebrush habitat in the survey area. Sage Grouse sign was located in the survey area at two locations, but no Sage Grouse were seen or heard during our surveys.

Acknowledgements

This project was funded by EnCana through an agreement with the Rocky Mountain Bird Observatory as partial mitigation for the Orchard GAP II and Collbran Pipelines across BLM lands. This report constitutes the fulfillment of the requirements of the Rocky Mountain Bird Observatory service agreement with EnCana.

I would like to thank Brenda Linster and Tim Baer of EnCana for assistance during the project. I sincerely thank Heidi Plank of the Grand Junction Field Office of the Bureau of Land Management for support during the project. We would like to thank Doug Diekman, Geographic Information Specialist for the Bureau of Land Management, for maps of the survey area. Van Graham of Westwater Engineering provided valuable historical Sage Grouse information. Tony Apa and Brett Walker of the Colorado Division of Wildlife provided information about Sage Grouse survey techniques. Kim Potter of White River National Forest provided advice and historical information for the survey area. Dave Graf, Dan Neubaum, and Brad Petch of the Colorado Division of Wildlife graciously loaned all-terrain vehicles with trailer to be used during this project and we thank them for the use of those machines and equipment. I thank Michael Blanck and Dan Skinner, District Wildlife Managers, provided assistance with landowner names and advice about the survey area. I am extremely grateful to Larry Arnold, Bill Day, Bob Isaacson, and John Toolen for conducting surveys sometimes in difficult conditions. Much of the success of this project is due to their hard work. I am also appreciative of Rob Sparks for creating maps for this report and for the field crew and for assisting with selection of stands to be surveyed. I would also like to thank Jennifer Blakesley for her careful review of this report.

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Introduction

Greater and Gunnison Sage-Grouse populations have declined throughout their range in the western United States. Greater Sage-Grouse currently occupy only 56% of their historical range in the western United States (Schroeder *et al.* 2004). Gunnison Sage-Grouse have lost more than 90% of their historical habitat (Schroeder *et al.* 2004) and in 2006 the species was listed by the Audubon Society as one of the ten most endangered birds in North America. Conserving both Sage Grouse species, and the sagebrush ecosystems they depend upon, requires cooperation between land management agencies and private landowners throughout the ranges of the species.

The sagebrush ecosystem supports a unique and diverse wildlife community. This ecosystem also lies above several energy reserves including oil and natural gas. Energy companies including EnCana are working to identify critical Sage Grouse wintering and breeding areas and find solutions for conservation and energy development.

In 2008, while conducting wildlife surveys west of Plateau City, Colorado (Mesa County), Westwater Engineering of Grand Junction, Colorado discovered suggestive but not confirmed evidence of Sage Grouse in the survey area for this project. The droppings collected by Westwater were analyzed to determine which species of grouse occupied the area during the winter of 2008/2009; however, the desired genetic information could not be derived from the samples. Sage Grouse or their sign have been located in this area since 1975 (Van Graham pers. comm.) and a small Greater Sage-Grouse lek once existed in the area (Kim Potter, White River National Forest, pers. comm.) (Figure 1). It is believed that Greater Sage-Grouse most likely winter in this area (Heidi Plank pers. comm.); however, it is possible that they breed here as well. It is also possible that Gunnison Sage-Grouse, and not Greater Sage-Grouse, occupy this area. The closest area occupied by Gunnison Sage-Grouse in recent years is near Crawford (approximately 42 miles from the survey area for this project) (Van Graham pers. comm.). Gunnison Sage-Grouse also occupy an area near Glade Park west of Grand Junction which is approximately 45 miles from the survey area. Greater Sage-Grouse presently occupy suitable habitat, including active leks, on the Roan Creek-Parachute Creek Divide located approximately 11 miles from the survey area for this project (Van Graham pers. comm.). Therefore, it is more likely that Greater Sage-Grouse, or their sign, would be encountered during this survey.

The goals of this project were to verify occupancy in the survey area by Sage Grouse and, if successful, identify the Sage Grouse to species.

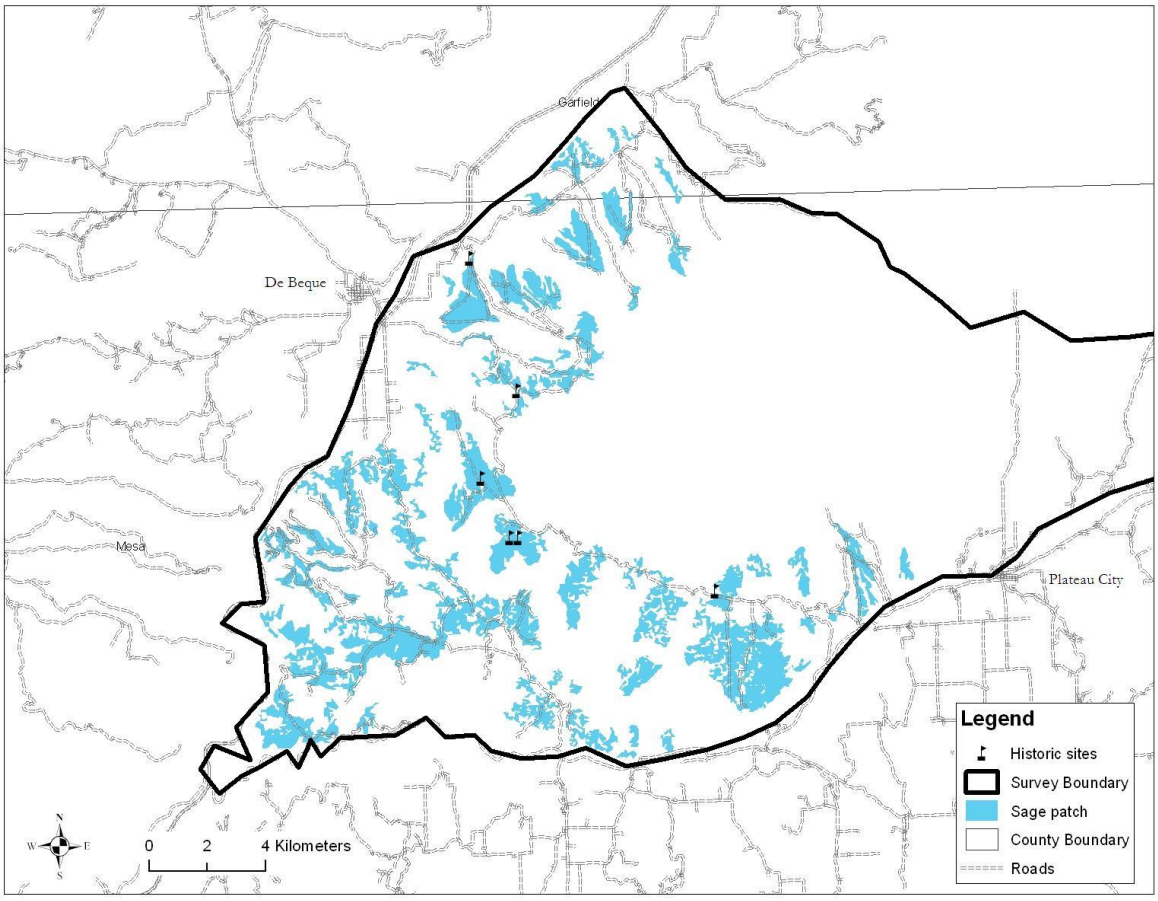

Figure 1. Locations of historical Sage Grouse activity in the survey area.

Methods

Survey Area

The survey area was defined by the Bureau of Land Management (BLM) and comprised the area between the Colorado River to the northwest, Plateau Creek to the south, and Battlement Mesa to the east.

Site Selection

RMBO delineated sagebrush habitat within the survey area using the most recent land cover data from the Southwest Regional Gap Analysis Project. Once sagebrush habitat in this area was identified, stands to be surveyed were selected regardless of ownership. Sagebrush stands were divided into large and small stands and we randomly chose 15 large primary stands (0.91 km^2 or larger) and 40 small primary stands (0.89 km^2 to 0.1 km^2). We also chose 18 backup stands to be used if access to the primary stands was not possible or permission to access the stands was not obtained.

Protocol

Surveys were conducted by three RMBO seasonal staff dedicated specifically to this project. A training session was held 16 February to ensure that surveyors were able to identify Sage Grouse sign, Sage Grouse tracks in snow, Sage Grouse vocalizations, and to ensure that field surveyors had a complete understanding of the survey protocol.

Unlike surveys for breeding populations, there are no widely accepted methods for surveying for Sage Grouse outside of the breeding season (Connelly *et al*. 2003). We walked through sagebrush stands and watched for grouse and grouse sign (droppings, cecal casts, tracks, and feathers). While walking through the stands field workers stayed approximately 100 meters apart and surveyed the entire stand. A field specimen card was filled out and placed in a plastic bag with the sample when sign was collected. This card contained the following information: type of sample, location collected, and date collected. All Sage Grouse sign collected was stored in a frozen state until it was transported to the laboratory for analysis. Of the samples collected, only the 20 samples most likely to convey desired genetic information were to be analyzed by the laboratory (feathers would take priority over droppings or cecal casts and more recent droppings or cecal casts would take priority over older samples). The lab personnel made the decision as to which samples were processed for genetic information. If there was fresh snow

present, observers also looked for Sage Grouse tracks. If Sage Grouse tracks had been encountered they would have been followed in both directions from the point where they were discovered. This would have increased the likelihood that Sage Grouse, or their sign, would be encountered. This would also have enabled us to map habitat used by Sage Grouse in the project area.

It is believed that on a calm morning grouse vocalizations can be heard at distances up to 1.5 km (National Audubon Society 2009). Therefore, in March and April, observers were spaced at least 1.5 km from each other during surveys in order to be better positioned to hear vocalizing Sage Grouse. If grouse were heard, positions were to be logged into a datasheet containing the Universal Transverse Mercator (UTM), as well as a bearing and estimated distance to detections. One Surveyor used a parabolic microphone during the potential lekking period in order to better hear vocalizing grouse.

Surveys began in the early morning (beginning 1/2 hour before sunrise), with good weather (light or no wind or precipitation) from mid-March to mid-April. We believed that this timing worked well for listening for grouse vocalizations during the lekking period. If a lek (or leks) existed in this area, the grouse vocalizations should have been heard during surveys during this time of year. If a lek was discovered, the Colorado Division of Wildlife (CDOW) would have been contacted immediately so that they could have captured birds to determine species.

Results

RMBO surveyed 42 sagebrush stands (18 large and 24 small) between 16 February and 23 April (Figure 2; Appendix A). All large stands to which access was gained were surveyed, including all selected large backup stands. Access was not always granted by landowners and this sometimes prevented us from surveying stands. The large stands were prioritized because Sage Grouse are more likely to be located in areas where high-quality habitat is available and where fewer perches for raptors exist. Sagebrush habitat was not always present in selected stands or in some instances the stands had been altered (burned or cleared) and no sagebrush habitat existed as a result.

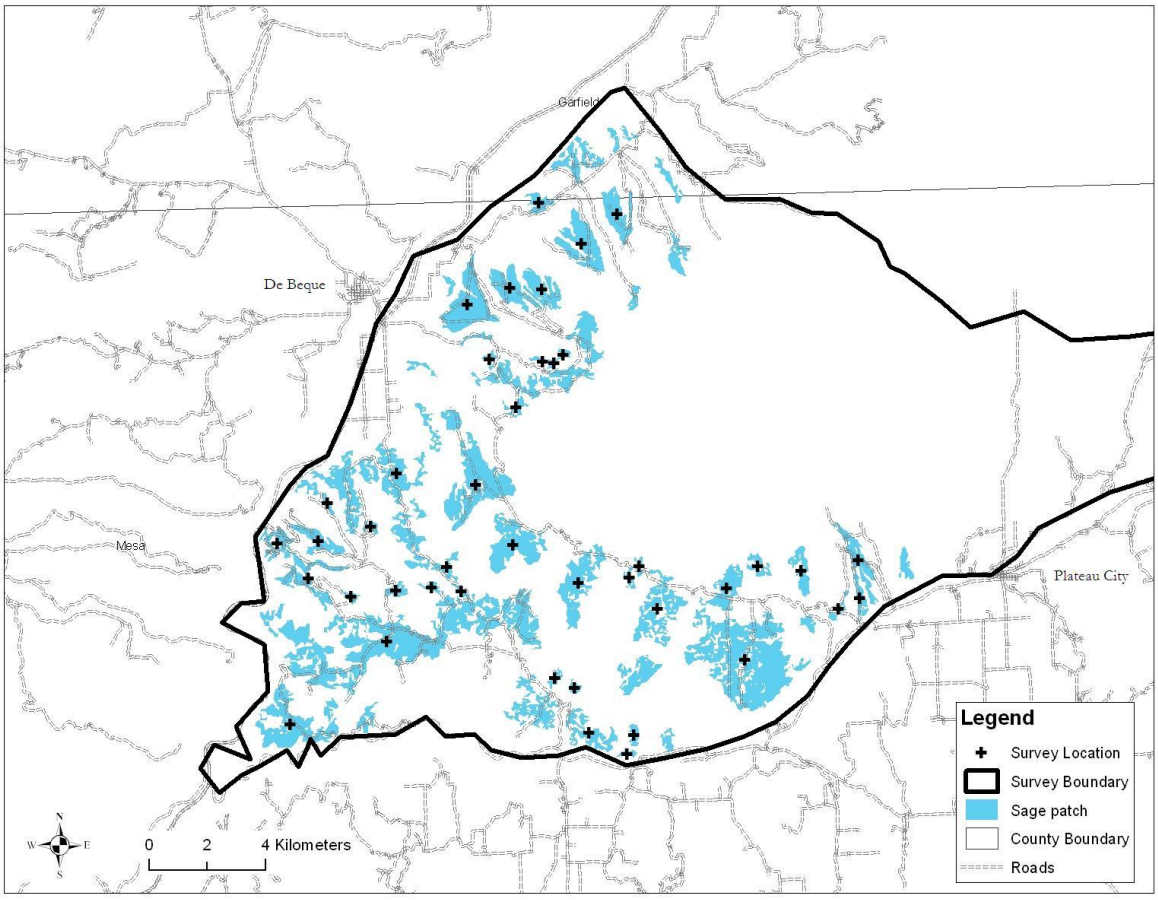

Figure 2. Sagebrush stands where surveys were conducted by RMBO in 2009.

Sage Grouse sign was found and collected at 41 locations within two of the chosen sagebrush stands and in another location just outside of a chosen stand (Figure 3; Appendix B). The stands where sign was found were classified as large stands: (L12 and

L13), 1.95 and 0.97 km^2, respectively. The grouse sign found by Westwater Engineering in March of 2008 was also located in the L12 stand. The types of samples collected by RMBO were in the form of droppings or cecal casts. No feathers or specimens more likely to convey the desired genetic information were discovered during our surveys. There was no way to determine the age of the sign that was collected and only the fresher samples were likely to convey necessary genetic information. The genetic information needed to determine which species of Sage Grouse occupied the survey area could not be derived from the samples collected during this project.

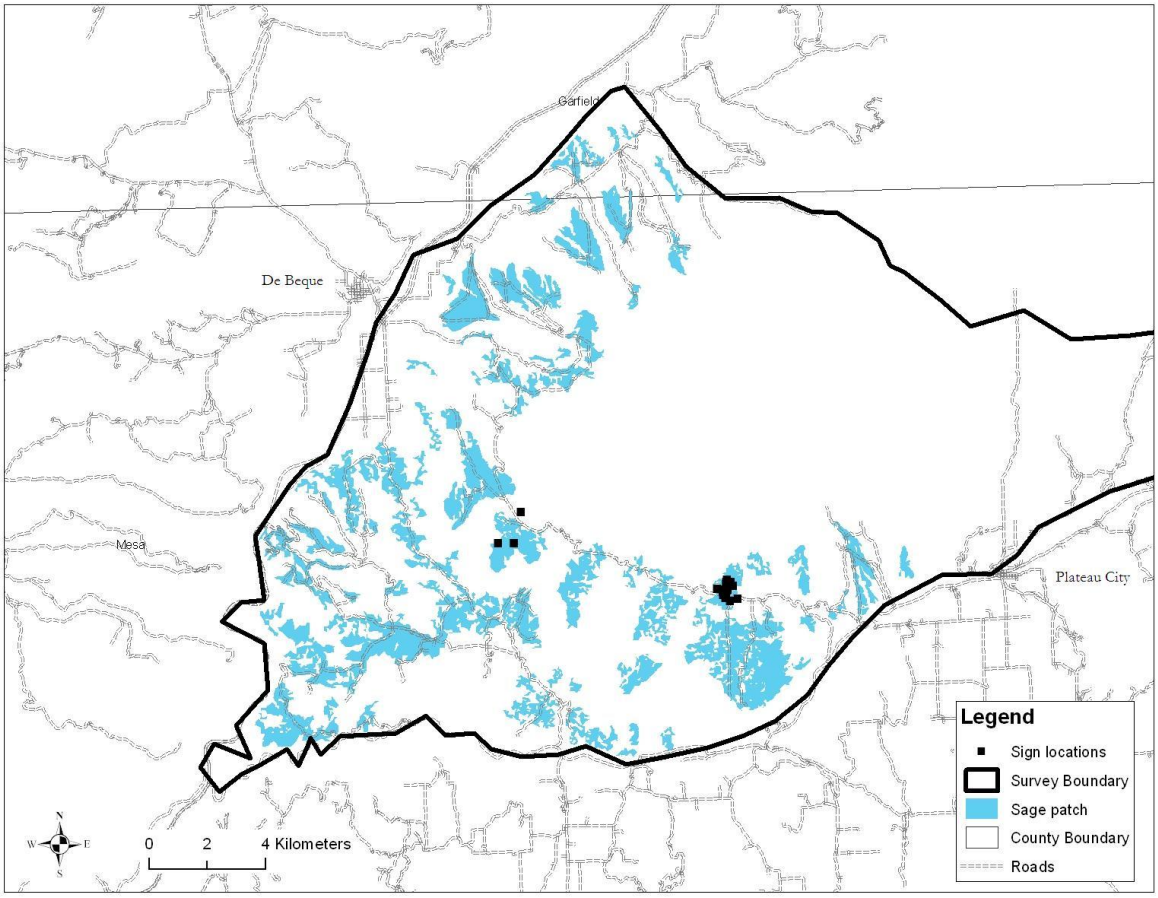

Figure 3. Locations of Sage Grouse sign found during surveys by RMBO in 2009.

RMBO conducted 51 aural surveys using a parabolic microphone in an effort to detect vocalizing Sage Grouse between 24 March and 7 April (Figure 4; Appendix C). Thirty-nine of the aural surveys took place in large stands, ten in small stands, and two in locations where habitat was suitable. No Sage Grouse were detected during aural surveys.

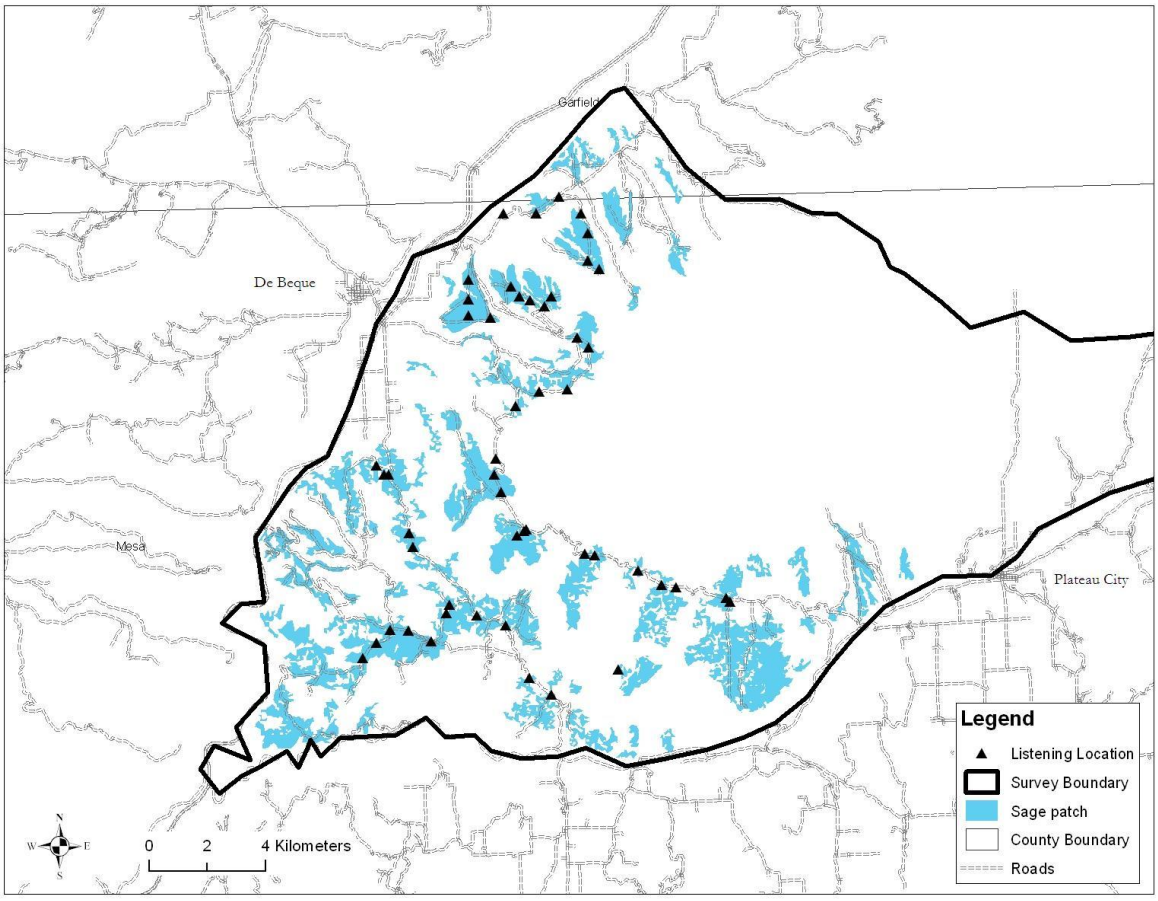

Figure 4. Locations of aural surveys conducted in the survey area in 2009.

Discussion and Recommendations

According to local biologists, a Sage Grouse lek once existed in the survey area; however, location information and dates of activity for this lek could not be located. Habitat for Sage Grouse exists in the Sunnyside and Plateau Creek area where surveys took place in the winter and spring of 2009. Sage Grouse have likely occupied this area during winter months as recently as 2008. Because both Greater and Gunnison Sage-Grouse are considered a species of concern for the CDOW and the BLM surveys should continue for Sage Grouse in the survey area.

We recommend that The CDOW and the BLM improve existing habitat and attempt to create habitat for Sage Grouse on the lands that they manage in the survey area and the vicinity. The BLM is currently using several techniques (such as roller-chopping pinion and juniper encroaching into sagebrush habitat, conducting prescribed burns, and seeding forbes) in an attempt to create, enhance, or restore habitat for Sage Grouse across the western U.S. These techniques could be utilized to benefit Sage Grouse in this area.

It is important to note that all Sage Grouse sign discovered during this survey was on private land. This suggests that the best Sage Grouse habitat in the survey area is privately owned. Therefore, conservation of Sage Grouse habitat in this area will require working with landowners and making the conservation of Sage Grouse habitat appealing to landowners. RMBO Stewardship Division staff and Natural Resource Conservation Service biologists are available to conduct site visits to assist landowners who would like to learn about programs available to conserve habitat for birds on their property.

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Appendix A. Size and location of primary and backup stands randomly selected for surveys.

Stand	Backup	Area km^2	Historical Site[1]	UTM Zone	UTM Easting[2]	UTM Northing[2]	Surveyed
L-1	No	0.91		12	757258	4348305	Yes
L-2	No	0.91		12	747988	4342380	Yes
L-3	No	1.37		12	745663	4346309	No
L-4	No	2.54	Yes	12	746788	4355097	Yes
L-5	No	6.45		12	753349	4344898	Yes
L-6	No	0.98		12	746118	4343101	No
L-7	No	1.04		12	748958	4360244	Yes
L-8	No	1.12		12	745278	4357691	Yes
L-9	No	1.69		12	747631	4347525	Yes
L-10	No	7.77		12	741021	4345521	Yes
L-11	No	1.44		12	739559	4350755	No
L-12	No	1.95	Yes	12	745380	4348853	Yes
L-13	No	0.97	Yes	12	752720	4347336	Yes
L-14	No	2.29		12	737704	4342661	Yes
L-15	No	2.05	Yes	12	743814	4357128	Yes
L-16	Yes	2.94	Yes	12	744079	4350905	Yes
L-17	Yes	0.94		12	746362	4357639	Yes
L-18	Yes	1.36		12	741365	4351313	Yes
L-19	Yes	1.06		12	738327	4347691	Yes
L-20	Yes	1.56		12	750347	4346643	Yes
L-21	Yes	1.61		12	747725	4359221	Yes
S-1	No	0.36		12	747965	4362268	No
S-2	No	0.14		12	740484	4349460	Yes
S-3	No	0.35		12	743261	4353143	No
S-4	No	0.12		12	749169	4344512	No
S-5	No	0.19		12	749531	4357348	No
S-6	No	0.21		12	739298	4346080	No
S-7	No	0.30		12	743085	4348083	Yes
S-8	No	0.10		12	749308	4341652	Yes
S-9	No	0.38		12	746273	4360613	Yes
S-10	No	0.59		12	737249	4348897	Yes
S-11	No	0.14		12	742575	4347379	Yes
S-12	No	0.31		12	753815	4348113	Yes
S-13	No	0.30		12	740318	4342836	No
S-14	No	0.11		12	744571	4355226	Yes
S-15	No	0.11		12	749712	4348112	Yes
S-16	No	0.33		12	757326	4347006	Yes
S-17	No	0.30		12	750724	4361425	No
S-18	No	0.13		12	739788	4347052	Yes
S-19	No	0.24		12	741343	4347260	Yes
S-20	No	0.20		12	745815	4344037	No
S-21	No	0.10		12	749333	4362982	No
S-22	No	0.12		12	746404	4355156	Yes
S-23	No	0.11		12	747109	4355393	Yes
S-24	No	0.55		12	755294	4347947	Yes
S-25	No	0.18		12	739062	4343201	No
S-26	No	0.15		12	742143	4354975	No
S-27	No	0.11		12	750518	4345552	No
S-28	No	0.18		12	756576	4346644	Yes
S-29	No	0.55		12	747296	4362005	No
S-30	No	0.13		12	738979	4350277	Yes

Stand	Backup	Area km^2	Historical Site[1]	UTM Zone	UTM Easting[2]	UTM Northing[2]	Surveyed
S-31	No	0.89		12	741797	4348981	No
S-32	No	0.18		12	749539	4342289	Yes
S-33	No	0.15		12	748853	4362797	No
S-34	No	0.13		12	744165	4355990	No
S-35	No	0.13		12	749387	4347704	Yes
S-36	No	0.18		12	755528	4346142	No
S-37	No	0.34		12	740375	4351388	No
S-38	No	0.21		12	745482	4353577	Yes
S-39	No	0.20		12	750698	4342107	No
S-40	No	0.29		12	758873	4348135	No
S-41	Yes	0.49		12	751018	4358794	No
S-42	Yes	0.20		12	738319	4350833	No
S-43	Yes	0.11		12	742109	4350024	No
S-44	Yes	0.11		12	747494	4343927	Yes
S-45	Yes	0.13		12	743178	4357804	No
S-46	Yes	0.27		12	737061	4346324	No
S-47	Yes	0.10		12	743581	4347244	Yes
S-48	Yes	0.14		12	746819	4344254	Yes
S-49	Yes	0.72		12	738666	4348976	Yes
S-50	Yes	0.33		12	742469	4352916	No
S-51	Yes	0.75		12	749744	4344376	No
S-52	Yes	0.11		12	755264	4344679	No

[1]Historical sites are defined as locations where Sage Grouse or their sign were discovered prior to this project

[2]UTMs are for center point of the stand and in NAD 83 projection

Appendix B. Location information for Sage Grouse sign found during project.

Stand	UTM Zone[1]	UTM Easting[1]	UTM Northing[1]	Date
L13	12	753094	4346951	17-Feb-09
L13	12	752683	4346992	17-Feb-09
L13	12	752624	4347134	25-Feb-09
L13	12	752607	4347085	25-Feb-09
L13	12	752845	4346865	25-Feb-09
L13	12	752393	4347307	25-Feb-09
L13	12	752593	4347218	25-Feb-09
L13	12	752652	4347270	2-Mar-09
L13	12	752616	4347206	2-Mar-09
L13	12	752602	4347197	2-Mar-09
L13	12	752627	4347237	2-Mar-09
L13	12	752696	4347104	2-Mar-09
L13	12	752695	4347099	2-Mar-09
L13	12	752684	4347089	2-Mar-09
L13	12	752695	4347095	2-Mar-09
L13	12	752702	4347073	2-Mar-09
L13	12	752612	4347210	2-Mar-09
L13	12	752593	4347217	2-Mar-09
L13	12	752601	4347206	2-Mar-09
L13	12	752623	4347210	2-Mar-09
L12	12	744837	4348868	3-Mar-09
L12	12	745410	4348865	4-Mar-09
L12	12	745410	4348857	4-Mar-09
L12[2]	12	745638	4349941	16-Mar-09
L13	12	752948	4347388	16-Mar-09
L13	12	752724	4347243	16-Mar-09
L13	12	752772	4347427	17-Mar-09
L13	12	752726	4347605	17-Mar-09
L13	12	752827	4347396	17-Mar-09
L13	12	752771	4347404	17-Mar-09
L13	12	752761	4347518	17-Mar-09
L13	12	752751	4347528	17-Mar-09
L13	12	752873	4347543	17-Mar-09
L13	12	752765	4347483	17-Mar-09
L13	12	752773	4347460	17-Mar-09
L13	12	752871	4347519	17-Mar-09
L13	12	752808	4347535	17-Mar-09
L13	12	752748	4347273	17-Mar-09
L13	12	752711	4347519	17-Mar-09
L13	12	752712	4347228	19-Mar-09
L13	12	752703	4347444	19-Mar-09

[1]UTMs are in NAD 83 projection

[2]This sample was found outside but nearest to L12

Appendix C. Stand number, date, time, and location of Sage Grouse aural surveys.

Stand	Date	Time	UTM Zone[1]	UTM Easting[1]	UTM Northing[1]
L-2	24-Mar-09	0700	12	746685	4343702
S-20	24-Mar-09	0728	12	745913	4344282
L-3, L-10	24-Mar-09	0740	12	745110	4346080
L-10, L-3	24-Mar-09	0747	12	744109	4346444
L-13	28-Mar-09	0645	12	752700	4347045
L-5	28-Mar-09	0656	12	752836	4346890
L-20	28-Mar-09	0709	12	750975	4347405
L-20	28-Mar-09	0717	12	750484	4347485
S-15	28-Mar-09	0730	12	749655	4347987
L-9	28-Mar-09	0742	12	748181	4348510
L-9	28-Mar-09	0755	12	747843	4348553
L-12	2-Apr-09	0630	12	745822	4349402
L-12	2-Apr-09	0641	12	745729	4349337
L-12	2-Apr-09	0649	12	745500	4349177
L-16	2-Apr-09	0700	12	744952	4350670
L-16	2-Apr-09	0708	12	744711	4351264
None	2-Apr-09	0716	12	744781	4351815
S-38	2-Apr-09	0725	12	745454	4353637
L-4	2-Apr-09	0732	12	746261	4354123
L-4	2-Apr-09	0741	12	747221	4354204
L-4	2-Apr-09	0749	12	747977	4355646
L-4	2-Apr-09	0756	12	747571	4355992
L-8	2-Apr-09	0805	12	745957	4357275
L-8	2-Apr-09	0810	12	745304	4357739
L-17	2-Apr-09	0820	12	746443	4357072
L-17	2-Apr-09	0827	12	745574	4357403
L-17	2-Apr-09	0835	12	746673	4357406
S-9	6-Apr-09	0623	12	746169	4360269
S-9	6-Apr-09	0630	12	746938	4360832
L-21	6-Apr-09	0639	12	747706	4360265
L-21	6-Apr-09	0645	12	747928	4359568
L-21	6-Apr-09	0653	12	747935	4358630
L-21	6-Apr-09	0659	12	748334	4358344
None	6-Apr-09	0716	12	745031	4360265
L-15	6-Apr-09	0732	12	743835	4357295
L-15	6-Apr-09	0743	12	744596	4356679
L-15	6-Apr-09	0750	12	743832	4356748
L-15	6-Apr-09	0759	12	743841	4357973
L-18	7-Apr-09	0610	12	741090	4351276
S-37	7-Apr-09	0616	12	740932	4351274
S-37	7-Apr-09	0622	12	740667	4351595
S-31	7-Apr-09	0633	12	741795	4349269
S-31	7-Apr-09	0638	12	741904	4348782
S-11	7-Apr-09	0651	12	743165	4346809
L-10	7-Apr-09	0658	12	743059	4346519
L-10	7-Apr-09	0704	12	742541	4345540
L-10	7-Apr-09	0707	12	741754	4345914
L-10	7-Apr-09	0712	12	741141	4345924
L-10	7-Apr-09	0717	12	740667	4345483
L-10	7-Apr-09	0723	12	740184	4344956
L-10	7-Apr-09	0730	12	748994	4344572

[1]UTMs in NAD 83 projection