
Appendix S

BLM ACEC Evaluation and
Forest Service Zoological Areas

APPENDIX S

BLM ACEC EVALUATION AND FOREST SERVICE ZOOLOGICAL AREAS

INTRODUCTION

During the scoping process for this LUPA/EIS the BLM invited the public to nominate or recommend areas on BLM-administered lands for GRSG and their habitat to be considered as areas of critical environmental concern (ACECs). In response to this invitation, the BLM received ACEC nominations from a number of interested organizations. In addition to nominating ACECs on BLM-administered lands, during scoping, interested organizations also identified potential Greater Sage-Grouse (GRSG)-related Research Natural Areas (RNAs) for National Forest System lands.

Federal Land Policy and Management Act (FLPMA) Section 103 (a) defines ACECs as BLM-administered lands for which special management attention is required (when such areas are developed or used or when no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values; fish and wildlife resources; or other natural systems or processes or to protect life and safety from natural hazards. FLPMA Section 202(c)(3) requires that priority be given to the designation and protection of ACECs.

RNAs are areas with valuable ecological resources. These areas are protected and maintained in natural conditions, for the purposes of conserving biological diversity, conducting non-manipulative research and monitoring, and fostering education.

The identification and establishment of a national network of RNAs is congressionally mandated in the National Forest Management Act (36 CFR Part 219.25; 36 CFR Part 251.23). The need for and value of RNAs have a basis in the National Forest Management Act, which states that LUPs will include a plan to monitor and evaluate the effects of implementing the management plan (36 CFR Sec. 219.11(d)).

ACEC NOMINATIONS

During the scoping process for this LUPA/EIS, the BLM received specific ACEC nominations from Wild Utah. These nominations were included in the comment letter submitted by Wild

Earth Guardians, on behalf a consortium of environmental organizations. Potential ACECs identified by Wild Utah contain all breeding, brooding, winter, and other critical occupied GRS habitat. The boundary of these externally nominated ACECs were developed by Wild Utah using the following process.

1. The ACEC boundary was created by merging all active leks, buffered by 8.5 kilometers (Doherty et al. 2010), with GRS brooding, transitional and winter habitat (UDWR).
2. Significantly impacted lands near active oil and gas wells were removed from the proposal by subtracting an area of 1-mile radius around oil and gas wells from the GRS priority habitat.
3. All remaining BLM-administered lands were then selected for ACECs.

Using the abovementioned criteria, nearly all UDWR-mapped occupied GRS habitat in Utah (and some land outside of UDWR-mapped occupied habitat) was included within an ACEC nomination.

In addition to the nomination received from Wild Utah, the BLM received less specific nominations from other organizations. For example, Western Watersheds Project stated that because of the disconnected nature of habitat, all scattered isolated population in Utah should be protected in separate ACECs.

Finally, multiple organizations stated that the BLM should consider all ACEC nominations submitted to during the scoping process for the ongoing Cedar City Field Office Land Use Plan Revision. Previously submitted ACEC nominations in the Cedar City planning area that overlap UDWR mapped occupied habitat included:

- Black Mountains- USFWS/State of Utah
- Buckskin Valley- USFWS/State of Utah
- Great Basin Core- Wilderness Society
- Pine Valley- USFWS
- South Central Utah- Wilderness Society

ACEC EVALUATION PROCESS

Based on the nominations received, all UDWR-mapped GRS occupied habitat was taken through the evaluation process.

In compliance with BLM Manual 1613, Areas of Critical Environmental Concern, a BLM interdisciplinary team conducted an initial evaluation of all GRS mapped occupied habitat to decide which if any areas should be carried forward for further evaluation in the land use planning process. The ACEC evaluations were conducted by the BLM's GRS core team, which included wildlife biologists and land use planners assigned to the project. Additional input was provided by specialists from each Field and District Office that has GRS habitat within their respective boundaries. The BLM's multi-step evaluation process consisted of:

1. The BLM core team evaluated external ACEC nominations to determine relevance and importance.
2. Habitat was broken down into 22 areas.
3. Draft evaluation tables and maps were created that were reviewed by the full BLM interdisciplinary team and ad hoc interdisciplinary team members (which includes representatives from each field office).
4. Adjustments were made based on local understanding and knowledge of GRSG in the mapped areas.

RELEVANCE AND IMPORTANCE CRITERIA

As mentioned in the introduction, to be considered for designation as an ACEC, an area must meet the requirements of relevance and importance as described at 43 CFR 1610.7.2. The definitions for relevance and importance are as follows:

Relevance

An area is considered relevant if it contains one or more of the following:

1. A significant historic, cultural, or scenic value (for example, rare or sensitive archaeological resources and religious or cultural resources important to Native American Indians).
2. A fish and wildlife resource (for example, habitat for endangered, sensitive, or threatened species or habitat essential for maintaining species diversity).
3. A natural process or system (for example, endangered, sensitive, or threatened plant species; rare, endemic, or relict plants or plant communities; and rare geologic features).
4. A natural hazard (for example, areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action could meet the relevance criteria if it is determined through the resource management planning process that it has become part of the natural process.

Importance

The value, resource, system, process, or hazard described above must have substantial significance to satisfy the importance criteria, which generally means it is characterized by one or more of the following:

1. Has more than locally significant qualities that give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared with any similar resource.
2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to change.
3. Has been recognized as warranting protection to order to satisfy national priority concerns or to carry out the mandates of FLPMA.

ACEC boundaries identified by Wild Utah were based on older UDWR GRSG habitat and lek data than is being used for the other aspects of this planning process. In many cases, areas that were previously identified as habitat are no longer considered habitat. Historical leks located in some locations are no longer considered active, meaning they have not been occupied for at least 10 years.

It was determined that all areas located outside of the most recent UDWR-mapped occupied habitat that do not contain GRSG habitat do not meet the relevance criteria.

As part of their external nomination, Wild Utah also proposed ACECs that extended across administrative boundaries (included both BLM-administered and National Forest System lands). ACEC designations only apply to BLM-administered lands. Therefore, all non-federal lands or federal lands managed by another agency were removed from consideration.

Once ACEC nominations were trimmed down to mapped occupied habitat administered by the BLM the following process was used to determine whether an area had relevance and importance.

As part of the ACEC evaluation process, the BLM determined that the mere presence of GRSG or GRSG habitat does not constitute a significant wildlife resource (43 CFR Part 1610.7.2). In determining which areas meet the relevance criteria, the BLM used a combination of the range-wide breeding bird density map developed by Doherty (2010) and a state-wide breeding bird density map developed by the UDWR (UDWR 2012). The UDWR breeding bird density map was developed applying the same process used by Doherty; however, this map shows only the breeding bird density in the State of Utah based on the total number of birds in Utah rather than the number of birds range-wide.

The breeding bird density maps were used as the basis the ACEC evaluation for the following reason. As part of the BLM's National GRSG planning strategy, each state was asked to identify preliminary priority habitat (PPH). PPH comprises areas that have been identified as having the highest conservation value to maintaining sustainable GRSG populations. As part of the Instruction Memorandum 2012-043 (GRSG Interim Management Policies and Procedures), it was stated that that BLM state offices that have not identified PPH should defer to Breeding Bird Density maps developed by Doherty 2010. Utah was one of these states.

Based on this information, as part of the initial screening process, the Utah BLM determined that leks with 75-25 percent breeding bird density and all contiguous habitats may meet relevance because these areas have the highest conservation value.

In continuing the ACEC evaluation process, the BLM overlaid the state's breeding bird density map with Doherty's national breeding bird density map. All areas that have 75-25 percent leks based on the national breeding bird density map have 50-25 percent breeding bird density leks based on the state's breeding bird density map except the West Tavaputs, Bald Hills, and Hamlin Valley areas. According to the State of Utah's data, these areas do not include 50-25 percent leks.

In addition, four areas (Three Corners, Blue Mountain, Sheeprocks, and Ibapah), which were shown to only include 100 percent leks according to Doherty's national breeding bird density

map, include 50-25 percent leks according to the state's breeding bird density map. This discrepancy is likely tied to the fact that the Doherty breeding bird density map, which was developed in 2010 is based on 2008 data; whereas the Utah breeding bird density map is based on more recent data (2011).

At the conclusion of the this process it was determined that all areas that either contain a 75-25 percent lek according to the national breeding bird density map or a 50-25 percent lek based on the state's breeding bird density map would meet the relevance criteria unless specific local conditions warrant preclusion of an area from further consideration.

In review of individual areas, it was determined that two areas contain at least one 75-25 percent lek (national) or a 50-25 percent lek (state) that does not meet the relevance criteria. Both of these areas, Emma Park and West Tavaputs, are located in the Carbon Population Area. These leks were determined not to have relevance for the following reasons:

- The Emma Park area includes a 50 percent leks according to the state and national breeding bird density maps. This area is predominately comprised of private lands with very few isolated BLM parcels. Many of the lands in the Emma Park area are split-estate lands. The BLM is responsible for management of the federal minerals. Based on the limited amount of federal surface, ACEC prescriptions would have limited effect on GRSG habitat or the existing populations.
- The West Tavaputs area includes a 75 percent lek according to the national breeding bird density map. The area does not include any 50-25 percent leks according to the State of Utah's data. Similar to Emma Park, the 75 percent lek located in the West Tavaputs area is located on private lands. In addition, nearly all nesting and brood-rearing habitat associated with this lek is located on private lands. BLM-administered lands provide winter habitat for this and other leks; however, based on the location of the lek, ACEC prescriptions would have limited effect on the GRSG or the existing population.

At the conclusion the BLM's ACEC evaluation process, it was determined that 13 of the 22 areas meet the relevance criteria. All areas that meeting the relevance criteria were determined to have importance because protection of GRSG is a national priority. **Table S.I**, ACEC Evaluations for Individual GRSG Habitat Areas, includes information on each of the individual areas evaluated by the BLM.

ZOOLOGICAL AREAS

After the BLM completed its ACEC evaluation process, the Forest Service evaluated GRSG habitat adjacent to potential ACECs found to have relevance and importance. The Forest Service is considering designating these areas as Zoological Areas to ensure consistent management across the landscape. When considering Zoological Areas, the Forest Service is not required to go through the same screening criteria that the BLM is required to go through when considering ACEC designation. In addition to considering zoological areas that are contiguous to BLM-administered lands, the Forest Service is considering designating some disconnected GRSG habitat as a zoological area. These areas include the Strawberry, Anthro Mountain, and Wildcat Knolls areas, located in the Strawberry, Carbon, and Emery population areas, respectively.

Table S.1
ACEC Evaluations for Individual GRSG Habitat Areas

Population Area	Area Name	Relevance
Uintah	Three Corners/ Browns Park	Yes. The area is a significant wildlife resource for GRSG. Three Corners area has several leks in the 100 percent breeding bird density range at the national level, but with one in the 25 percent breeding bird density range at the state level, as well as several in the 75 percent range. While the Brown's Park area doesn't have any leks, it provides winter habitat and brood-rearing habitat for birds from adjacent areas. This area is part of a larger population that extends into Wyoming.
Uintah	Diamond Mountain	Yes. The area is a significant wildlife resource for GRSG. There are more than 20 leks with several in the 50 percent range nationally and 25, 50, and 75 percent range at the state level. While there is a large proportion of private land in this area, there are extensive areas of public lands that provide for the full life-cycle of GRSG.
Uintah	Little Mountain – Halfway Hollow	Yes. The area is a significant wildlife resource for GRSG. While there are leks in the 100 percent range nationally and 75 percent range at the state level, the habitat is considered contiguous with the Diamond Mountain population and therefore provides habitat as part of a larger population. However, habitat south of Highway 40 includes more mineral development, an increased occurrence of oil and gas wells, and a corresponding decrease in population size. Given the diminished quality of the habitat in that area, it is not part of the potential ACEC.
Uintah	Blue Mountain	Yes. The area is a significant wildlife resource for GRSG. This area includes habitat that is intact and extends into Colorado. The area has several leks in the 100 percent breeding bird density range at the national level, but with one in the 50 percent breeding bird density range at the state level. The ACEC boundary was drawn to include areas that have similar elevation and vegetation characteristics. The potential ACEC includes all brooding and nesting habitat. Occupied habitat excluded from the ACEC is lower in elevation and includes more woodland vegetation.
Uintah	Dead Man's Bench	No. This area only includes two leks and supports a very small resident population. Both of these leks are in the 100 percent breeding bird density range at the state and national level. One lek has not been used since 2002. The other lek only had 2 males in 2012. Also, existing natural gas development has occurred through approximately 60 percent of the area. This development has diminished the habitat quality.
Uintah	East Bench/Willow Creek	No. The only leks located in this area are 100 percent leks according to the national breeding bird density map and 100-75 percent lek according state breeding bird density map. The number of active leks and average lek counts has declined substantially down to less than an average of 3 males in the last 5 years. In 2012, only 1 male was observed in the area. In addition, this area includes margin GRSG habitat. Impacts from oil and gas development have diminished the quality of the habitat. In addition, this area receives very little

Table S.1
ACEC Evaluations for Individual GRSG Habitat Areas

Population Area	Area Name	Relevance
		precipitation. Marginal habitat, at best.
Uintah	Book Cliffs South	No. The area is a naturally fragmented landscape and there have been no active leks since 1990.
Carbon	Badland Cliffs	No. This area does not include any active leks. The area does provide winter habitat for the Anthro Mountain GRSG population and the West Tavaputs GRSG population. This winter habitat is disconnected from the Anthro Mountain and West Tavaputs areas and is not used every year. Much of this habitat has already been developed and the number of wells exceeds one well per section. Existing development has already diminished the habitat value.
Carbon	West Tavaputs Plateau	No. The area does not include any 50-25 percent leks according to the state's breeding bird density data, but does include a 75 percent lek according to the national breeding bird density data. The 75 percent lek is located on private lands. Land ownership is about half private, with all leks but one on private land. The one active lek located on BLM-administered land was last used in 2007. BLM administered lands provide important winter habitat. Oil and gas development has occurred in the area.
Carbon	Emma Park	No. This area includes 75-50 percent leks according to both the national and state breeding bird density maps. However, the area is predominately comprised of private lands with very few isolated BLM parcels. Based on the limited amount of federal surface, ACEC prescriptions would have limited effect on GRSG habitat or the existing populations.
Carbon	Gordon Creek	No. This area does not include any active leks. The eastern half of the area exceeds one well per section. Existing development has diminished habitat quality.
Parker Mountain	Parker Mountain	<p>Yes. The area is a significant wildlife resource for GRSG. The Parker Mountain area supports the second largest GRSG population in Utah. The habitat is largely undeveloped. According to the state and national breeding bird density map, there are several 25 percent and 50 percent leks in the area.</p> <p>GRSG occupied habitat extends across Grass Valley by Koosharem. Isolated BLM-administered lands located west of Koosharem were not included in the ACEC because these lands are non-contiguous with the large block of habitat associated with Parker Mountain. The BLM-administered land is separated by agricultural and urban development around Koosharem.</p> <p>Likewise, north of Koosharem Reservoir was excluded from the ACEC because development and roads have fragmented the habitat. This habitat is of a lesser quality than the unfragmented habitat located on Parker Mountain.</p> <p>Finally, lands east of Loa were excluded from the ACEC because these lands are non-contiguous with the large block of habitat associated</p>

Table S.1
ACEC Evaluations for Individual GRSG Habitat Areas

Population Area	Area Name	Relevance
		with Parker Mountain. The BLM-administered land is separated by agricultural and urban development around Loa.
Panguitch	Southern Mountain Valleys	Yes. The area is a significant wildlife resource for GRSG. There are multiple leks, with several in the 75-50 percent breeding bird density (according to both the national and state breeding bird density data). This area is contiguous with the Buckskin Valley potential ACEC.
Panguitch	Buckskin Valley	Yes. The area is a significant wildlife resource for GRSG. There are multiple leks, with several in the 75-50 percent breeding bird density (according to both the national and state breeding bird density data). This area is contiguous with the Southern Mountain Valleys potential ACEC. This area was included as a separate ACEC only because it was carried forward from the Cedar City RMP revision.
Panguitch	Alton/Sink Valley	No. The GRSG and associated habitat in this area does not constitute a significant wildlife resource. According to the national and state breeding bird density maps, this area only includes 100 percent leks. The population is very small and the number of birds observed on the lek has been declining. There are some historic leks that were last used about 15-20 years ago in the area. Habitat quality has been reduced by encroaching pinyon-juniper. The amount of habitat is limited now and does not support a large population of grouse. The Sink Valley lek is located on private lands. Lek attendance has declined the past 6 years and now there is a surface coal mine on private lands adjacent to the lek.
Hamlin Valley	Southern Great Basin	Yes. The area is a significant wildlife resource for GRSG. The area includes a 75 percent lek according to the national breeding bird density map. The nominated area provides breeding, nesting, winter and brood-rearing habitat for GRSG. This potential ACEC includes all GRSG habitat included in the Pine Valley and Great Basin Core ACEC nominations, which were submitted by external organization as part of the ongoing Cedar City RMP revision.
Bald Hills	Black Mountains	Yes. The area is a significant wildlife resource for GRSG. This area includes several 75 percent leks according to the national breeding bird density map. The area contains leks, nesting, brood-rearing and winter habitat for GRSG, a federal candidate species. This potential ACEC includes GRSG habitat included in the Black Mountains and South Central Utah ACEC nominations that were submitted by external organization as part of the ongoing Cedar City RMP revision.
Sheeprock Mountains	Sheep Creek Mountains	Yes. The area is a significant wildlife resource for GRSG. The area has a lek within the 50 percent breeding bird density. The Sheeprock Mountains also support numerous other leks.

Table S.1
ACEC Evaluations for Individual GRSG Habitat Areas

Population Area	Area Name	Relevance
Box Elder	Pilot Mountains	No. There are no leks in this area. This area is a small ring of sagebrush at the base of the Pilot mountains. The area does provide winter habitat, although it is unknown where the birds are originating from. The winter habitat is disconnected from other GRSG habitat in the Box Elder Population Area.
Box Elder	Box Elder/Grouse Creek	Yes. The area is a significant wildlife resource for GRSG. This area supports the third largest GRSG population in the state and is part of a larger population that extends into Idaho and Nevada. It has several leks in the 25, 50, 75 and 100 percent ranges at both the national and state level. While the area is naturally fragmented and has areas of scattered land ownership, there is sufficient habitat on BLM-administered lands to provide for the full life-cycle.
Rich	Rich County	Yes. The area is a significant wildlife resource for GRSG. This area supports Utah's largest GRSG population. The area includes numerous 25 percent leks according to both the state and national breeding bird density maps. Lands in Rich County are part of a much larger relatively unfragmented habitat that extends into Wyoming and Idaho. The Rich County area is has scattered land ownership patterns. Isolated tracks of land located Morgan, Summit, and Wasatch counties were not included in the ACEC.
Ibapah	Ibapah	Yes. The area is a significant wildlife resource for GRSG. This area has a 50 percent lek according to the state's breeding bird density map. GRSG habitat located in this population area extends across the planning area boundary into Nevada.

This page intentionally left blank.