Appendix 5

Evaluation of Areas of Critical Environmental Concern for Greater Sage-Grouse Habitat

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Appendix 5. Evaluation of Areas of Critical Environmental Concern for Greater Sage-Grouse Habitat

5.1 INTRODUCTION

The Federal Land Policy and Management Act (FLPMA) requires that priority shall be given to the designation and protection of areas of critical environmental concern (ACECs). ACECs are defined in FLPMA Section 103(a) (43 United States Code 1702) and in 43 Code of Federal Regulations (CFR) 1601.0-5(a) as "areas within the public lands where special management attention is required (when such areas are developed or used or where 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." The following analysis and the resultant findings for ACEC relevance and importance criteria has been performed pursuant to FLPMA Section 202(c)(3) (43 United States Code 1712), 43 CFR 1610.7-2, and BLM Manual 1613, *Areas of Critical Environmental Concern.*

5.2 REQUIREMENTS FOR ACEC DESIGNATION

To be eligible for designation as an ACEC, an area must meet both the relevance and importance criteria described in 43 CFR 1610.7-2 and BLM Manual 1613, and it must require special management to protect and prevent irreparable damage to those values. The planning regulations define relevance and importance as follows:

> Relevance—There shall be present a significant historic, cultural, or scenic value; a fish or wildlife resource or other natural system or process; or natural hazard.
>
> Importance—The above-described value, resource, system, process, or hazard shall have substantial significance and values. This generally requires qualities of more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern. A natural hazard can be important if it is a significant threat to human life or property.

Additional clarification provided in BLM Instruction Memorandum 2023-013 states that during review of relevance and importance, evaluations should consider "whether relevant values contribute to landscape intactness, climate resiliency, habitat connectivity, or opportunities for conservation or restoration, or have substantial significance to Tribes or Alaska Native Corporations, as defined in the Alaska National Interest Lands Conservation Act, in a way that may support Tribal co-stewardship or traditional and customary uses."

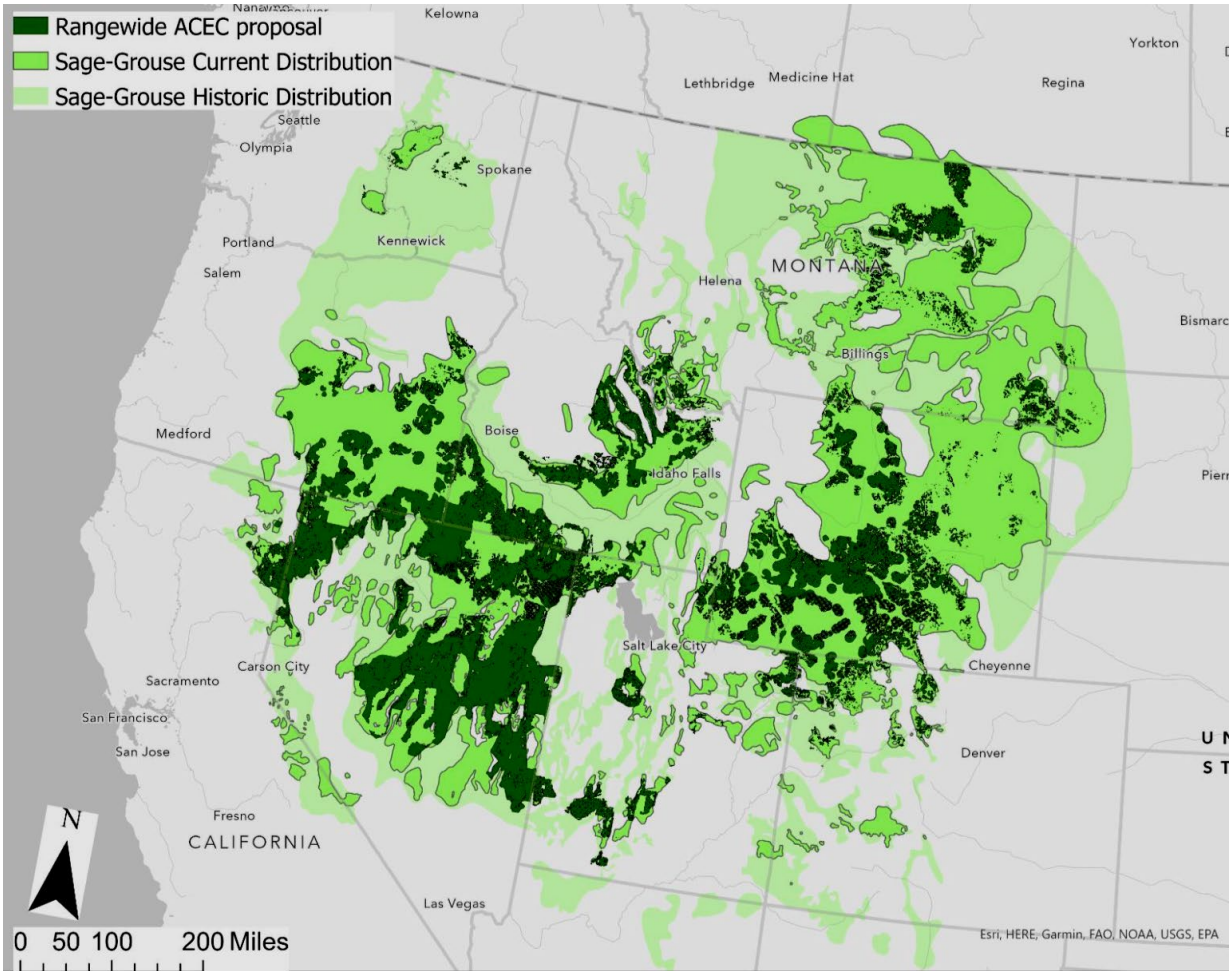
The BLM's ACEC manual provides additional guidance on the requirement for special management attention, noting that such management "would not be prescribed in the absence of the designation. (In other words, the concept of special management is relative.)" While relevance and importance are evaluated to determine if a potential ACEC should be further analyzed in the draft environmental impact statement (DEIS), the need for special management is generally considered when analyzing alternatives with and without the potential ACEC and its associated management. Only those areas that meet relevance and importance criteria are identified as potential ACECs and considered in the DEIS.

5.3 NOMINATIONS

The BLM's Notice of Intent (86 FR 66331) for this greater sage-grouse (GRSG) amendment effort invited the public "to nominate or recommend areas that may be considered for designation as areas of critical environmental concern (ACEC), per 43 CFR 1610.7-2." Because this planning effort is only considering amending resource management plan (RMP) actions related to GRSG and its habitat, the invitation clarified that "nominations or recommendation of potential ACECs should be relevant to the preliminary purpose and need of this planning initiative." In other words, any ACEC nomination (or component thereof) that included values other than GRSG and its habitat were not evaluated or included as part of this planning effort. However, ACEC nominations that included GRSG as one of the (potentially many) nominated values were considered, but only for GRSG habitat.

In response to the BLM's request for nominations, one formal nomination was provided during the scoping period. A group of several non-governmental organizations, represented by the American Bird Conservancy, nominated 48,202,418 acres of public lands throughout the planning area as the "Sagebrush Sea Reserve ACEC." **Figure 5-1** is an image from the nomination letter, showing the extent of the nominated area.

Figure 5-1. Sagebrush Sea Reserve ACEC Nomination



For most of the proposal, the nominated area "is squarely based on the Sage-grouse Priority Areas for Conservation" (PACs) from the US Fish and Wildlife Service's (USFWS) 2013 Conservation Objectives Team Report (COT Report). However, in Wyoming the nominated area was expanded beyond the PACs to also include all the 75% breeding density areas from Doherty, et. al 2010[1], as well as new Wyoming Core Area designations from 2015. From all those areas in Wyoming the nominators removed areas with a density of active oil and gas wells that exceeded five wells per square mile. For Nevada, the nominated area expanded beyond the PACs "to increase coverage of important seasonal habitats for [GRSG] and ensure connectivity between numerous patches of high-quality habitat that are separated by rocky mountain ranges, playas, and other expanses of marginal quality habitat." In addition to identifying the area for consideration, the proposal also included suggestions for how the nominated ACEC should be managed.

Later in the planning process, additional ACEC nominations were submitted. These later submissions were associated with specific areas, though they included a wide variety of potential values beyond just GRSG habitat. These nominations include the following:

Additional Externally Nominated GRSG ACECs		
Nominated Area Name	**Location/State**	**Size**
Little Sandy	Central Wyoming	367,362 acres
Red Desert	Central Wyoming	153,763 acres
McDermitt Caldera	NE Nevada/SE Oregon	No specific area delineated
Frenchman Breaks Expansion	Northern Montana	45,725 acres
Musselshell Breaks	Central Montana	122,290 acres
North of the Charles M Russell National Wildlife Refuge	Central Montana	185,055 acres
Powderville Expansion	Eastern Montana	20,053 acres

5.4 EVALUATION PROCESS

5.4.1 ACEC Evaluation in Prior GRSG Planning Efforts

The BLM evaluated GRSG habitat for consideration as ACECs during the 2015 greater sage-grouse (GRSG) plan amendment process. Conducted at the state or field office levels, those evaluations determined that Priority Habitat Management Areas (PHMA) for GRSG met relevance and importance criteria because it contains habitat that is valuable for all life stages, including lekking, brood-rearing, and winter range. However, the BLM decided not to designate PHMA as ACECs in the applicable Records of Decision because it was determined that the management actions for PHMA would be sufficient to protect GRSG habitat and, as such, ACEC designation of PHMA was not required. During the 2019 planning process, ACEC nominations were not reconsidered.

5.4.2 ACEC Evaluation Approach in the Current GRSG Planning Effort

The BLM evaluated for potential ACECs across the entirety of GRSG habitat on BLM-administered lands, with no distinction between habitat management areas, specific nominated areas, or prior identified areas. With all habitat as the starting point, BLM then considered available data at multiple spatial scales to determine what, if any areas met relevance and importance criteria. Because the BLM evaluated all GRSG habitat, the evaluation of externally provided ACEC nominations simply had to determine if any new data had been provided that had already been considered in the rangewide analyses.

[1] Doherty, K.E., J.D. Tack, J.S. Evans, J.SN. and D.E. Naugle. 2010. Mapping breeding densities of greater sage-grouse: a tool for range-wide conservation planning. BLM completion report: Agreement # L10PG00911.

The evaluation for relevance and importance criteria was conducted in a two-step approach that started with rangewide scientific data and models, followed by a review by staff at the state and field office levels who are more familiar with the local habitat conditions. The evaluation considered multiple lines of information, never relying on just one data set to conclude a criterion was met. Rangewide models were an important starting point, but incorporation of local information, and considerations of data accuracy and scale of application were carefully reviewed prior to making the preliminary delineations and for the evaluation of nominations. The preliminary evaluations described in this appendix will be adjusted based on information provided during the public review of the Draft EIS. These evaluations will be finalized in the Final EIS and analysis in chapter 4 updated, as necessary, to inform whether the potential ACECs should be considered proposed ACECs.

Relevance Criteria

In this evaluation process, the BLM considered just two of the relevance criteria: 1) a wildlife resource, and 2) a natural process or system – related to GRSG habitats. No cultural, scenic, values or natural hazards were evaluated.

Because the relevance criterion is simply the presence of a wildlife resource or a natural process or system, areas within the mapped habitat management areas generally met the relevance criteria at this scale of habitat mapping (populations or seasonal habitats). The BLM affirmed the presence of GRSG populations or associated sagebrush habitats with multiple data inputs (distribution maps, seasonal habitats, leks, etc.). All areas with GRSG and their habitats were determined to meet the relevance criteria.

Areas of split surface and mineral estates, where the BLM manages the mineral estate but not the surface, were not included in the relevance evaluation. Areas where the agency administers just the mineral estate would have no wildlife resource within the agency's jurisdiction, and therefore the area would not meet the relevance criterion.

Importance Criteria

Once confirming the presence of GRSG and associated habitats, the BLM then evaluated importance criteria. Importance evaluation must include an assessment of: "the value, resource, system, process or hazard…must have substantial significance and values" (BLM-M-1613.1.B). The BLM's planning regulation notes that substantial significance "generally requires qualities of more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern." This evaluation effort focused on determining whether a given area of GRSG habitat being considered has characteristics that make it more than locally significant, and the evaluation compared areas of GRSG habitat to determine if any particular area had characteristics that were more than locally important. The importance criteria considerations are not an assessment of biological value of habitat to a given population, but how that habitat and its characteristics compare to other GRSG habitat throughout the species range. Rising to a level of national importance required multiple lines of evidence identifying and area as exemplary for GRSG.

Priority Areas for Conservation (PACs) and Sagebrush Focal Areas (SFAs)

The BLM did not simply relabel prior designations as ACECs for this planning effort. Rather than using the composite results of prior mapping efforts, which were identified for purposes different than land use planning or ACEC evaluation, this evaluation sought to use primary data-sets. Neither the COT Report nor the SFAs specifically considered the various components associated with the importance criteria. While there may be overlap in evaluation for ACEC criteria, previous designations were not developed using the regulatory and policy criteria associated with the BLM ACEC process. Additionally, PACs and SFAs were

developed using data that was available at the time of their publication (2013 and 2015, respectively). The PACs were developed by the States and helped inform the BLM's habitat management areas in the 2015 GRSG amendment effort. Since the 2013 COT Report, the BLM has worked with state wildlife agencies to update habitat management area boundaries in three states. For this amendment, the BLM is working with all the states to re-evaluate the habitat management areas based on new science and research products that have been completed since 2015. For these reasons, the BLM did not use PACs or SFAs as an automatic delineation of potential ACECs, or as justification that the area met importance criteria.

5.4.3 Rangewide Preliminary Evaluation

A series of rangewide spatial layers (see list below) were visually reviewed across the entire GRSG range. This preliminary review focused on areas outside of the SFAs designated in 2015, with the understanding that new data associated with the SFAs would be reviewed at the state level as a next step in the evaluation. The purpose of the review was to identify potential areas where multiple data sources indicated areas of high value or concern related to GRSG use and conservation. The resulting areas were identified as an initial screening for consideration by BLM State and Field Office staff to determine if they should be carried forward to discussions with partners. Every layer in the list below was considered but some carried more importance in some areas than others. For example, areas that models indicated as important genetic connectivity may have resulted in that layer receiving more emphasis than others where genetic connectivity was not a factor.

After initial areas were identified, the size and extent of the polygons were reviewed in context of the presence of BLM-administered lands. Areas where the BLM had marginal or scattered parcels were removed, as the effectiveness of habitat management is such areas is low without cross-ownership coordination. Some areas extend beyond BLM lands simply for consideration of external factors that may influence the conservation value of the areas being considered. For each area, the information supporting the decision to identify that area for further consideration is outlined below.

Layers reviewed

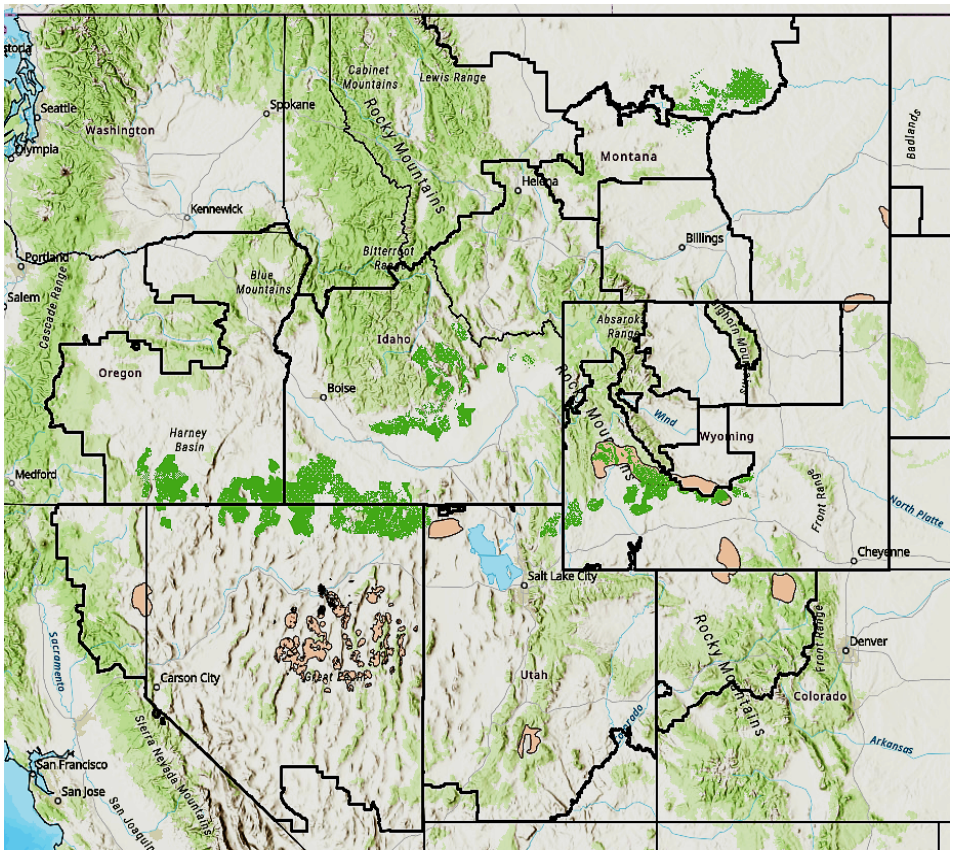
- Coates et al., 2021. Range-wide Greater sage-grouse Hierarchical Monitoring Framework, Implications for Defining Population Boundaries, Trend Estimation, and a Targeted Annual Warning System (https://doi.org/10.3133/ofr20201154);
- Cross et al., 2018. The genetic network of greater sage-grouse: Range-wide identification of keystone hubs of connectivity (https://onlinelibrary.wiley.com/doi/full/10.1002/ece3.4056)
- Doherty et al. 2016. Importance of regional variation in conservation planning: a range-wide example of the Greater Sage-Grouse (https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/ecs2.1462)
- Oyler-McCance et al., 2022. New strategies for characterizing genetic structure in wide ranging, continuously distributed species: lessons learned from Greater Sage-grouse (https://doi.org/10.1371/journal.pone.0274189)
- Row et al., 2018. Quantifying functional connectivity: the role of breeding habitat, abundance, and landscape features on range-wide gene flow in sage-grouse (https://onlinelibrary.wiley.com/doi/full/10.1111/eva.12627)
- Palmquist et al., 2021. Divergent climate change effects on widespread dryland plant communities driven by climatic and ecohydrological gradients (https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.15776)

- Rigge et al. 2021. Projected change in rangeland fractional component cover across the sagebrush biome under climate change through 2085 (https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/ecs2.3538)
- Cross et al. 2022. The ties that bind the sagebrush biome: integrating genetic connectivity into range-wide conservation of greater sage-grouse

Areas Identified from Rangewide Review

Figure 5-2 show the areas that were identified through the rangewide review, as well as the designated SFAs from the 2015 planning process.

Figure 5-2: Rangewide Review Areas (light orange) and SFAs (light green areas)



The following list summarizes the areas identified through the rangewide review, organized by state. Bullets that are bolded indicated the most influential considerations in identifying areas for further consideration.

Colorado

- North Park
  - Most of the area is PHMA
  - High relative abundance
  - Entire area is modeled breeding habitats
  - High habitat connectivity for genetics.

  - Climate change models predict 5-25% sagebrush cover into the future, with moderate increase in sagebrush biomass.
  - Area anchored by NWR
  - **Few current threats**
  - **Appears to be an isolated population on the "edge" of the range**
- WY/CO border
  - Areas within PHMA in CO, and mostly PHMA in WY
  - High relative abundance
  - Modeled breeding habitats cover entire area in CO, most of the area in WY
  - Many genetic nodes, including an important node in CO. **Genetic movement between these areas suggest extensive population movements**
  - **High habitat connectivity for genetics within and between the areas**
  - Climate change models predict 5-25% sagebrush cover into the future and a mix of mostly increasing sagebrush biomass

Montana/Dakotas

- Area bordering ND
  - GHMA in MT, PHMA in ND
  - High relative abundance
  - Several connected genetic nodes
  - **May provide the only refuge for the ND birds; important for that genetic subpopulation**
  - Future sagebrush cover models suggest 0-4%, but that is not atypical for this area.
  - Future sagebrush biomass to increase
- Area bordering WY
  - RHMA in MT, mostly GHMA in WY
  - High relative abundance
  - lots of modeled breeding habitat
  - contains an important genetic node (maybe hub?); **may provide a connection with the GRSG in the DKs, and SE MT.**
  - Future sagebrush cover models suggest 0-4%, but that is not atypical for this area
  - Future sagebrush biomass to increase in PHMA and RHMA, but decrease in GHMA

Nevada/California

- Central Nevada (Areas that are currently PHMA and high abundance only)
  - **High relative abundance**
  - High modeled breeding habitats
  - **High connectivity within the PHMA areas**
  - Two key genetic nodes and many other genetic nodes
  - Overlaps two genetic subpopulations
  - Climate change models predict 5-25% sagebrush cover, but decreasing biomass in most areas
- East-central CA
  - Area is PHMA
  - **High relative abundance – likely the greatest number of males in CA**

  - Breeding habitat mimics relative abundance
  - **Few genetic nodes but those indicate connection to the north (OR) and SE into NV**
  - Medium connectivity (combined models)
  - Climate change models predict reduction in sagebrush biomass, but sagebrush cover at 5-25%

Utah

- NW UT
  - Area is PHMA
  - Some areas of high relative abundance – should consider additional protections in those areas
  - Breeding habitat model are in the same area of high relative abundance
  - Habitat connectivity for genetic is high throughout the area
  - **Area has two key genetic nodes and several others. The key nodes are connected with populations in ID and eastern NV, while other nodes are connected with southern UT populations and NE UT**
  - **3 subpopulations overlap this area – may indicate value for maintaining connectivity.**
  - Climate change models predict 5-25% sagebrush cover into the future and increasing sagebrush biomass
  - **Looking at wintering habitat – breeding habitat is on private ground**
- Parker Mountain
  - Area is currently PHMA
  - High relative abundance
  - Area is modeled breeding habitat
  - **Contains one key genetic node and a few other nodes – appears to be connected both to the north and the west**
  - Habitat connectivity high within the outlined area
  - Climate change models predict 5-25% sagebrush cover and increase in sagebrush biomass.
  - **Likely has the largest population of GRSG in the subpopulation**

Wyoming

- WY/CO border
  - Areas within PHMA in CO, and mostly PHMA in WY, but some GHMA along the western edge of the PHMA.
  - High relative abundance
  - Modeled breeding habitats cover entire area in CO, most of the area in WY
  - Many genetic nodes, including an important node in CO. **Genetic movement between these areas suggest extensive population movements**
  - **High habitat connectivity for genetics within and between the areas**
  - Climate change models predict 5-25% sagebrush cover and a mix of mostly increasing sagebrush biomass, but some areas of decreases.
- WY Pinedale and Atlantic City area
  - Most of the area is PHMA, some in original SFA
  - **High relative abundance – likely the largest number of GRSG in the entire range**
  - Entire area modeled breeding habitat

  - Many genetic nodes including two important nodes
  - High habitat genetic connectivity
  - Climate change models project 5-25% sagebrush cover into the future and an increase in sagebrush biomass.
  - **Area of high risk for continued development**
  - Northern end of Green River watershed is mostly private land.
- Area bordering WY – RHMA in MT, mostly GHMA in WY – Note this area overlaps with the area identified in MT
  - High relative abundance,
  - lots of modeled breeding habitat
  - contains an important genetic node (maybe hub?); **may provide a connection with the GRSG in the DKs, and SE MT.**
  - Future sagebrush cover models suggest 0-4%, but that is not atypical for this area
  - Future sagebrush biomass to increase in PHMA and RHMA, but decrease in GHMA

The rangewide review did not identify any areas in Idaho or Oregon outside the SFAs.

5.4.4 State Specific Evaluations

The results of the rangewide review were shared with staff from each BLM State Office, with discussions reviewing the rationale behind the identification. Offices reviewed the areas from the rangewide evaluation, the SFAs, and any other areas the local staff may be familiar with as having characteristics that could meet the importance criteria. Based on the combined evaluations, areas outside the SFAs or rangewide evaluation areas were determined to not meet importance criteria, as the data indicated they lacked the characteristics that made them more than locally significant. The remainder of the areas were evaluated in detail.

Through the rangewide and state specific evaluations, no areas met the importance criteria related to safety/public welfare concerns or posing a significant threat. As such, those criteria will not be discussed further in this evaluation.

The following sections summary the evaluation efforts associated with state specific evaluations, organized by state (alphabetically).

Colorado

BLM Colorado considered the previous ACEC evaluation from the 2015 FEIS and discussed whether there was new information or resource values making any of the populations and subpopulations (Colorado Management Zones) eligible for ACEC nomination. BLM Colorado also considered two areas highlighted by the range-wide planning team. The two highlighted areas were the North Great Divide and Fly Creek portions of the Northwest Colorado GRSG population and the North Park GRSG population. The North Great Divide and Fly Creek areas have contiguous habitat connecting north into the Wyoming Basin in Wyoming. BLM Colorado and BLM Wyoming coordinated during review of these areas, but separate determinations were made by the respective interdisciplinary teams.

BLM Colorado also coordinated with BLM Utah regarding the functional connectivity on the cross-border Blue Mountain habitat area. Row et al. (2018) demonstrates high connectivity between GRSG populations in CO and UT which is supported by bird collar location data (unpublished CPW data). However, Row et al. (2018) does not model a known connectivity area in the Diamond Mountain or Cold Springs Mountain

areas to the north. For these reasons, the Blue Mountain connectivity area was not considered to be more than locally significant and was not carried forward for additional evaluation.

North Great Divide and Fly Creek

North Great Divide and Fly Creek are situated within the northeast extent of the Northwest Colorado GRSG population. These areas include high quality sagebrush with relatively low disturbance except for the Highway 13 designated corridor, which bisects the areas. North Great Divide and Fly Creek provide breeding, nesting, brood-rearing, and winter habitat for GRSG and include several active leks.

The North Great Divide and Fly Creek areas were highlighted by the range wide planning team because of the genetic and functional genetic connectivity between the Northwest Colorado population and the Wyoming Basin population (Cross et al. 2018, Row et al. 2018) and high likelihood of lek persistence (Wann et al. 2022). The area contains many genetic nodes, or leks that are important to maintaining gene flow in a population, including an important node in Great Divide (Cross et al. 2018). Important nodes maintain gene flow between populations in the species range (Cross et al. 2018). Genetic movement between these areas suggest that the habitat has previously supported population movements within and between populations. Row et al. (2018) and Cross et al. (2023) modeled high habitat connectivity for genetics between these areas and the Wyoming Basin.

Genetic and functional connectivity between Northwest Colorado and the Wyoming Basin are modeled in other portions of the Northwest Colorado population as well. Row et al. (2018) modeled connectivity areas between Northwest Colorado and the Wyoming Basin occurring in the Sand Wash/Powder Wash area and in the Cold Springs area. Sand Wash also contains a genetically important node (Cross et al. 2018). Strong population genetics between the Northwest Colorado and Wyoming Basin do not indicate that there is a risk of the populations becoming genetically distinct (Oyler-McCance et al. 2022).

The North Great Divide and Fly Creek areas provide valuable GRSG habitat that is well-connected to the Wyoming Basin, but several other areas in the Northwest Colorado Population also demonstrate habitat and genetic connectivity. For this reason, BLM Colorado determined that the area does not have more than local significance and is not recommended to move forward as a potential ACEC.

North Park

North Park is a large basin bounded by Medicine Bow Range on the east and by the Park Range on the west. The Rabbit Ears Range separates North Park from Middle Park to the south. BLM Colorado discussed all areas of North Park for values important to GRSG. North Park provides well connected lekking, nesting, brood-rearing, and winter habitat for GRSG. A large majority of seasonal habitats for GRSG in North Park are suitable (North Park HAF Site-Scale Report, 2022). North Park has genetic connections to the Middle Park population to the south and a narrow connection north to the Wyoming Basin but is otherwise disjunct from the Northwest Colorado population (Cross et al. 2018; Row et al. 2018; Cross et al. 2023). The BLM Kremmling Field Office is implementing treatments to increase the value of GRSG habitat, particularly the extent of available mesic habitats.

Case Flats

BLM Colorado highlighted the Case Flats area, which is a known winter concentration area. CPW staff discovered the Case Flats winter concentration area while conducting GRSG research in the North Park Basin. For unknown reasons, GRSG from the entire basin congregate in large numbers at this location each year during late winter/early spring prior to lekking (CPW Wildlife Mitigation Plan, 2021). The area has been highlighted in conversations with Colorado Parks and Wildlife and outlined as a resource for concern in the

CPW Wildlife Mitigation Plan with the local operator but has not been otherwise recognized for specific management by the BLM.

Case Flats includes unitized fluid mineral leases and is in proximity to active oil & gas development, Highway 14, and ex-urban development. The likelihood of lease development is high, which could have direct and indirect impacts on GRSG and winter concentration in the area.

Due to the unique nature of the winter concentration area, population-wide importance, and likelihood of lease development, BLM Colorado evaluated the area as a potential ACEC. This nominated area meets relevance and importance criteria for wildlife and a natural process or system as presented in the table below.

Colorado GRSG ACEC Importance Evaluation:
Case Flats Proposed ACEC

Importance Consideration	Yes/No	Rationale for Determination
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	Yes	The area contains unique GRSG winter concentration areas, providing special worth to the North Park GRSG population.
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	Yes	Case Flats provides a unique winter concentration area for a BLM sensitive status species. The habitat provides for unique GRSG congregating behavior which may be irreplaceable because it is not known why GRSG concentrate in this area and may not be replicable in other habitats. The area contains several unitized oil and gas leases and could be adversely impacted by development.
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	Yes	The area is within Greater Sage-Grouse Priority Habitat Management Areas which have been at the focus of national planning efforts, and state and local land use plans.
Other Items		
Boundaries	South of Walden, bound by Highways 14 and 125, Bordering Arapaho Wildlife Refuge.	
Conclusion		
This internally nominated area meets both relevance and importance criteria for a fish and wildlife resource. Because Case Flats meets relevance and importance as a fish and wildlife resource, it is recommended to move forward for analysis in at least one alternative of the current range-wide planning effort.		

Colorado GRSG ACEC Importance Evaluation: North Great Divide/Fly Creek Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	No	The areas are modeled as having high genetic and functional genetic connectivity between the Northwest Colorado population and the Wyoming Basin (Cross et al. 2018; Row et al. 2018; Cross et al. 2023) and high likelihood of lek persistence (Wann et al. 2022). The area contains many genetic nodes, including an important node in Great Divide (Cross et al. 2018). However, genetic and functional connectivity between Northwest Colorado and the Wyoming Basin are modeled in other portions of the Northwest Colorado population as well. Row et al. (2018) modeled connectivity areas between Northwest Colorado and the Wyoming Basin occurring in the Sand Wash/Powder Wash area and in the Cold Springs area. Sand Wash also contains a genetically important node (Cross et al. 2018). Strong population genetics between the Northwest Colorado and Wyoming Basin do not indicate that there is a risk of them becoming genetically distinct (Oyler-McCance et al. 2022). Because there are multiple points of connection cross-state between the populations and, this area is not more than locally significant.
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	No	Because there are multiple points of connection cross-state between the populations, this area is not unique, rare, or irreplaceable.
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	No	The area is within Greater Sage-Grouse Priority Habitat Management Areas which have been at the focus of national planning efforts, and state and local land use plans. However, this area contains only a small portion of the PHMA within Colorado and of the Western US and the area has not been specifically addressed as a national priority.
Other Items		
Boundaries	Great Divide is bound by the Little Snake River to the west and Highway 13 to the east, and the Wyoming border to the north and Highway 40 to the south. Fly Creek is bound by the Elkhead Mountains to the south and connected sagebrush habitat moving north into Wyoming. Highway 13 bisects the areas.	
Conclusion		
The nominated area meets relevance criteria but does not meet importance criteria. Therefore, it is not recommended that the area be considered a potential ACEC for GRSG for analysis in the current range-wide planning effort.		

Idaho

The ACEC evaluation in Idaho had several unique aspects. Even though the rangewide evaluation did not identify any additional areas beyond the SFAs, the rangewide evaluation did include areas within the 2015 SFAs. The ACEC evaluation process at the Idaho State Office overlapped with the mapping effort of Idaho's three-tiered system of habitat management areas. . At the state level, the Idaho State Office evaluated the following local datasets to help identify and delineate areas that meet the importance criteria:

- Local scale data: Idaho BLM developed a Landscape Importance Model (LIM) in 2015 to prioritize areas of Low to Highest Importance related to GRSG. The LIM model incorporates 3 orthogonal datasets related to GRSG: State level BBD, State level Lek Kernel Density, and Lek Persistence (related to amount of sagebrush within a 5-km window). These datasets are recalculated every year. Individual datasets are scored 1-10 and the resulting combined dataset is Categorized 1 (lowest) to 5 (Highest). For ACEC delineation we used the 2022 LIM – moderate to highest values (3,4,5) to extract our base ACEC polygon, focusing on the top two values.
- Local scale data: Idaho contains a significant proportion of the estimated GRSG population in the Great Basin (excluding WY); therefore, the current (2022) state-level BBD data was used, with the top 25th percentile of the population selected as indicating areas that had high levels of importance. These leks were then buffered 10K and the resulting polygon was added to the ACEC base.
- Regional scale data: Recently published regional GRSG data (BBD, Lek Persistence, and Priority Genetic Pathways) was used to inform regional importance. These data were combined (i.e. 25% and 50% BBD; medium or high lek persistence; >90 or >95% Priority Genetic Pathways) to provide an overall score of 0-6, from which a subset was included only using values 4 – 6. The resulting polygon was added to the ACEC base.

In some areas, moderate LIM values or top 50th percentile of the population (from the BBD data) were added to polygons in order to connect the delineated areas identified above.

The following table summarizes the areas that were identified through the state-level modeling effort, as well as the recommendations related to whether the area met the importance criteria.

Idaho GRSG ACEC Evaluation: Importance Criteria

Identifier	Geographic Reference	Importance	Recommendation
N/A	Whiskey Mountain	N/A. SW Idaho area. Poor habitat on OR side, per discussion with Oregon SO; Medusa, cheatgrass threats. Not in 25% BBD on ID or OR side.	Remove. Not recommended for potential ACEC.
N/A	South Mountain	N/A. Poor habitat on OR side per discussion with Oregon SO; small proportion high genetic connectivity on east side of polygon; Medusahead, cheatgrass threats. Not in 25% BBD on ID or OR side. Boulder Creek ACEC occupies high value regional genetic pathway.	Remove. Not recommended for potential ACEC.
I	Triangle	Good habitat; high Resistance and Resilience; BBD 25%, and 50%; High value in Combined model. Genetic hub and keystone. Adjoins Castle Creek Canyon Lands With Wilderness Characteristics.	Keep. Recommended for potential ACEC.

Idaho GRSG ACEC Evaluation: Importance Criteria			
Identifier	**Geographic Reference**	**Importance**	**Recommendation**
2	Owyhee-Shoshone Basin	Significant representation of the 25% BBD in Idaho (i.e., contains 28 of the 77 leks comprising the 25% BBD in Idaho); Adjacent to NV Priority and Priority+ HMA; Significant contribution value from new regional datasets; High amount of genetic connections/nodes; Also represents a large area of contiguous BLM administered lands.	Keep. Recommended for potential ACEC.
3	Camas-Laidlaw	Significant representation of the 25% BBD in Idaho (i.e., contains 9 of the 77 leks comprising the 25% BBD in Idaho); Several genetic nodes constituting linkage to NV and UT; High value priority genetic pathways; In the top 25% of the MZ IV GRSG population; Large area of contiguous BLM administered lands; Adjacent to a major regional genetic node.	Keep. Recommended for potential ACEC.
4	Big Desert	Significant representation of the 25% BBD in Idaho (i.e., contains 6 of the 77 leks comprising the 25% BBD in Idaho); Adjacent to a major regional genetic node; contains several genetic nodes with Sand Creek/Upper Snake, Mountain Valles/Salmon, Craters Monument, and Utah.	Keep. Recommended for potential ACEC.
5	Antelope Valley	Smaller, distinct area of 25% BBD; Relatively low anthropogenic disturbance;	Keep. Recommended for potential ACEC.
6	Mountain Valley Complex	25-50% BBD; Middle section has large existing ACEC (Donkey Hills); relatively low threats; High potential as a refugia for future climate change effects; relatively low anthropogenic disturbance; NW polygon, per Arkle et al, shows a lek cluster with increasing Lambda (+ pop growth).	Keep. Recommended for potential ACEC.
7	Upper Snake Complex	Significant representation of the 25% BBD in Idaho (i.e., contains 18 of the 77 leks comprising the 25% BBD in Idaho); Contains a major regional genetic node; contains several genetic nodes with the Mountain Valleys, Snake River Plain and Montana. Good habitat/ high Resistance and Resilience. Captures Table Butte, a known important GRSG winter concentration area; Area provides significant movement connectivity corridor (based on telemetry) with the proposed Big Desert ACEC.	Keep. Recommended for potential ACEC.
N/A	Bear Lake	BLM lands not in 25% BBD; No adjacency with ACEC proposals with WY or UT. No important genetic nodes.	Remove. Not recommended for potential ACEC.

Montana/Dakotas

The Montana/Dakotas State Office considered new information or resource values making any of the habitat areas eligible for ACEC nomination. Montana/Dakotas considered three areas highlighted by the range-wide planning team based on a review of new science and an evaluation of Sagebrush Focal Areas from the 2015 plans. The three highlighted areas are the South-Valley-Phillips (Sagebrush Focal Area), Cedar Creek and Carter-Crook proposed ACECs. Evaluations of those proposals are evaluated below.

Nominations were evaluated for habitat supporting 25-50% relative abundance and associated seasonal habitats, high lek persistence, key genetic nodes and/or concentration of genetic nodes and existing or potential land uses that would be a concern for persistence of GRSG.

While the scoping period closed on February 8, 2022, on July 21, 2023, BLM received an external ACEC submission for consideration of four additional ACECs in Montana. These nominations included expansion of two existing ACECs, the Powderville Expansion ACEC and the Frenchman Breaks Expansion ACEC. Two new areas were nominated, including the Musselshell Breaks ACEC and the North of Charles M. Russel National Wildlife Refuge (CMR) ACEC. The nominations contained potential relevant and important values for these four proposed ACECs and suggestions for expanded, existing ACECs.

In addition to values related specifically to GRSG, the nominations contained potentially relevant values for grassland bird/mid-grass prairie habitat, ecological connectivity, intactness, paleontological resources and climate stability that are separate from purpose and need of this planning effort focused on amending GRGS management. Other potentially relevant and important values such as paleontology, intactness or grasslands are outside the scope of this planning effort and would need to be considered in a subsequent ACEC evaluation.

The BLM did consider the four proposed ACECs and focused on the relevance and importance values specific to GRSG. As for the internal nominations we considered multiple lines of evidence to determine if the values, GRSG habitat in this instance – had "more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern." Those values are present primarily in portions of the proposed North of the CMR ACEC which overlaps the internally developed South Valley-Phillips proposed ACEC, and therefore this area is evaluated below. The Frenchman Breaks Expansion ACEC nomination presents important connectivity values for GRSG, that are locally unique. However, the density of the GRSG population, genetic uniqueness, lek persistence, sagebrush conservation design, and other lines of evidence to identify "substantial significance" were not determined by the BLM to rise to the level of importance needed to move forward for evaluation in the alternatives of this RMP amendment. However, see other HMA actions such as PHMA and CHMA that are implemented to conserve GRSG values for this area. The Musselshell Breaks ACEC and Powderville Expansion ACEC nominations fall primarily outside of GRSG PHMA, with some overlap with GHMA. The BLM determined that while these areas are adjacent to priority GRSG habitat they did not meet the relevance criteria for GRSG (the nominations are primarily for other values) and would not move forward for evaluation in the alternatives of this RMP amendment.

Montana GRSG ACEC Importance Evaluation: Cedar Creek Anticline GRSG Habitat Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	No	Greater sage-grouse are distributed throughout the western United States. The portion of the distribution in Montana, Wyoming, North Dakota, South Dakota, Alberta, and Saskatchewan are designated as Management Zone I (Stiver et al. 2006). Management zones are delineations of greater sage-grouse populations and subpopulations within floristic zones with similar management issues. Within Management Zone I Montana, Wyoming, North Dakota, and South Dakota have designated core areas, and in 2015 BLM designated Priority, General, and Restoration Habitats. Since the 2015 BLM plans, new science addressing GRSG density and habitats has provided additional information about the locations of areas that may contain special worth, consequence, or distinctiveness. While higher density areas and genetic connectivity are considered important to greater sage-grouse conservation, areas with similar characteristics to the Cedar Creek area are dispersed throughout the region and are not significantly unique to a specific region or planning unit. In addition, greater sage-grouse habitat in the Cedar Creek area is owned by a number of different entities and habitat on BLM-administered lands is not distinct from habitat managed by other ownerships. While a portion of the area contains high relative abundance (Doherty et al. 2016), the size of the area is not distinct compared to other areas. Most leks have seen decreased counts since the 2010-14 period used to calculate relative density (e.g., FA-38: 34 males in 2010, now 0; FA-004A: 14 males in 2010 to 9 now; FA-013: 24 in 2011 to 6 now. In addition, this area is close to the small fringe population in North Dakota, However the Cedar Creek Anticline represents only a small portion of the lager population as defined by recent genetic work (Oyler-McCance 2022). Therefore, this area is not particularly distinct or critical to maintaining unique genetics for the SE Montana and Dakotas area relative to other PHMA. The Cedar Creek Anticline is a unitized oil and gas field that is predominantly leased, mostly developed, with a high level of anthropogenic activity. Additional substantial activity or development relative to current level is unlikely.
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	No	The area is not particularly fragile or sensitive to change as compared to other sites in the Montana-Dakotas region. The area does not contain key or cluster of genetic nodes and represents a fringe population with genetic nodes as terminal sites (Cross et al 2018). Ongoing disturbance is high, including a high density of O&G wells, and is predominantly already leased. The area is found to have only a small area of core sagebrush as identified in Doherty (2022) Sagebrush Conservation Design and has only a small proportion as core relative to other areas in the region. Similarly, the MT GRSG Conservation Program's Habitat Quantification Tool identifies much of the area as low habitat value, with only a small portion providing high modeled habitat quality values.

Montana GRSG ACEC Importance Evaluation: Cedar Creek Anticline GRSG Habitat Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	No	The BLM 2015, 2019, and current initiatives to conserve, enhance, and restore greater sage-grouse habitat is the result of the March 2010, US Fish and Wildlife Service (USFWS) 12 Month Finding for Petitions to List the Greater Sage-grouse (Centrocercus urophasianus) as Threatened or Endangered. In that finding, the USFWS concluded that greater sage grouse was "warranted, but precluded" for listing as a threatened or endangered species. However, in the 2015 listing decision, the USFWS concluded in part that existing regulatory mechanisms, (i.e., "specific direction regarding sage grouse habitat, conservation, or management") in the BLM's Land Use Plans, were adequate to protect the species. Without multiple lines of evidence, including reasonably foreseeable development, valid existing rights, land ownership, crucial GRSG habitat characteristics from multiple science-based models, on-the-ground conditions/evidence this area does not have protection requirements beyond the standard approaches to implemented FLPMA and national priorities.
Other Items		
Boundaries	No proposed changes to the boundary.	
Additional Notes	This area is a unitized oil and gas field, largely leased and developed, and with limited ability for the BLM to enhance GRSG habitat in the short term. The delineation as a RHMA is reflective of these challenges, the focus here is on longer-term objectives of the BLM to manage the area to maintain GRSG habitat and conduct restoration to provide for higher quality habitat (to support past bird density) in the future.	
Conclusion		
Due to current habitat conditions and limited evidence for the Cedar Creek Anticline to qualify as more distinct or critical than other HMAs, the BLM MT-Dak does not find the Cedar Creek anticline to meet relevance and importance for an ACEC nomination. While the area is part of a larger population with ND (and beyond) there are other areas within the population that are more likely to maintain any local genetics and be a source population for North Dakota. We do not recommend moving this area forward to identify and consider unique management.		

Montana GRSG ACEC Importance Evaluation: Carter Crook GRSG Connectivity Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	Yes	Greater sage-grouse are distributed throughout the western United States. The portion of the distribution in Montana, Wyoming, North Dakota, South Dakota, Alberta, and Saskatchewan are designated as Management Zone I (Stiver et al. 2006). Management zones are delineations of greater sage-grouse populations and subpopulations within floristic zones with similar management issues. Within Management Zone I Montana, Wyoming, North Dakota, and South Dakota have designated core areas, and in 2015 BLM designated Priority, General, and Restoration Habitats. Since the 2015 BLM plans, new science addressing GRSG density and habitats has provided additional information about the locations of areas that may contain special worth, consequence, or distinctiveness. A portion of the area contains high relative abundance (Doherty et al. 2016), a factor considered important to greater sage-grouse conservation. However these higher density areas in the Carter-Crook area are similar to other areas dispersed throughout the region and are not significantly unique to this unit. Greater sage-grouse habitat in the Carter-Crook area is owned by a number of different entities and habitat on BLM-administered lands is not distinct from habitat managed by other ownerships. While a limited portion of the Carter-Crook boundary contains high relative abundance (Doherty et al. 2016), the area has evidence it is a consequential genetic connection. Chiefly, it encompasses a keystone genetic node (Cross et al. 2018), and a potential corridor where genetic connections between the northern and southern portions of management Zone 1 are constricted (Row et al 2018, Cross et al. 2023). This area of genetic connectivity may provide the most likely link between GRSG in Montana-Dakotas and Wyoming.
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	Yes	The area is not particularly fragile or sensitive to change as compared to other sites in the Montana-Dakotas region. However, due to the key genetic node (Cross et al 2018), and constricted habitat, this area is the primary connectivity link between populations in northern portions of MZ1 with populations throughout the rest of the species' range. As such, loss of this area could isolate populations in the NE from populations in the rest of the range, which could have relatively dramatic impacts on populations in MT and the Dakotas. Ongoing disturbance in isolated portions nearby (see boundary discussion below) the area are high, primarily in a unitized oil and gas field in Wyoming and on Bentonite producing areas in Montana. Much of the area is core sagebrush as identified in Doherty (2022) Sagebrush Conservation Design with proportionally large core relative to other areas in the region. Similarly, the MT GRSG Conservation Program's Habitat Quantification Tool identifies much of the area in Montana as higher habitat value, with only a small portion providing low modeled habitat quality values due to development.

Montana GRSG ACEC Importance Evaluation: Carter Crook GRSG Connectivity Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	Yes	The BLM 2015, 2019, and current initiatives to conserve, enhance, and restore greater sage-grouse habitat is the result of the March 2010, US Fish and Wildlife Service (USFWS) 12 Month Finding for Petitions to List the Greater Sage-grouse (Centrocercus urophasianus) as Threatened or Endangered. In that finding, the USFWS concluded that greater sage grouse was "warranted, but precluded" for listing as a threatened or endangered species. However, in the 2015 listing decision, the USFWS concluded in part that existing regulatory mechanisms, (i.e., "specific direction regarding sage grouse habitat, conservation, or management") in the BLM's Land Use Plans, were adequate to protect the species, therefore, areas that meet national priority concerns or specific FLPMA mandates require multiple lines of evidence supporting more than local priorities and conservation value. The proposed Carter-Crook ACEC includes multiple lines of evidence, identifying the area as highly valuable GRSG habitat, especially for genetic connectivity. Therefore, this area likely provides a key connection between GRSG populations in multiple states. In addition, conserving habitat connectivity is a national priority for managing bureau sensitive status species (Manual 6840 and IM 2023-005).
Other Items		
Boundaries	The boundary for this ACEC began by considering the HQ proposal. To better reflect local information and concentrate on where the most likely, high-value, GRSG corridor falls, the boundaries were adjusted. In Montana this focused on removing active areas of bentonite development and adjusting the boundary to the north to capture key GRSG leks that would "supply" birds that would migrate through the corridor to Wyoming leks. In addition, the ID Team considered GRSG relative density models, the MT HCP Habitat Quantification Tool, Sagebrush Conservation Design Core Areas, and other models along with on-the-ground experiences and conditions. Adjustments to the WY portion of the ACEC included analysis of cheatgrass and other habitat conditions (wee Wyoming analysis). To avoid inconsistencies across jurisdictional boundaries, the MT-Dak and WY BLM State Offices met to edge map the revised boundaries produced by each state in cooperation with Cooperating Agencies and Field Offices. The ACEC boundary reflects an area focused on the area with the highest likelihood of facilitating long-distance (e.g., lek moving) GRSG dispersal and the and high-quality sagebrush habitat supporting leks in the area of the corridor.	
Additional Notes	Part of this original area is identified in an area that is one of the larger bentonite producing areas in the US. There are active claims, proposed additional projects, and a large amount of existing proven claims.	
Conclusion		
Due to meeting R&I this area, with a revised boundary from original proposal, should move forward to be considered as a potential ACEC in at least one alternative. This will allow an analysis to consider if special management is needed to preserve the qualities of the area (i.e., beyond PHMA management actions).		

Montana GRSG ACEC Importance Evaluation: South Valley Phillips GRSG Habitat Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	Yes	Greater sage-grouse are distributed throughout the western United States. The portion of the distribution in Montana, Wyoming, North Dakota, South Dakota, Alberta, and Saskatchewan are designated as Management Zone I (Stiver et al. 2006). Management zones are delineations of greater sage-grouse populations and subpopulations within floristic zones with similar management issues. Within Management Zone I Montana, Wyoming, North Dakota, and South Dakota have designated core areas, and in 2015 BLM designated Priority, General, and Restoration Habitats. Since the 2015 BLM plans, new science addressing GRSG density and habitats has provided additional information about the locations areas that may contain special worth, consequence, or distinctiveness. Higher density areas and genetic connectivity are considered important to greater sage-grouse conservation, and small areas or lek clusters with limited connectivity are dispersed throughout the region. However, the greater sage-grouse habitat in the South-Valley Phillips area is owned predominantly by BLM and the state of Montana. The majority of the area contains high relative abundance, representing the largest high-density area in Management Zone I (Doherty et al. 2016). There are well connected genetic nodes (Cross et al. 2018) within the area, and to surrounding areas.
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	Yes	The area is not particularly fragile or sensitive to change as compared to other sites in the Montana-Dakotas region. Ongoing disturbance in the area is limited to a few Bentonite mined area. The area is mostly core sagebrush as identified in Doherty (2022) Sagebrush Conservation Design with proportionally large core relative to other areas in the region. Similarly, the MT GRSG Conservation Program's Habitat Quantification Tool identifies much of the area as higher habitat value. Furthermore, this area contains the wintering area for a unique GRSG population that exhibits long distance migration in the spring and fall (Newton et al. 2017, Tack et al. 2019)

Montana GRSG ACEC Importance Evaluation: South Valley Phillips GRSG Habitat Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	Yes	The BLM 2015, 2019, and current initiatives to conserve, enhance, and restore greater sage-grouse habitat is the result of the March 2010, US Fish and Wildlife Service (USFWS) 12 Month Finding for Petitions to List the Greater Sage-grouse (Centrocercus urophasianus) as Threatened or Endangered. In that finding, the USFWS concluded that greater sage grouse was "warranted, but precluded" for listing as a threatened or endangered species. However, in the 2015 listing decision, the USFWS concluded in part that existing regulatory mechanisms, (i.e., "specific direction regarding sage grouse habitat, conservation, or management") in the BLM's Land Use Plans, were adequate to protect the species. With multiple lines of evidence, including land ownership, highly valuable GRSG habitat characteristics from multiple science based models, and supporting on-the-ground conditions and evidence, this area may provide habitat key to meeting national GRSG conservation goals.
Other Items		
Boundaries	The boundary for this ACEC began by considering the SFA in the area from the 2015 GRSG Planning Effort. To better reflect new information and GRSG habitat with the highest conservation value, the boundaries were adjusted. For example, isolated BLM parcels that fall in predominantly agricultural areas and lower value GRSG habitat were removed (e.g., areas south of the Missouri River). In addition, the ID Team considered GRSG relative density models, the MT HCP Habitat Quantification Tool, Sagebrush Conservation Design Core Areas, and other models along with on-the-ground experiences and conditions. Finally, a portion of this area is already designated as the Mountain Plover ACEC. To avoid duplicative, conflicting, or overlapping management, this existing ACEC was removed from the boundary. The ACEC boundary reflects an area focused on the highest density of GRSG, contiguous BLM lands, and high-quality sagebrush habitat.	
Additional Notes	None.	
Conclusion		
Due to meeting R&I this area should move forward to be considered as a potential ACEC in at least one alternative. This will allow an analysis to consider if special management is needed to preserve the qualities of the area (i.e., beyond PHMA management actions).		

Nevada/California

NV-BLM received areas proposed for ACEC designation through the rangewide preliminary evaluation and from the Nevada Department of Wildlife. The draft polygons were reviewed and refined in coordination with preliminary input from federal, state, and county Cooperating Agencies. This initial review was conducted with the stated objective to the cooperating agencies of erring on the side of being inclusive, as opposed to removing areas, prior to public review of the DEIS. The BLM will update the ACEC evaluations, including potentially revising potential ACEC boundaries, based on input from the Cooperating Agencies, public, and other new information (e.g., Coates et al., 2024 – in review) and incorporating the updated areas in the Final EIS. The relevance and importance determinations were informed by combined evaluation of both State- and Regional-level information/priority to identify ACEC spatial extent.

The following datasets were used to help delineate the draft ACECs.

- Local scale data: Draft NV/CA Habitat Management Area Map (USGS in preparation) – GRSG habitat mapping in Nevada and northeastern California: updates to abundance and space use indices and an example of combining space use, habitat selection, and survival to help inform habitat management areas
- Regional scale data: Recently published regional GRSG data (BBD, Lek Persistence, Priority Genetic Pathways, genetic nodes, R&R, probability of breeding habitat, TAWS) was used to inform regional importance.

Nevada GRSG ACEC Evaluation: Importance Criteria

Identifier	Geographic Reference	Importance	Recommendation
1	Warm Springs	Greater than 60% core habitat, remainder is growth; low to medium Resistance and Resilience; ~50% of area in 50% to 25% BBD; 1 neighborhood cluster with declining population (<0.95) and active pop warning; About 90% PHMA with some PHMA+; High to Medium lek persistence; Includes Warm Springs LWC; Partially includes and adjoins East Fork High Rock Canyon Wilderness; adjoins North Black Rock Range Wilderness; Low genetic connectivity; no nodes.	Recommended for inclusion in draft EIS as a potential ACEC. Solid habitat that includes LWC and Wilderness. Population center but warning triggered for NC and population is in decline.
2	Montana Mountains	Strong representation of the 25% BBD in NV; Connects with OR population; High lek persistence; intersects three neighborhood clusters, primary neighborhood cluster shows population growth (lambda > 1.03), adjacent NCs nearly stable to declining (lambda = 0.99-0.95); Low R&R; mostly Growth area for sagebrush; about 10% of area includes Disaster Peak WSA.	Recommended for inclusion in draft EIS as a potential ACEC. Source population likely supporting connection between OR/NV and ID/NV populations. Includes Disaster Peak WSA.
3	Owyhee West	Supports two separate population centers; provides regionally important genetic connectivity with eastern NV and ID to OR populations; Several genetic nodes including a Keystone node; Large area of contiguous BLM administered lands; includes North Fork Little Humboldt River and Little Humboldt River WSA; High value area for LCT	Recommended for inclusion in draft EIS as a potential ACEC. Regionally important genetic connectivity, includes two WSA, and provides important LCT habitat.

Nevada GRSG ACEC Evaluation: Importance Criteria			
Identifier	**Geographic Reference**	**Importance**	**Recommendation**
4	Owyhee East	Concentration of active leks and high lek persistence; near stable to growing population trend; provides regionally important genetic connectivity between ID and northeast NV to the remainder of NV populations; five genetic nodes; ~ 40% of the area is Core sagebrush and ~ 50% sagebrush Growth; Medium R&R	Recommended for inclusion in draft EIS as a potential ACEC. Regionally important genetic connectivity, supports population centers and large tract of Core sagebrush.
5	North Fork Oneil	Adjoins ID proposed ACEC; provides regionally important genetic connectivity between ID and NV; population center with stable to growing trend; large area of contiguous BLM administered lands that is mostly Core and Growth sagebrush, PHMA and PHMA +; Medium R&R; includes Bad Lands WSA; Bisected by Proposed Designated Utility Corridor (possibly split ACEC into two separated by corridor).	Recommended for inclusion in draft EIS as a potential ACEC.
6	South Fork Dixie Flats	Stepping-stone population between northern and southern NV; medium to high regional genetic connectivity; comprised of 25% and 50% BBD; high to medium lek persistence; about 40% of area in checkerboard private ownership or BLM administration; important high elevation brood rearing habitat (PHMA+); population declining (lambda = 0.97-0.99) but no warnings; L-M R&R; adjacent to Cedar Ridge and Red Spring WSA; proposed designated corridor bisects northeast corner.	Recommended for inclusion in draft EIS as a potential ACEC.
7	Butte Long Valley	Provides regionally important genetic connectivity between northern and southeastern NV; adjacent to a keystone lek; supports three population centers; supports 5 NCs – 1 with increasing population trend and remaining 4 declining; H-M lek persistence; proposed designated utility corridor bisects southeastern quarter; adjacent to Goshute Canyon and Bristlecone Wilderness.	Recommended for inclusion in draft EIS as a potential ACEC.
8	Little Butte Long Valley	Includes keystone genetic node; medium genetic connectivity; mostly 75% BBD; bisected by Hwy 93; 75% of area in proposed designated utility corridor.	Recommended for inclusion in draft EIS as a potential ACEC.
9	Eureka North and South	High genetic connectivity between northern and southern NV; high elevation brood-rearing habitat; ~30% of northern area in PHMA+; 6 miles east of genetic node that is both a keystone and hub; northern area bisected by large proposed designated corridor and HWY 50 runs between north and south; supports three population centers across the entire area.	Recommended for inclusion in draft EIS as a potential ACEC.

Nevada GRSG ACEC Evaluation: Importance Criteria			
Identifier	**Geographic Reference**	**Importance**	**Recommendation**
10	Grass-Kobeh Valley	Regionally important genetic connectivity between north and central NV; 4 genetic nodes; supports three 25% population centers and four 50% population centers; about 20% of area is PHMA+; H-M lek persistence; includes 5 NCs – 2 NCs have positive growth trend, remaining in decline; 2 NCs (about 15% of area) with active warnings; bounded on three sides by HWYs 395 (western side), 50 (south side), and 278 (eastern side); eastern side includes large proposed designated energy corridor; includes Simpson Park and Roberts Mountain WSA.	Recommended for inclusion in draft EIS as a potential ACEC.
11	Monitor Valley	Supports three population centers (25-50% BBD) that are important to the southern portion of range in NV; provides genetic connectivity to central and northern NV; includes two genetic nodes; primarily core and growth sagebrush and PHMA; bordered by and supporting USFS GRSG populations/habitat; bisected by proposed designated utility corridor.	Recommended for inclusion in draft EIS as a potential ACEC.
12	Reese River	Supports two population centers (25-50% BBD) that are important to the southern portion of range in NV; provides genetic connectivity to central and northern NV; includes two genetic nodes; primarily core and growth sagebrush and PHMA; bordered by and supporting USFS GRSG populations/habitat.	Recommended for inclusion in draft EIS as a potential ACEC.
13	Hayes Canyon	Stepping-stone population connecting the northern portion of MZ V (OR & NV) to the southern portion (CA); about 70% of area in 25%-50% BBD; one NC that is declining and has tripped an active warning; most of area is PHMA with about 25% of total area being PHMA+; primarily Growth with some Core sagebrush; M-H lek persistence; M-L R&R; bisected by proposed designated corridor (that includes an existing transmission line)	Recommended for inclusion in draft EIS as a potential ACEC.
14-17	4 ID or UT border	Provides continuity of habitat and population connectivity with neighboring states that have proposed ACEC areas.	Recommended for inclusion in draft EIS as a potential ACEC
N/A	Vya/Massacre	See description in the "California GRSG ACEC Evaluation: Importance Criteria" below.	Recommended for inclusion in draft EIS as a potential ACEC

California GRSG ACEC Importance Evaluation: Buffalo Skedaddle Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	Yes	BLM CA included designated GRSG Priority, General, and Other Habitat Management Areas in the 2015 GRSG Plan Amendment. In 2022, updates to the GRSG Habitat Management Areas were initiated based on the best available science. These updates identified Priority Plus areas. Priority Plus are areas that are most productive to GRSG populations within Priority Habitat Management Areas (PHMA). PHMA plus includes modeled population performance, specifically survival of nests and broods and is informed by selection models and areas of increased survival. PHMA plus are considered "source" habitats. In addition to PHMA plus, other new science has emerged since the 2015 plans related to GRSG density, habitats, population trends, and genetic exchange among populations which has provided information on areas that may contain special worth, consequence, or distinctiveness within CA BLM managed lands.
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	Yes	The area is not particularly fragile or sensitive to change as compared to other areas on CA BLM managed lands. However, the area has been undergoing intensive restoration efforts due to the Rush Fire over 10 years ago. In addition, this area is on the western fringe of GRSG populations in California with documented genetic exchange with populations in Nevada.
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	Yes	The March 2010, US Fish and Wildlife Service (USFWS) 12 Month Finding for Petitions to List the Greater Sage-grouse as Threatened or Endangered concluded that GRSG was "warranted, but precluded" for listing as a threatened or endangered species. However, in the 2015 listing decision, the USFWS concluded in part that existing regulatory mechanisms, (i.e., "specific direction regarding sage grouse habitat, conservation, or management") in the BLM's Land Use Plans, were adequate to protect the species, therefore, areas that meet national priority concerns or specific FLPMA mandates require multiple lines of evidence supporting more than local priorities and conservation value. The proposed Buffalo Skedaddle ACEC identifies the area as highly valuable for GRSG habitat and population persistence in northeastern California.

Other Items	
Boundaries	The boundary for this ACEC was initially delineated using the Population Management Unit (PMU) for the Buffalo Skedaddle PMU. The boundary was then refined to focus on the revised GRSG Habitat Management Area delineations, areas that have been successful in habitat restoration efforts since the Rush Fire and genetic exchange between CA and NV GRSG populations based on new science.
Additional Notes	—

Conclusion

Due to meeting the Relevance and Importance criteria, this area should be considered a potential ACEC in at least one alternative. This will allow an analysis to consider if special management is needed to preserve the qualities of the area (i.e., above Management Decisions for PHMA).

California GRSG ACEC Importance Evaluation:
Vya/Massacre GRSG Proposed ACEC

Importance Consideration	Yes/No	Rationale for Determination
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	Yes	BLM CA and NV included designated GRSG Priority, General, and Other Habitat Management Areas in the 2015 GRSG Plan Amendment. In 2022, updates to the GRSG Habitat Management Areas were initiated based on the best available science. These updates identified Priority Plus areas. Priority Plus are areas that are most productive to GRSG populations within Priority Habitat Management Areas (PHMA). PHMA plus includes modeled population performance, specifically survival of nests and broods and are informed by selection models and areas of increased survival. PHMA plus are considered "source" habitats. In addition to PHMA plus, other new science has emerged since the 2015 plans related to GRSG density, habitats, population trends, and genetic exchange among populations which has provided information on areas that may contain special worth, consequence, or distinctiveness within CA BLM managed lands.
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	Yes	The area is not particularly fragile or sensitive to change as compared to other areas on CA BLM managed lands. However, Bitner Ranch provides key brood-rearing habitat to GRSG in CA and connectivity between populations in NV, including the Sheldon Hart Refuge.

California GRSG ACEC Importance Evaluation: Vya/Massacre GRSG Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	Yes	The March 2010, US Fish and Wildlife Service (USFWS) 12 Month Finding for Petitions to List the Greater Sage-grouse as Threatened or Endangered concluded that GRSG was "warranted, but precluded" for listing as a threatened or endangered species. However, in the 2015 listing decision, the USFWS concluded in part that existing regulatory mechanisms, (i.e., "specific direction regarding sage grouse habitat, conservation, or management") in the BLM's Land Use Plans, were adequate to protect the species, therefore, areas that meet national priority concerns or specific FLPMA mandates require multiple lines of evidence supporting more than local priorities and conservation value. The proposed Vya-Massacre ACEC includes multiple lines of evidence, identifying the area as highly valuable GRSG habitat providing key brood-rearing habitat and connectivity among multiple states. In addition, conserving habitat connectivity is a national priority for managing bureau sensitive status species (Manual 6840 and IM 2023-005).
Other Items		
Boundaries	The boundary for this ACEC was initially delineated combining the Population Management Units (PMU) for Vya and Massacre PMUs. The boundaries were then refined to focus on the revised GRSG Habitat Area delineations, key brood-rearing habitat and additional new science.	
Additional Notes	—	
Conclusion		
Due to meeting the Relevance and Importance criteria, this area should be considered a potential ACEC in at least one alternative. This will allow an analysis to consider if special management is needed to preserve the qualities of the area (i.e., above Management Decisions for PHMA).		

Oregon

Similar to Idaho, the BLM's evaluation of rangewide datasets did not result in the identification of any areas that raised to more than local significance outside the 2015 SFAs. In addition, Oregon is unique compared to the other states in that there are several existing ACECs and Research Natural Areas (RNA – which is a type of ACEC) that were already designated inside the 2013 PACs and 2015 SFAs. These areas were designated as part of the RMP development that pre-dated the 2015 or 2019 GRSG amendment efforts. The following 2 ACECs and 5 RNAs are located in PHMA where the relevant and important values that were identified in the RMP designation included GRSG and GRSG plant communities:

- High Lakes ACEC,
- Red Knoll ACEC,
- Lake Ridge RNA,
- North Ridge Bully Creek RNA,
- Rahilly-Gravelly RNA,
- South Ridge Bully Creek RNA, and
- Toppin Creek Butte RNA.

These existing designations are not being considered for amendment in this process.

Beyond the existing ACECs and RNAs, the BLM Oregon state office (OSO) staff examined the remainder of the SFA areas. Smaller areas within the SFAs were identified for further/closer examination, which the majority of the SFAs were determined to not contain multiple lines of evidence supporting a conclusion that the habitat was of more than local significance. The BLM state and district staff coordinated with Oregon Division of Fish and Wildlife staff to identify characteristics that may meet the importance criteria. New genetic information and lek density clusters were important considerations in the evaluation.

Oregon GRSG ACEC Importance Evaluation: Soldier Creek Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	No	Greater sage-grouse are distributed throughout appropriate habitat in the western United States. This portion of the distribution located in Oregon (and Idaho) is designated as Management Zone IV (Stiver et al. 2006). Management zones are delineations of greater sage-grouse populations and subpopulations within floristic zones. Within Management Zone IV, Oregon has designated core areas, and in 2015 BLM designated Priority and General Habitat Management Areas. Since the 2015 BLM plans, new science addressing GRSG genetics, density, and habitats has provided additional information about areas that may contain special worth, consequence, or distinctiveness. OSO staff examined the genetic pathways data and connectivity (i.e., >80% cumulative connectivity) with GRSG priority areas for conservation in Idaho and that overlap with the very high lek density areas. In the Soldier Creek area south of Jordan Valley/Hwy 95, the Ecostate GIS shows fairly intact habitat and there are multiple areas of overlapping lek density. It's approximately 15 miles to a >95% genetic cumulative connectivity pathway in Idaho. The Soldier Creek area is mostly in the 80 to 85% cumulative connectivity genetic pathway range (Cross et al., 2023) and is similar to cumulative connectivity of the surrounding area (e.g. Cow Lakes) in Oregon. While high density lek/population areas and genetic connectivity are considered important to greater sage-grouse conservation, the connectivity areas are dispersed throughout Oregon and are not substantially unique to one specific region or planning unit. Greater sage-grouse habitat in the Soldier Creek area is not substantially distinct from habitat managed by other nearby BLM lands that have similar cumulative genetic connectivity values. Although a portion of the area contains medium relative abundance (Doherty et al. 2016), the size of the area is smaller than and not substantially distinct compared to other areas in Management Zone IV (e.g. Cow Lakes). There is a much larger, higher relative lek abundance area south and east (in Idaho) of the Soldier Creek area. See background notes and maps below.

Oregon GRSG ACEC Importance Evaluation: Soldier Creek Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	No	The area is not particularly fragile or sensitive to change when compared to other similar sites in the Oregon-Idaho region. The habitat is not rare, irreplaceable, exemplary, or unique. The area is vulnerable to adverse change, particularly wildfire and invasive annual grasses, but not more so than the surrounding habitat. The habitat is neither threatened or endangered. Cumulative connectivity pathways mapped in the Soldier Creek potential ACEC are thresholded below 85%, indicating low impedances to sage-grouse movements (Cross et al., 2023). Higher connectivity pathways are mapped >10 miles east of the Oregon border. The area does not contain key or clusters of genetic nodes,.
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	No	The BLM 2015, 2019, and current initiatives to conserve, enhance, and restore greater sage-grouse habitat is the result of the March 2010, US Fish and Wildlife Service (USFWS) 12 Month Finding for Petitions to List the Greater Sage-grouse (Centrocercus urophasianus) as Threatened or Endangered. In that 2010 finding, the USFWS concluded that greater sage grouse was "warranted, but precluded" for listing as a threatened or endangered species. However, in the 2015 listing decision, the USFWS concluded in part that existing regulatory mechanisms, (i.e., "specific direction regarding sage grouse habitat, conservation, or management") in the BLM's Land Use Plans, were adequate to protect the species. Without multiple lines of evidence, including reasonably foreseeable development, valid existing rights, land ownership, and crucial GRSG habitat characteristics from multiple science-based models, on-the-ground conditions/evidence for this area does not currently need protection requirements beyond the standard approaches to implemented FLPMA and national priorities. In addition, the area currently has Priority Habitat Management Area designation and management under the 2015 ARMPA. Habitat loss and degradation due to wildfires and invasive annual grasses are primary threats to sage-grouse in this area. Significant amounts of high quality habitat in Oregon and Idaho has burned near this area.
Other Items		
Boundaries	Nomination boundaries have been provided to the NOC (see also notes below).	
Additional Notes	We reviewed and then ruled out the Cow Lakes PAC area due to the high proportion of private lands mixed in with BLM lands, low amount of suitable habitat, and degraded seasonal habitat, as shown in the 2019-2021 Ecostate spatial data provided by SageCon/INR and reported in the Cow Lakes Habitat Assessment Framework Summary.	
Conclusion		
This potential ACEC provides important lekking, nesting, and early brood-rearing habitat for a high abundance of sage-grouse. However, the habitat, density of birds, and connectivity to sage-grouse priority habitat is not unique. Multiple pathways of potential gene flow connecting sage-grouse priority areas for conservation in southeast Oregon and southwest Idaho coalesce approximately 10 miles east of the Oregon border to form the high concentration gene flow pathway depicted in Cross et al. (2023 figure 4). Cumulative connectivity pathways		

Conclusion
coalesce here due to cultivation and tree cover impeding sage-grouse movements (Cross et al 2013 figure 7b). These impendences decrease approaching the Oregon state border, and once inside Oregon, the cumulative connectivity pathways are more diffuse and non-distinct. In other words, the proposed ACEC does not appear to be vital to maintenance of range-wide connectivity. Moreover, the habitat is not unique, rare, irreplaceable, or exemplary. There are many areas of similar sage-grouse habitat in SE Oregon with similar genetic pathways depicted in Cross et al. 2023 intersecting areas of high lek density. BLM is actively managing juniper encroachment and other threats to GRSG in Oregon (e.g., fire, and invasive annual grasses). Thus, the Soldier Creek potential ACEC does not meet the criteria for special worth or importance with more than locally significant qualities of consequence, meaning, distinctiveness, or cause for concern due to its similarity, proximity, and connectedness with similar habitat, lek density areas, and modeled genetic pathways. References Cross TB, Schwartz MK, Naugle DE, Fedy BC, Row JR, Oyler-McCance SJ. 2018 The genetic network of greater sage-grouse: range-wide identification of keystone hubs of connectivity. Ecol. Evol. 8, 5394–5412. Cross TB, Tack JD, Naugle DE, Schwartz MK, Doherty KE, Oyler-McCance SJ, Pritchert RD, Fedy BC. 2023 The ties that bind the sagebrush biome: integrating genetic connectivity into range-wide conservation of greater sage-grouse. R. Soc. Open Sci. 10:220437.

Oregon GRSG ACEC Importance Evaluation: Upper West Little Owyhee Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	No	Greater sage-grouse are distributed throughout the western United States. This portion of the distribution located in Oregon (and Idaho) is designated as Management Zone IV (Stiver et al. 2006). Management zones are delineations of greater sage-grouse populations and subpopulations within floristic zones with similar management issues. Within Management Zone IV, Oregon has designated core areas, and in 2015 BLM designated Priority and General Habitat Management Areas. Since the 2015 BLM plans, new science addressing GRSG genetics, density, and habitats has provided additional information about the locations that may contain special worth, consequence, or distinctiveness. OSO staff examined the genetic pathways data and connectivity (i.e., >80% cumulative connectivity) with GRSG populations in Nevada and that overlap with the high lek density areas. Greater sage-grouse habitat in the Upper West Little Owyhee area is not substantially distinct from habitat managed by other nearby BLM lands that have similar cumulative connectivity pathway values (Cross et al. 2013). Although a portion of the area contains medium relative abundance (Doherty et al. 2016), the area is not substantially distinct compared to other areas in Management Zone IV and does not show strong nodes/networks to other areas (Cross 2018). In addition, the area shows a "very low" relative abundance (Doherty 2015, T25) breeding population index. While higher density areas and genetic connectivity are considered important to greater sage-grouse conservation, the areas are dispersed throughout the region and are not significantly unique to a specific region or planning unit; not to this potential ACEC nomination area.
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	No	The area is no more fragile or sensitive to change than other sites in southeast Oregon. The area does not contain a key genetic node nor strong networks (Cross et al 2018). Similarly the area does not show substantially important cumulative connectivity pathways to other PHMA areas in Oregon and Nevada. The area is similar to much of the intact GRSG habitat in the area and has the same vulnerability to change as the surrounding area. The habitat is not irreplaceable, exemplary, unique, rare, endangered, threatened, nor vulnerable to adverse change when compared to other intact GRSG habitat in southeast Oregon.

Oregon GRSG ACEC Importance Evaluation: Upper West Little Owyhee Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	No	The BLM 2015, 2019, and current initiatives to conserve, enhance, and restore greater sage-grouse habitat is the result of the March 2010, US Fish and Wildlife Service (USFWS) 12 Month Finding for Petitions to List the Greater Sage-grouse (Centrocercus urophasianus) as Threatened or Endangered. In that 2010 finding, the USFWS concluded that greater sage grouse was "warranted, but precluded" for listing as a threatened or endangered species. However, in the 2015 listing decision, the USFWS concluded in part that existing regulatory mechanisms, (i.e., "specific direction regarding sage grouse habitat, conservation, or management") in the BLM's Land Use Plans, were adequate to protect the species. Without multiple lines of evidence, including reasonably foreseeable development, valid existing rights, land ownership, and crucial GRSG habitat characteristics from multiple science based models, on-the-ground conditions/evidence this area has not been identified for protection to implement FLPMA and national priorities.
Other Items		
Boundaries	Contiguous with a Nevada potential ACEC. An area of genetic connectivity to the north is disconnected from the Upper West Little Owyhee potential ACEC by lower quality habitat and that the southern area, contiguous with Nevada to the south, had more connectivity, although threshold cumulative values are moderate.	
Additional Notes	—	
Conclusion		
This potential ACEC provides important lekking, nesting, and early brood-rearing habitat for a high abundance of GRSG. However, the habitat, bird density, and connectivity to GRSG priority areas of conservation are not unique in Oregon. The thresholded cumulative connectivity pathways in the potential ACEC are between 75 and 80 percent (Cross et al. 2013). GRSG movements are not impeded by tree cover or cultivation within the potential ACEC and in the surrounding landscape. There are no distinctive cumulative connectivity pathways intersecting areas of high lek density in this area. In other words, the proposed ACEC does not appear to be vital to maintenance of range-wide connectivity. Thus, the Upper West Little Owyhee potential ACEC does not meet the criteria for special worth or importance with more than locally significant qualities of consequence, meaning, distinctiveness, or cause for concern due to its similarity, proximity, and connectedness with similar habitat, lek density areas, and genetic considerations. References Cross TB, Schwartz MK, Naugle DE, Fedy BC, Row JR, Oyler-McCance SJ. 2018 The genetic network of greater sage-grouse: range-wide identification of keystone hubs of connectivity. Ecol. Evol. 8, 5394–5412. Cross TB, Tack JD, Naugle DE, Schwartz MK, Doherty KE, Oyler-McCance SJ, Pritchert RD, Fedy BC. 2023 The ties that bind the sagebrush biome: integrating genetic connectivity into range-wide conservation of greater sage-grouse. R. Soc. Open Sci. 10:220437.		

Utah

The 2015 GRSG ARMPA designated two SFAs in northern Utah, one on the eastern side of the state in Rich County bordering Wyoming and one of the western side of the state in Box Elder County, bordering with Nevada. Both those areas were evaluated by the Utah State office. In addition, the rangewide evaluation identified Parker Mountain as an area with characteristics that could result in meeting the importance criteria.

The Rich County area provides habitat for GRSG, a BLM sensitive species, and the area has also been identified as Sage-Grouse Management Area (SGMA) in the State of Utah's state plan. The Rich population area is one of the strongholds for GRSG populations in Utah and is one of the largest populations in Utah connecting with larger populations in Idaho and Wyoming. The area also meets the criterion for a natural system or process because of the sagebrush habitat condition in the area. The majority of intact sagebrush habitat is within a core area (Doherty et al. 2022). The Rich population area includes some of the largest core sagebrush habitat in Utah, which is why this area was identified as a focal landscape area.

The area in Box Elder County has also been identified as an SGMA by the State of Utah. The Box Elder population area is one of the largest of the GRSG populations in Utah connecting with larger populations in Idaho and Nevada. It is part of the Northern Great Basin sub-population (Utah, Idaho, and Nevada).

The Parker Mountain area is in Central Utah, and provides one of the strongholds for GRSG populations in Utah and is one of the largest populations in the Great Basin. The area has also been identified as a SGMA by the State of Utah. The majority of the area is intact sagebrush habitat within a core area (USGS SEI) with minimal development.

Utah GRSG ACEC Importance Evaluation: Rich GRSG Habitat Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	Yes	Since the 2015 GRSG ARMPA, new science addressing GRSG density and habitats has provided additional information about the locations areas that may contain special worth, consequence, or distinctiveness. The area is not particularly fragile or sensitive to change as compared to other sites in the State of Utah. It consists of a largely intact contiguous mid to high elevation sagebrush habitat with large mesic meadow complexes. The area is largely undeveloped and threats from development are low. Oil and gas development is low, as well as other minor infrastructure for roads, pipelines, and transmission lines. Primary land uses are livestock grazing, agriculture, and recreation. Mechanical sagebrush treatments that have occurred to promote livestock grazing have reduced the quantity of winter sagebrush habitat. The area is mostly core and growth opportunity areas within the sagebrush (Doherty 2022) Sagebrush Conservation Design with a significantly large core relative to other areas in the state. Much of the core habitat including diverse mesic habitat occurs on private lands with a mix of BLM jurisdiction. Similarly, the USU seasonal habitat model identifies much of the area as summer, winter, and nesting habitat. There are two key genetic nodes and other nodes (Cross et al. 2018), and the area covers an area where genetic connections exist between the northern (into Idaho) and western (into Wyoming) portions of management Zone II (Stiver et al 2006). There is a key genetic node to the south of the Rich population area in Morgan-Summit; however, no detailed telemetry studies are available in the Morgan-Summit area to understand sage-grouse movements and connectivity in this area. Climate change models (Palmquist 2021) show that the Rich population area has the highest value for retention of sagebrush biomass.
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	Yes	The Upper Bear River Watershed has been identified as a focal landscape area in Utah with a goal of improving the ecological health in the region. Bear Lake and the Bear River are large contributors to the Great Salt Lake. The area is largely undeveloped and threats from development are low, including oil and gas. The area is mostly core sagebrush (Doherty 2022) with a proportionally large core relative to other areas in the state. Much of the core habitat occurs on private lands and BLM jurisdiction within the core is fairly limited to the periphery. Similarly, the USU seasonal habitat model identifies much of the area as summer, winter, and nesting habitat. Climate change models (Palmquist 2021) show that the Rich population area has the highest value for retention of sagebrush biomass.

Utah GRSG ACEC Importance Evaluation: Rich GRSG Habitat Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	Yes	The Upper Bear River Watershed has been identified as a focal landscape area in Utah with a goal of improving the ecological health in the region. Bear Lake and the Bear River are large contributors to the Great Salt Lake. The BLM 2015, 2019, and current land use planning initiatives to conserve, enhance, and restore GRSG habitat is the result of the March 2010, US Fish and Wildlife Service (USFWS) 12 Month Finding for Petitions to List the Greater Sage-grouse (Centrocercus urophasianus) as Threatened or Endangered. In that finding, the USFWS concluded that GRSG was "warranted, but precluded" for listing as a threatened or endangered species. However, in the 2015 listing decision, the USFWS concluded in part that existing regulatory mechanisms, (i.e., "specific direction regarding sage grouse habitat, conservation, or management") in the BLM's Land Use Plans, were adequate to protect the species. The identification of the Upper Bear River Watershed as a focal landscape area acknowledges at least in part the importance of this area and recognition as a national priority.
Other Items		
Boundaries	Focus boundaries on the core, connectivity, genetic nodes, climate in relation to the BLM jurisdiction. Consider the Dingell Act Exchange and transfer of BLM lands. Also considered the existing Laketown ACEC in the boundary.	
Additional Notes	Connectivity is with the larger subpopulations within Wyoming and Idaho. Since the 2015 GRSG ARMPA Utah BLM's PHMA has not lined up with PHMA in Wyoming as their populations are generally GHMA along the border as these areas are not part of their core. The Sagebrush Focal Area (SFA) boundary in the Rich population area included portions of the relevant and important values; consider the potential for an ACEC to include portions of this area which overlaps with the new science. Boundary adjustments would need to remove large portions of non-habitat on Monte Cristo. Other genetic nodes in checkerboarded land jurisdiction in the southern portion (south of Neponset Reservoir) were excluded from the boundary. This area is highly checkerboarded (BLM/private land jurisdictions) and the majority of the BLM parcels have authorized leases and were part of the Dingell Act Exchange.	
Conclusion		
With boundary adjustments the area meets to criteria to move forward to consider needs for special management as a potential ACEC in at least one alternative in the Draft EIS, focusing boundaries on BLM jurisdiction, core, probability of breeding habitat, and climate sagebrush biomass. Items listed above provide multiple lines of evidence that these areas are more than locally significant to Utah and may provide importance to Management Zone II. Data most influential justifying the consideration as an ACEC and having more than local significance: high density breeding (Doherty et al. 2016); genetic connectivity (Cross et al. 2023); and genetic mixing (i.e., important area for connectivity well beyond the region being considered; Oyler-McCance et al. 2022).		

Utah GRSG ACEC Importance Evaluation: Box Elder GRSG Habitat Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	Yes	Since the 2015 GRSG ARMPA, new science addressing GRSG density and habitats has provided additional information about the locations areas that may contain special worth, consequence, or distinctiveness. The area has experienced a relatively large wildfire since the 2015 ARMPA (Goose Creek Fire, 2018) increasing cheatgrass risk and sagebrush loss within the sagebrush habitat making it somewhat fragile or sensitive to change as compared to other sites in the State of Utah. Fire within management zone IV has been a significant threat in Idaho and Nevada. It boasts a relatively large diverse low elevation salt desert shrub to high elevation mountain sagebrush, mountain mahogany and aspen habitat. The Box Elder Population Area supports the southeastern extent of a larger population that extends beyond state boundaries into Nevada and Idaho and is primarily influenced by fire risk, especially in dry, dense juniper areas or in areas dominated by nonnatives. The area is largely undeveloped and threats from development are low. Oil and gas development is low, as well as other minor infrastructure for rock quarries, roads and transmission lines. Primary land uses are livestock grazing, agriculture, and recreation. The area largely contains core sagebrush with growth opportunity areas as identified in Doherty (2022) Sagebrush Conservation Design. Much of the core habitat occurs on private lands with a mix of BLM jurisdiction. Similarly, the USU seasonal habitat model identifies much of the area as summer, winter, and nesting habitat. There are two key genetic nodes and other minor nodes (Cross et al. 2018), and the area covers an area where genetic connections exist between the northern and western portions of management zone IV connecting to populations to the west in Nevada and north into Idaho. Climate change models (Palmquist 2021) show that the Box Elder population area has the highest value for retention of sagebrush biomass especially in the higher elevations. Box Elder has been a source population for greater sage-grouse translocations within the state and neighboring states. This source population may be attributing to some of the importance that shows up in the genetic connectivity models based on the new science.
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	Yes	The area is largely undeveloped and threats from development are low. Ongoing disturbance in portions of the area are primarily due to livestock grazing infrastructure for wells and pipelines, rock quarries, and railroads. Similarly, the USU seasonal habitat model identifies much of the area as summer, winter, and nesting. Climate change models (Palmquist 2021) show that the population area has the highest value for retention of sagebrush biomass. Area has two key genetic nodes and several others. The key nodes are connected with populations in Idaho and eastern NV, while other nodes are connected with southern UT populations and NE UT.

Utah GRSG ACEC Importance Evaluation: Box Elder GRSG Habitat Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	No	The BLM 2015, 2019, and current land use planning initiatives to conserve, enhance, and restore GRSG habitat is the result of the March 2010, US Fish and Wildlife Service (USFWS) 12 Month Finding for Petitions to List the Greater Sage-grouse (Centrocercus urophasianus) as Threatened or Endangered. In that finding, the USFWS concluded that GRSG was "warranted, but precluded" for listing as a threatened or endangered species. However, in the 2015 listing decision, the USFWS concluded in part that existing regulatory mechanisms, (i.e., "specific direction regarding sage grouse habitat, conservation, or management") in the BLM's Land Use Plans, were adequate to protect the species. Without multiple lines of evidence, including reasonably foreseeable development, valid existing rights, land ownership, crucial GRSG habitat characteristics from multiple science-based models, and on-the-ground conditions provide evidence this area has not been identified as warranting protection beyond the standard approaches to implemented FLPMA and national priorities.
Other Items		
Boundaries	Focus boundaries on the core, connectivity, genetic nodes, climate in relation to the BLM jurisdiction.	
Additional Notes	Connectivity is with the larger subpopulations within Nevada and Idaho. Utah since the 2015 GRSG ARMPA has not lined up with PHMA in Nevada as their populations are generally Other Habitat Management Area (OHMA)/GHMA along the border as these areas are not part of their core. PHMA in Utah lines up fairly well with PHMA in Idaho. The SFA boundary in the Box Elder population area included portions of the relevant and important values; consider the potential for an ACEC to include portions of this area which overlaps with the new science. Boundary adjustments would need to include other relevant/important values based on the new science within BLM jurisdiction.	
Conclusion		
With boundary adjustments the area meets the criteria to move forward to consider needs for special management as a potential ACEC in at least one alternative in the Draft EIS, focusing boundaries on BLM jurisdiction, genetic nodes, core, probability of breeding habitat, and climate sagebrush biomass. Items listed above provide multiple lines of evidence that these areas are important in review of the new science/data sets. From BLM Headquarters' proposed boundary, consider larger tracts of BLM land jurisdiction within the northwestern portion of the PHMA area largely lining up with the 2015 SFA boundaries. Items listed above provide multiple lines of evidence that these areas are more than locally significant to Utah and may provide importance to Management Zone IV. Data most influential justifying the consideration as an ACEC and having more than local significance: high density breeding (Doherty et al. 2016); genetic connectivity (Cross et al. 2023); and genetic mixing (i.e., important area for connectivity well beyond the region being considered; Oyler-McCance et al. 2022).		

Utah GRSG ACEC Importance Evaluation: Parker Mountain Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	No	Since the 2015 GRSG ARMPA, new science addressing GRSG density and habitats has provided additional information about the locations areas that may contain special worth, consequence, or distinctiveness. A portion of the area contains high relative abundance (Doherty et al. 2016), there is a key genetic node (Cross et al. 2018), and the area covers an area where genetic connections between the northern and western portions of management Zone III may be constricted (Row et al 2018, Cross et al. 2023). Based on further coordination and review of the new science, the Parker Mountain Population has been a source population for translocations throughout Utah; therefore, the genetic connectivity may not demonstrate that this population is more than locally significant and that these are natural dispersals. Per conversations with the State of Utah, they have indicated that natural dispersal may be limited based on the nature of the habitat in the area and that the genetic connectivity may be more likely attributed to the translocations.
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	No	The area is not particularly fragile or sensitive to change and threats from land uses/authorizations are low as compared to other sites in the State of Utah, providing opportunity for retention of a relatively large expanse of intact sagebrush habitat. The area is largely undeveloped and threats from development are low. Oil and gas potential is low. Ongoing disturbance in the area is limited to a few minor rights-of-way (i.e., roads and small transmission lines), livestock grazing, and recreation. The area is mostly core sagebrush as identified in Doherty (2022) Sagebrush Conservation Design with a proportionally large core relative to other areas in the state. Much of the core habitat occurs on School and Institutional Trust Lands Administration (SITLA) lands and BLM jurisdiction within the core is fairly limited to the periphery. Similarly, the USU seasonal habitat model identifies much of the area as summer, winter, and nesting habitat. The core has a high probability of lek persistence; however, the majority of occupied leks are on SITLA administered lands. Uncertainty on SITLA administered lands could make the population vulnerable to adverse changes should SITLA management priorities change. Parker Mountain has been a source population for GRSG translocations within the state. This source population may be attributing to some of the importance that shows up in the genetic connectivity models based on the new science. The nature of the habitat in the area may limit natural dispersal to the north and west of the area. This area contains one of the largest populations of GRSG within the southernmost extent of the GRSG range and although it provides importance to those smaller populations that surround it, its importance to the larger overall range of GRSG within Management Zone III is relatively minor and therefore not more than locally significant.

Utah GRSG ACEC Importance Evaluation: Parker Mountain Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	No	The BLM 2015, 2019, and current land use planning initiatives to conserve, enhance, and restore GRSG habitat is the result of the March 2010, US Fish and Wildlife Service (USFWS) 12 Month Finding for Petitions to List the Greater Sage-grouse (Centrocercus urophasianus) as Threatened or Endangered. In that finding, the USFWS concluded that GRSG was "warranted, but precluded" for listing as a threatened or endangered species. However, in the 2015 listing decision, the USFWS concluded in part that existing regulatory mechanisms, (i.e., "specific direction regarding sage grouse habitat, conservation, or management") in the BLM's Land Use Plans, were adequate to protect the species. Without multiple lines of evidence, including reasonably foreseeable development, valid existing rights, land ownership, crucial GRSG habitat characteristics from multiple science-based models, on-the-ground conditions/evidence this area has not been identified for protection beyond those implemented through FLPMA and national priorities.
Other Items		
Boundaries	No proposed changes to boundaries.	
Additional Notes	No maps provided due to no ACEC boundary identified.	
Conclusion		
The area meets relevance criteria but does not meet importance criteria. Items in bold listed above provide some lines of evidence that warranted a closer review of these areas to determine if Parker Mountain may be important and more than locally significant. In our review of the new science/data sets and coordination with the State of Utah, the lack of information particularly with the genetic connectivity suggests this area is not more than locally significant and does not have greater than local importance to the greater sage-grouse population within Management Zone III.		

Wyoming

Wyoming GRSG ACEC Importance Evaluation: Carbon-Moffat GRSG Connectivity Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	No	• The nominated area provides a genetic linkage between GRSG populations in NW CO with populations in central and western portions of the species' range (Cross et al. 2023). • However, models of potential movement among PHMA throughout the range of GRSG suggest additional movement pathways from CO populations in this region to population strongholds in WY (Crist et al. 2017; Oyler-McCance et al. 2022; Cross et al. 2023). • The nominated area contains several genetic nodes (i.e., leks most important to the overall genetic connectivity of GRSG populations across their range; Fig. 6; Cross et al. 2018 and 2023). • GRSG population density is high in much of the nominated area with portions of the nominated area modeled as having the highest densities of breeding GRSG in WAFWA MZ 2; MZ 2 has the highest proportion of breeding GRSG in the range of the species (Doherty et al. 2016). • Lek densities are higher in this area than most other areas in WY, although many of the documented leks are currently unoccupied (as defined by the WGFD; Whitford and Bish 2022), especially those more closely associated with energy development. The data most likely to suggest the nominated area has more than locally significant qualities are the genetic linkage data. These data suggest the nominated area is a likely corridor for the functional movement of GRSG from habitats in NW CO to the rest of the species' range via population strongholds in WY. But the preponderance of evidence suggests other movement corridors between CO and WY likely exist (see Crist et al. 2017; Oyler-McCance et al. 2022) suggesting the nominated area does not have greater than local-level significance.
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	No	GRSG population linkage (i.e., the functional movement of individuals between CO and WY) in this area may establish the area as being more than locally significant to the sustainability of GRSG populations in the broader region. However, other likely corridors exist allowing movement of individual GRSG between WY and CO so the nominated area is not unique, rare or irreplaceable.

Wyoming GRSG ACEC Importance Evaluation: Carbon-Moffat GRSG Connectivity Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	No	The nominated area meets relevance criteria but does not meet importance criteria. Therefore, it is not recommended that the nominated area as nominated nor as modified be considered a potential ACEC for GRSG for analysis in the Draft EIS in the current range-wide planning effort.

Wyoming GRSG ACEC Importance Evaluation: Little Sandy Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	Yes	• GRSG population density is very high especially in northern portions of the nominated area with most of the nominated area modeled as having the highest densities of breeding GRSG in WAFWA MZ 2; MZ 2 has the highest proportion of breeding GRSG in the range of the species (Doherty et al. 2016). • The nominated area contains a genetic node (i.e., leks most important to the overall genetic connectivity of GRSG populations across their range) and includes portions of the most likely genetic linkage between GRSG populations in eastern and central WY with populations in southwestern portions of the State (Fig. 6; Cross et al. 2023). • However, models of potential movement among PHMA throughout the range of GRSG suggest east-west movement pathways are more likely to occur across southern portions of the State (Crist et al. 2017). The data most likely to suggest the nominated area has more than locally significant qualities are the GRSG breeding density data. These data suggest the nominated area, especially northern portions of the area, has some of the highest densities of breeding GRSG in the range of the species establishing the nominated area is more than locally important with special worth and is distinctive.
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	Yes	High densities of breeding GRSG relative to the rest of the species' range establish the area as exemplary, rare, unique, and irreplaceable. The potential expansion of liquid and renewable energy development in the nominated area establishes the area as vulnerable to adverse change.

Wyoming GRSG ACEC Importance Evaluation:
Little Sandy Proposed ACEC

Importance Consideration	Yes/No	Rationale for Determination
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	No	The proposed ACEC includes multiple lines of evidence identifying the area as valuable for the long-term population sustainability of GRSG. Because (1) the area has relatively (compared to the rest of the species' range) robust populations, (2) includes portions of the most likely genetic corridor between populations to the east and west of this region, (3) the loss of the ability of GRSG to move through this area could isolate GRSG populations in eastern and western portions of the species' range and the isolation of populations increases the probability of regional-level extirpation (Knick et al. 2013) and conserving habitat connectivity is a national priority for managing bureau sensitive status species (Manual 6840 and IM 2023-005), and (4) the area has high potential for energy development in the future, it is recommended that the nominated area as modified be considered a potential ACEC for GRSG for analysis under at least one alternative in the current range-wide planning effort.

Wyoming GRSG ACEC Importance Evaluation:
Carter-Cook GRSG Connectivity Proposed ACEC

Importance Consideration	Yes/No	Rationale for Determination
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	Yes	• The nominated area provides the primary genetic linkage between GRSG populations in the entirety of northeastern portions of the species' range with populations in central and western portions of the species' range (Crist et al. 2017; Oyler- McCance et al. 2022; Cross et al. 2023). • The nominated area contains at least 2 genetic nodes (i.e., leks most important to the overall genetic connectivity of GRSG populations across their range; Cross et al. 2018 and 2023). The data most likely to suggest the nominated area has more than locally significant qualities are the genetic linkage data. The nominated area is the most likely corridor and a bottleneck to functional movement of GRSG from habitats in most of Management Zone 1 to the rest of the species' range establishing that the nominated area is more than locally important with special worth and is distinctive.
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	Yes	Potential genetic bottleneck of the most likely movement corridor between populations in northeastern portions of the GRSG range and the rest of the species' range establish the area as rare, unique, and irreplaceable. Energy development and mining (and the likely expansion of bentonite mining in the area) and invasive annual grass (and the increased risk of fire eliminating the sagebrush overstory) establishes the area as vulnerable to adverse change.

Wyoming GRSG ACEC Importance Evaluation: Carter-Cook GRSG Connectivity Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	No	The proposed ACEC includes multiple lines of evidence identifying the area as valuable for the long-term population sustainability of GRSG, especially populations in MZ 1. Because (1) the area is the most likely genetic corridor between populations in eastern portions of the species range, (2) the loss of the ability of GRSG to move through this area could isolate MZ 1 populations, (3) the isolation of populations increases the probability of regional-level extirpation (Knick et al. 2013), and (4) conserving habitat connectivity is a national priority for managing bureau sensitive status species (Manual 6840 and IM 2023-005), it is recommended that the nominated area as modified be considered a potential ACEC for GRSG for analysis under at least one alternative in the current range-wide planning effort.
Other Items		
Additional Notes	While the New Castle FO (NFO) agrees with the premise of the rationale of regional-level extirpation (Knicks et al. 2013), the NFO believes that the added protection of an ACEC is not necessary to meet goals of the area. The NFO believes that goals can be met with the current Core Area strategy as the proposed ACEC area is located in a PHMA Connectivity Area. The protections include a 5% disturbance density threshold and associated NSOs and TLSs, which should allow existing GRSG populations to persist and maintain genetic connectivity between populations.	

Wyoming GRSG ACEC Importance Evaluation: Red Desert Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	No	• The nominated area does not contain high density GRSG populations, and only portions of the area provide suitable habitats for the species. • The nominated area is not important for genetic connectivity. Data suggest the nominated area does not have more than locally significant qualities for GRSG.
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	No	None of the data considered establish the nominated area as having rare, unique, or irreplaceable values for GRSG. Energy development (and the likely expansion of this development in the area) establishes the area as vulnerable to adverse change, but these potential threats are not likely to directly impact substantial numbers of GRSG.

Wyoming GRSG ACEC Importance Evaluation: Red Desert Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	No	The proposed ACEC does not include habitat conditions that meet relevance and importance criteria for GRSG. Therefore, it is not recommended that the nominated area be considered a potential ACEC for GRSG for analysis in the Draft EIS for the current range-wide planning effort.

Wyoming GRSG ACEC Importance Evaluation: Sagebrush Focal Areas in South-Central and Southwestern Wyoming Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	Yes	• GRSG population density is high in far western and far eastern portions of the SFA area with these areas modeled as having the highest densities of breeding GRSG in WAFWA MZ 2; MZ 2 has the highest proportion of breeding GRSG in the range of the species (Doherty et al. 2016). • The SFA area contains several genetic nodes (i.e., leks most important to the overall genetic connectivity of GRSG populations across their range; Fig. 6; Cross et al. 2018 and 2023). • The general area in far western portions of the SFA area additionally appears to be a genetic mixing zone for populations farther to the south in UT, populations in CO and southern WY, and populations in eastern ID (Oyler-McCance et al. 2022). • The SFA area includes portions of the most likely genetic linkage between GRSG populations in eastern and central WY with populations in southwestern portions of the State (Cross et al. 2023). • However, models of potential movement among PHMA throughout the range of GRSG suggest east-west movement pathways are more likely to occur across southern portions of the State (Crist et al. 2017). • Models of climate impacts on sagebrush habitat integrity suggest that some of the habitats throughout the SFA area will not maintain high value conditions for GRSG into the near future (2030-2060; Doherty et al. 2022). The data most likely to suggest the SFA-designated area being considered has more than locally significant qualities are the GRSG breeding density data, the genetic mixing data, and the genetic connectivity data. These data suggest far western portions of the SFA area are more than locally important with special worth and are distinctive.

Wyoming GRSG ACEC Importance Evaluation: Sagebrush Focal Areas in South-Central and Southwestern Wyoming Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	Yes	High densities of breeding GRSG relative to the rest of the species' range, GRSG population linkage (i.e., the functional movement of individuals between UT and WY), and genetic mixing which appears to be relatively unique to the species' range establish far western portions of the SFA area as exemplary, rare, unique, and irreplaceable. Models of habitat response to climate change in the far western region establish the area as vulnerable to adverse change.
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	N/A	Far western portions of the SFA-designated area being considered includes multiple lines of evidence identifying the area as valuable for the long-term population sustainability of GRSG. Because (1) the area has relatively (compared to the rest of the species' range) robust populations, (2) is the most likely genetic corridor between populations to the east and west of this region, (3) the loss of the ability of GRSG to move through this area could isolate GRSG populations in eastern and western portions of the species' range and the isolation of populations increases the probability of regional-level extirpation (Knick et al. 2013), and (4) conserving habitat connectivity is a national priority for managing bureau sensitive status species (Manual 6840 and IM 2023-005), it is recommended that the SFA- designated area being considered as modified be considered a potential ACEC for GRSG for analysis under at least one alternative in the current range-wide planning effort.

Wyoming GRSG ACEC Importance Evaluation: Greater South Pass and Upper Green River Basin GRSG Proposed ACEC		
Importance Consideration	**Yes/No**	**Rationale for Determination**
More than locally significant qualities, especially compared to any similar resource, that give it: • Special worth: • Consequence • Meaning • Distinctiveness • Cause for concern	Yes	• GRSG population density is very high especially in western portions of the nominated area with most of the nominated area modeled as having the highest densities of breeding GRSG in WAFWA MZ 2; MZ 2 has the highest proportion of breeding GRSG in the range of the species (Doherty et al. 2016). • The nominated area contains several genetic nodes (i.e., leks most important to the overall genetic connectivity of GRSG populations across their range; Cross et al. 2018 and 2023). • The nominated area provides the most likely genetic linkage between GRSG populations in eastern and central WY with populations in southwestern portions of the State (Cross et al. 2023). • However, models of potential movement among PHMA throughout the range of GRSG suggest east-west movement pathways are more likely to occur across southern portions of the State (Crist et al. 2017). The data most likely to suggest the nominated area has more than locally significant qualities are the GRSG breeding density data. These data suggest the nominated area, especially central and western portions of the area, has the highest densities of breeding GRSG in the range of the species establishing the nominated area is more than locally important with special worth and is distinctive.
Qualities or circumstances that make it: • Fragile • Sensitive • Rare • Irreplaceable: • Exemplary • Unique: • Endangered • Threatened • Vulnerable to adverse change	Yes	High densities of breeding GRSG relative to the rest of the species' range establish the area as exemplary, rare, unique, and irreplaceable. Energy development (and the potential expansion of liquid and renewable energy development in the nominated area) establishes the area as vulnerable to adverse change.
Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA	No	The proposed ACEC includes multiple lines of evidence identifying the area as valuable for the long-term population sustainability of GRSG. Because (1) the area has relatively (compared to the rest of the species' range) robust populations, (2) is the most likely genetic corridor between populations to the east and west of this region, (3) the loss of the ability of GRSG to move through this area could isolate GRSG populations in eastern and western portions of the species' range and the isolation of populations increases the probability of regional- level extirpation (Knick et al. 2013), and conserving habitat connectivity is a national priority for managing bureau sensitive status species (Manual 6840 and IM 2023-005), it is recommended that the nominated area as modified be considered a potential ACEC for GRSG for analysis under at least one alternative 4 in the current range-wide planning effort.

5.4.5 Summary Results of Evaluation Process

As a result of the ACEC evaluation process, the following acres were identified as meeting the relevance and importance criteria and have been considered in Alternatives 3 and 6 in the Draft EIS.

Summary of Potential GRSG ACECs by State	
State	**Acres of Potential ACEC**
Colorado	4,547
Idaho	3,438,307
Montana/Dakotas	726,062
Nevada/California	5,766,150
Utah	365,181
Wyoming	839,225
Total	11,139,472

Figure 5-3 depicts these areas in relation to the Alternative 3 habitat management area boundaries. **Figure 5-4** depicts these areas in relation to the Alternative 5 and 6 habitat management area boundaries.

Figure 5-3: Potential ACECs in relation to Alternative 3 Habitat Management Areas

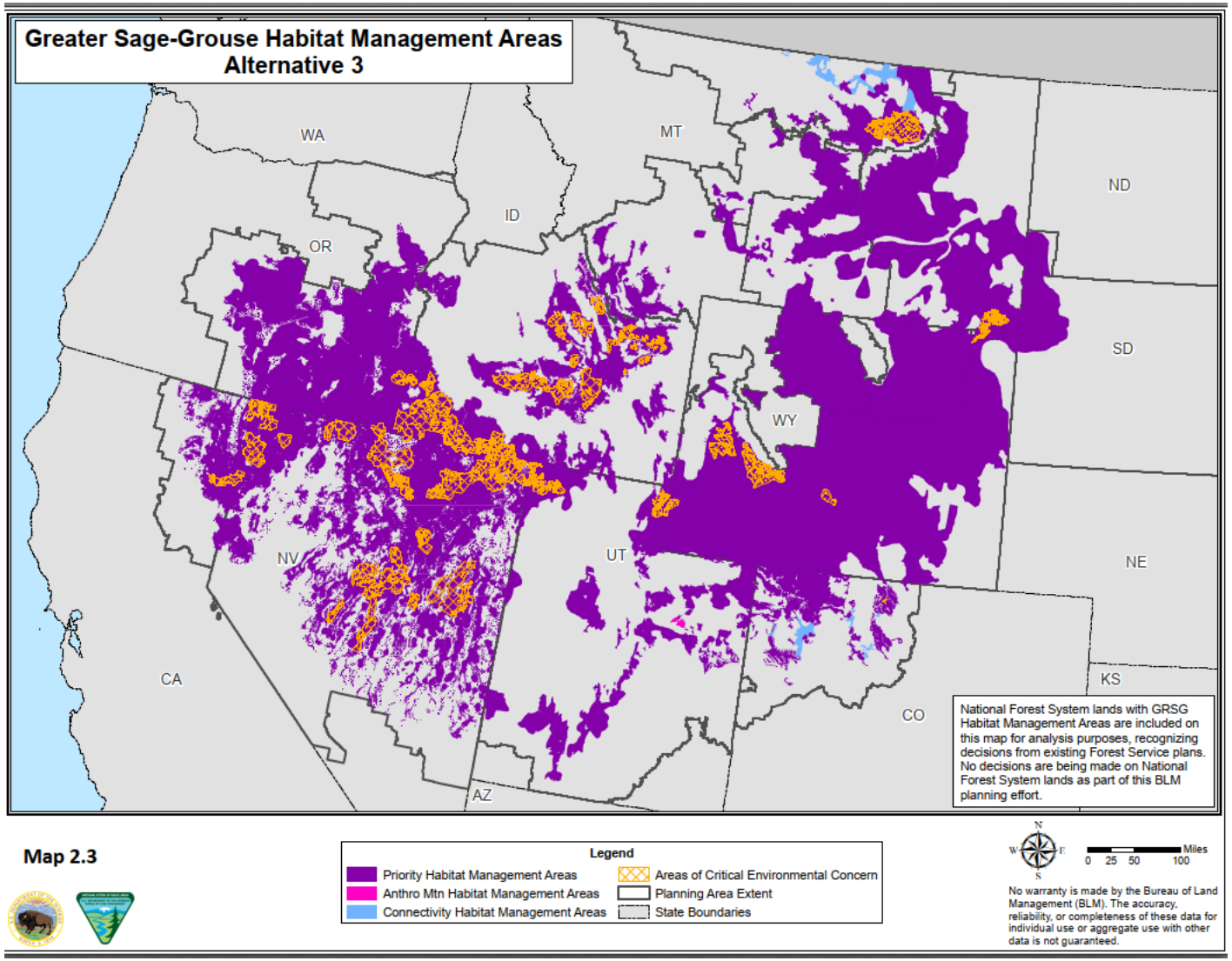
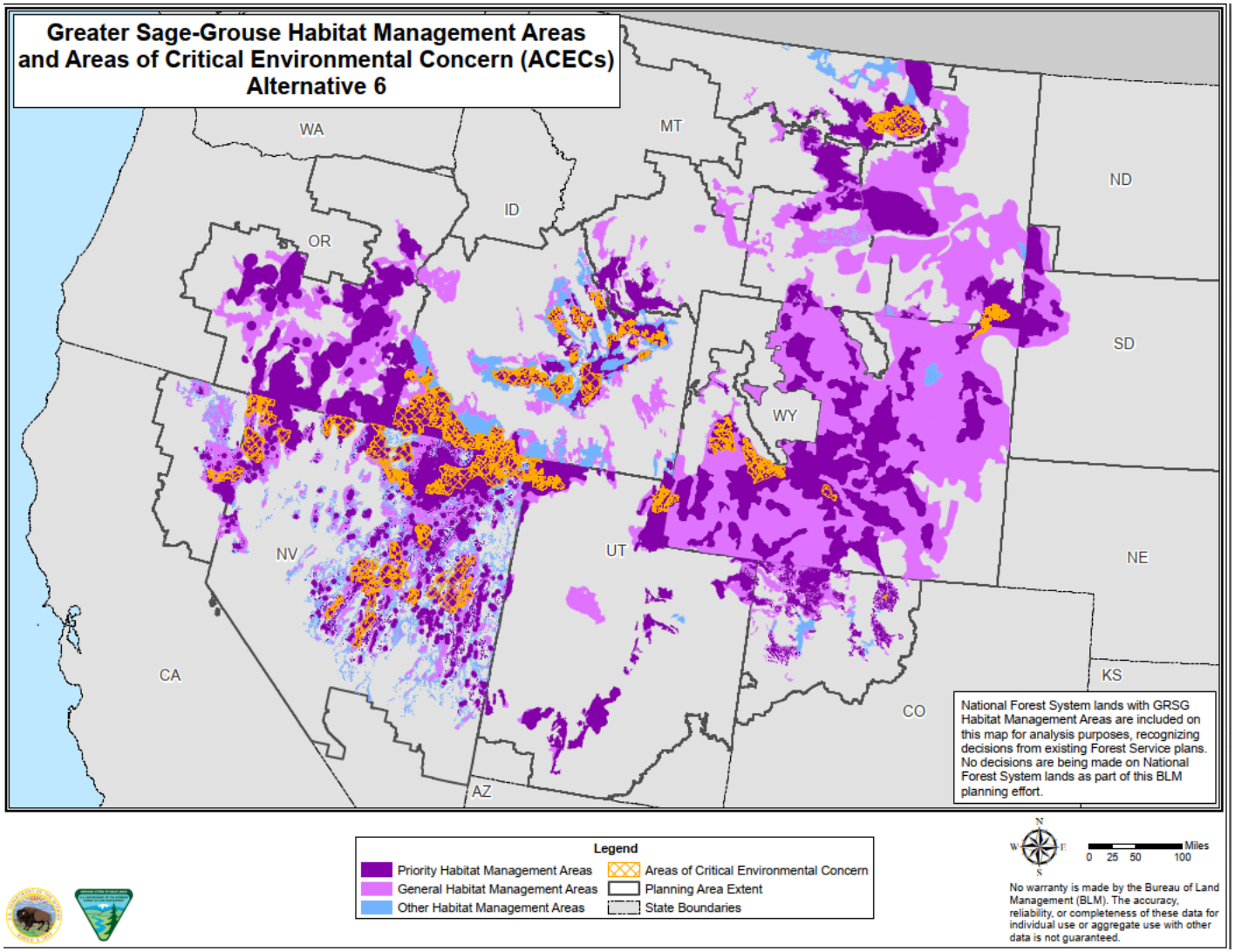


Figure 5-4: Potential ACECs in relation to Alternative 5 and 6 Habitat Management Areas



The BLM will continue to review information that could help inform these draft ACEC evaluations. After the public comment period, the BLM will review the evaluations again to determine if any new information received should result in adjustments to the evaluation findings.

5.5 SPECIAL MANAGEMENT

As noted in **Section 5.2** above, the presence of an area that meets relevance and importance criteria does not mean that an ACEC is needed. The third component of an ACEC is that the area requires special management to protect and prevent irreparable damage to the given values. Such management would not be present in the absence of the designation.

The relevance and importance criteria were used to evaluate all GRSG habitat, meaning all areas that met the relevance criteria. This evaluation included the applicable (i.e., relevant) portions of the nominated ACECs. All potential ACECs that met both the relevance and importance criteria and for which special management attention has been identified have been carried forward as potential ACECs, and they are considered for designation and management in the Draft RMPA/EIS. See the ACEC section in Chapter 2 for the special management being considered for the ACECs under Alternative 3 and Alternative 6.

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