

**Color Country Adaptive Resource Management Local Working Group
2010
Plan of Work**

*Written as an appendix to the
Color Country Greater Sage-grouse Local Conservation Plan*

A. Purpose

The mission of the Color Country Adaptive Resource Management Sage-grouse Conservation Plan is to help reach the goal of maintaining and improving current abundances and ensuring the viability of Greater Sage-grouse (*Centrocercus urophasianus*) populations and their habitat in the CoCARM Resource Area, while taking into consideration the historical land uses and long-term socioeconomic issues. The Plan will help to meet this goal by providing local management solutions based on local or compatible data and research to the extent practical. In addition, CoCARM hopes to develop management solutions that will result in diverse and productive sagebrush habitat for sage-grouse while recognizing healthy sagebrush habitats are valuable to the existence of other species. The Plan will identify management areas, key local issues, conservation strategies, population information, research and monitoring needs, and support long-term funding. Adaptive management will be used to maintain the Plan as a continuously evolving document. In addition, the Plan will coordinate development of project proposals in collaboration with the Color Country Utah Partners for Conservation and Development Regional Team to maintain and enhance sage-grouse habitat.

This Plan was called for in, and builds on, the Utah Greater Sage-grouse Strategic Management Plan (Strategic Plan) that was passed by the Utah Wildlife Board in 2002. The Strategic Plan was developed by the Utah Greater Sage-grouse Working Group, which included representatives from state and federal natural resource agencies, and local conservation organizations concerned with the health and proper management of Greater Sage-grouse and sagebrush-steppe ecosystems throughout Utah. The primary purpose of the Strategic Plan was to address declining populations of sage-grouse and to develop a framework for agencies to work within. Further, the Strategic Plan identified certain management units throughout the state where Adaptive Resource Management Local Working Groups could be organized to identify local issues. These groups were then expected to implement local adaptive resource management plans to address declining sage-grouse populations, and the loss, degradation, and fragmentation of sagebrush steppe communities, and the protection and conservation of these and other natural resources into the future.

The Plan is designed to meet the guidelines set forth by the US Fish and Wildlife Service (USFWS) in their Policy for Evaluation of Conservation Efforts (PECE) standards. The USFWS uses PECE standards as a guideline to evaluate whether conservation plans will be considered when making listing and listing priority decisions. The Plan was also written to address the USFWS five Listing Factors:

1. Present or threatened destruction, modification, or curtailment of its habitat or range.
2. Over-utilization for commercial, recreational, scientific, or educational purposes.
3. Disease or predation.
4. Authorities and inadequacy of existing regulatory mechanisms.
5. Other natural or man-made factors affecting its continued existence.

The Plan directly and indirectly addresses the five USFWS listing factors as they apply to Greater Sage-grouse (hereafter referred to as sage-grouse) in the Color Country area. In addition, the Plan will identify issues, potential strategies, and provide for implementation of proposed conservation actions. The Plan is neither a National Environmental Policy Act (NEPA) decision document, nor a federal or state recovery plan. Any Candidate Conservation Agreement with Assurances developed by the UDWR will be based on the Plan, but will include the NEPA process. Use of this plan by agencies, private enterprise, and private individuals is strictly voluntary. State and federal resource management agencies involved with sage-grouse management, however, are required to manage sage-grouse populations and habitat by various state and federal statutes and policies. The information contained in this Plan is intended to serve as a set of guidelines for those state and federal agencies to maintain and enhance sage-grouse habitat and sage-grouse populations in the Color Country. Participation by private landowners and consideration of the needs of the landowner is critical for management of sage-grouse populations and habitat located on private lands and will be of great importance to meet the overall goals of the Plan. True success will only be achieved by managing on an overall landscape scale. The Plan provides an opportunity to promote ecologically sound management of private and public lands for sage-grouse without impinging on private property rights.

B. Goals and Scope

The goals of the Plan are separated into two categories: Assessment Goals and Strategy Goals. The goals are not listed in any particular order.

Assessment Goals:

The Plan will provide an assessment of the status of the Color Country sage-grouse population by accomplishing the following goals:

1. Estimate current population size and evaluate population trends; estimate amount and condition of habitat.
2. Identify research needs and knowledge gaps.
3. Determine population and habitat needs for the future.
4. Identify and discuss threats that have the potential to impact sage-grouse in the Color Country, especially those associated with the five USFWS Listing Factors.

Strategy Goals:

The intent of the Plan is to maintain and where possible, increase sage-grouse populations and improve habitat conditions in the Color Country by carrying out the following goals:

1. Incorporate management strategies from state and federal agency partners, local governments, and established rangewide conservation and management guidelines (Connelly et al. 2000, Connelly et al. 2004).
2. Increase effective communication with all potential stakeholders in the Color Country and the state of Utah through outreach, information distribution, and education.
3. Address and prioritize threats to aid in prioritizing management solutions.
4. Identify and pursue funding sources, or support partners in their pursuance of funding for projects that will help achieve specific strategies and actions.

Scope

This Plan is designed to span multiple land ownerships and multiple land uses throughout its geographic area. It is our hope that through implementation of this adaptive plan, specific conservation issues will be addressed, implemented, and monitored across geographic and political boundaries, with the intent of increasing the consistency of practices implemented and information collected. The assessment and strategies described herein are specific to the Color Country and were developed with the unique ecological, social, and economic concerns of this area in mind. A detailed description of the Color Country Resource Area is provided later in the Plan.

Assessment of Local Population

Sage-grouse Population Status and Distribution

Sage-grouse populations in the Color County area have been variable in recent history. In the study area, a review of three lek clusters (Figure 2) defined by the region of their location, illuminates the fluctuations evident in sage-grouse populations. However, it is clear that two of the three illustrated lek clusters have experienced an obvious downward trend over the last 20 years. Alton Sink Valley has historically never had a large number of males in attendance. With steadily lower numbers, there is concern that this lek could blink out of existence if current trends persist. All three lek groups experienced a decline in attendance in 2002 and 2003 presumably due to extreme drought conditions in the region.

Many of the leks are located in Panguitch Valley in the center of the Resource Area. Their distribution in the Resource Area is limited by natural habitat conditions that are unsuitable for sage-grouse.

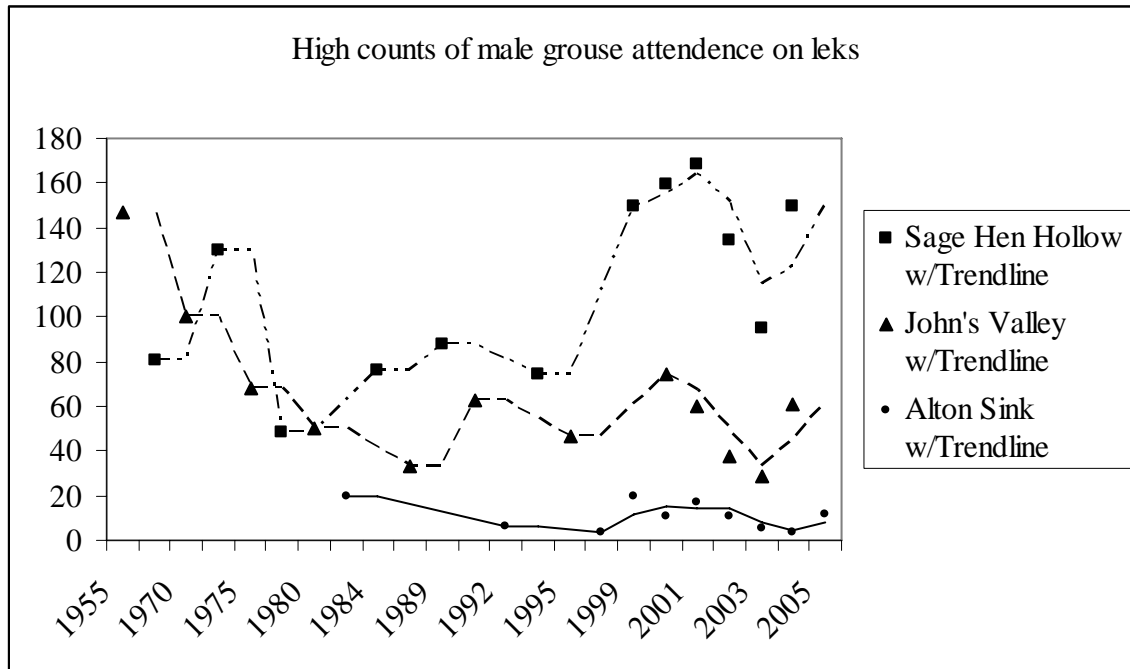


Figure 2. Male grouse attendance counts at each lek cluster in the Color Country working group area, 1955-2005. The trend line represents a 5-year moving average.

Local Ecology and Life History

Little published information is available regarding the ecology and life history of sage-grouse populations in the Resource Area. Although monitoring (lek counts) has been conducted regularly since the late 1960s, few studies have documented information about aspects of habitat use, survival, sources of mortality, and reproductive success.

In February 2005, a radio-telemetry study was started in Alton, Utah to determine basic natural history questions of sage-grouse in the Sink Valley, as well as determine how many birds used this area and at what times of the year. This data will increase our knowledge of sage-grouse ecology in the Resource Area.

Research on radio-collared sage-grouse can provide a wealth of information about varied aspects of local sage-grouse ecology, population status, and movements. However, there is a need for greater standardization of methods and greater quantification of information. Specifically, we recommend that future research projects follow guidelines developed and summarized in Connelly et al. (2003), especially regarding the collection of habitat data. Although the studies conducted to date have yielded beneficial information, data collection could have been more rigorous and, ultimately, more useful with little additional effort. Further, as part of an adaptive management strategy, results should regularly be shared with partners of the CoCARM local working group to inform decisions and guide management and planning. Finally, as this summary indicates, research has focused on birds in the Sink Valley area. We recommend that future research strive to address areas and subunits of the Resource Area for which little information is known.

Local Habitat

In 1999, the UDWR mapped the extent of seasonal habitat types in the Resource Area was mapped. Figures 3 and 4 illustrate where nesting, brood-rearing, and winter habitats are located in the Resource Area.

Habitat Improvements and Completed Conservation Actions

Over the past several years, the BLM and UDWR participated in several projects to improve degraded areas in an effort to improve sagebrush habitat. Future endeavors will continue to improve sagebrush-steppe habitat conditions, including reducing encroachment by pinyon and juniper trees, improving sagebrush age-class distribution, and improving landscape connectivity. Table 3 lists the acreage and general location of habitat improvement projects implemented in 2004 and 2005 and proposed for 2006 by land management agencies of the Resource Area.

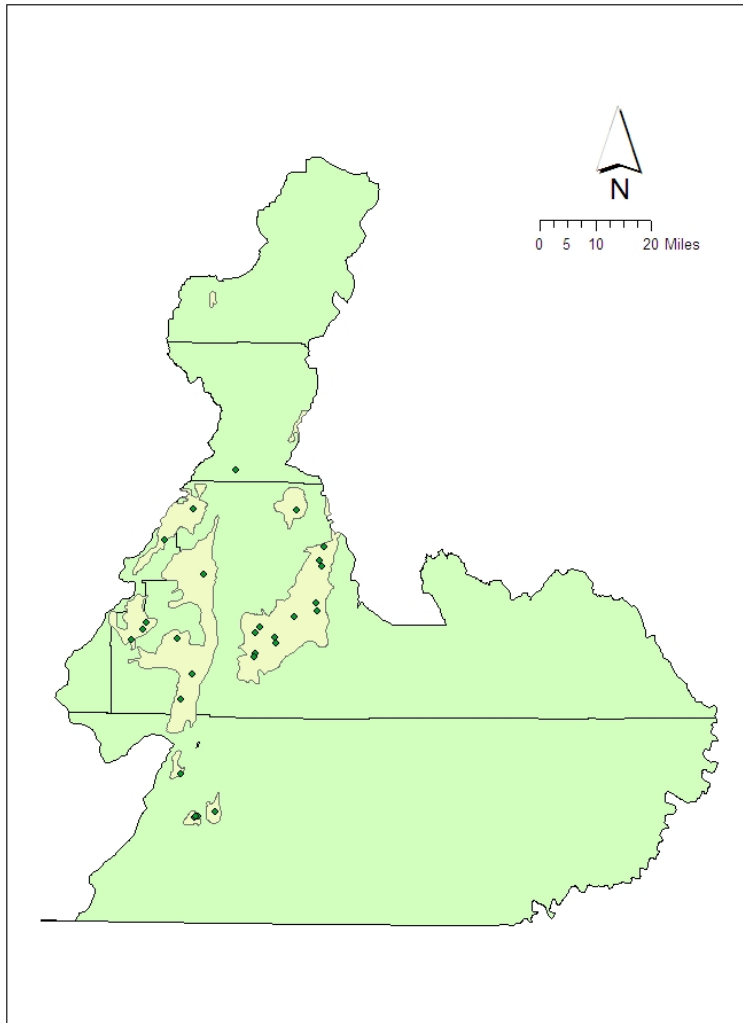


Figure 3. Location of sage-grouse nesting and brood-rearing habitat in the CoCARM Resource Area as identified by the UDWR, 1999. Points represent lek locations.

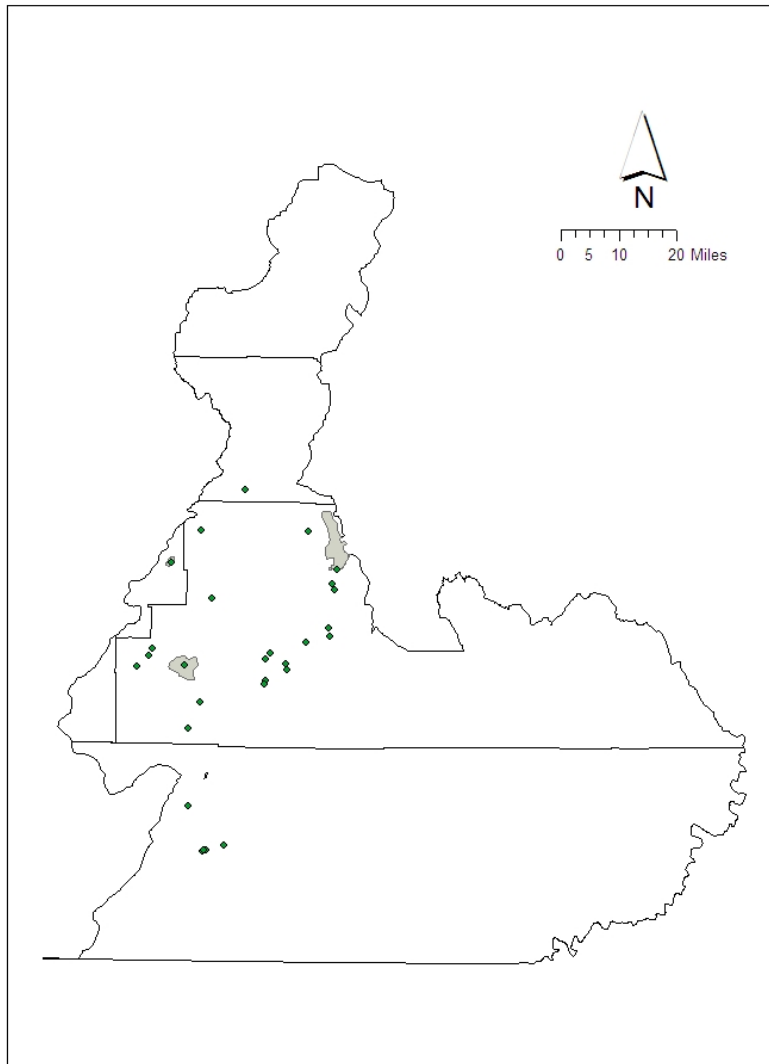


Figure 4. Location of sage-grouse winter habitat in the CoCARM Resource Area as identified by the UDWR, 1999. Points represent lek locations.

V. Conservation Strategy

One of the main purposes of this Plan is to provide a framework of strategies and associated actions that can be implemented to abate threats, address information gaps, and guide monitoring efforts. Strategies and actions listed below (the order is irrelevant) were developed by CoCARM partners. Several other documents and publications provide recommendations and guidelines for management of sage-grouse populations and their habitats, many of which were reviewed in the Introduction of this Plan. Strategies developed by CoCARM are designed to be specific to the local area while taking into consideration the guidelines at a rangewide level.

Implementation of strategies and actions is strictly voluntary on the part of CoCARM partners. Despite this, we have designated for each strategy the public and private partners who might be involved in implementation. Designation does not imply responsibility or commitment of resources of any sort to implementing, initiating, or completing any actions; however, it does provide a framework of resources and expertise.

The following are excerpts from the strategies and actions listed in the Color Country Local Working Group Conservation Action Plan. These actions have been identified as the focus of the working group during the calendar year 2010.

A. Strategies and Actions

1. **Strategy:** Reduce threat of predators on sage-grouse over ten-year period.
Action: Determine predator community composition and depredation rate.
Action: Avoid creating or improving raptor-nesting habitat in sage-grouse habitat. Remove raptor perches when possible.
Action: Enlist Wildlife Services to reduce population numbers of problematic predator species.
Action: Support current predator management efforts by other groups or agencies in the focus areas.

Partners: USU EXT, UDWR, WS, land developers

Threats Addressed: Enhanced native and domestic predators

Aspects of Sage-grouse Ecology Addressed: Reduced nesting/early brood-rearing habitat quality, reduced summer/late brood-rearing habitat quality, reduced connectivity of seasonal habitat types, reduced connectivity of populations and sub-populations, reduced population size

2. **Strategy:** Improve age distribution of plants within sagebrush-steppe communities by 2016.
Action: Focus our efforts to identify and prioritize target areas needing improvement.

Partners: USU EXT, UDWR, USFS, BLM, SITLA, NRCS

Threats Addressed: Invasive/alien vegetation species, fire and vegetation management, dramatic weather events

Aspects of Sage-grouse Ecology Addressed: Reduced connectivity of seasonal habitat

types, reduced connectivity of populations and sub-populations, reduced nesting/early brood-rearing habitat quality, reduced summer/late brood-rearing habitat quality

3. **Strategy:** Improve water availability and riparian habitat in brood-rearing habitat by 2016.

Action: Consider new water developments that are multi-use and multi-purpose.

Example: Mud Springs. Pipeline that takes Panguitch bench water and pulls it down into Five Mile area where there has been several projects to improve habitat. This would fix guzzlers and other water availability in the area. This is city water. Pipeline would go on FS and BLM land.

Example: Pond on SITLA land that is used by cattle and big game, around Wide Hollow area. Not usable by grouse. Needs a little work to make it available to other wildlife such as grouse.

Action: Coordinate with private landowners to protect current water availability that benefits brood-rearing habitat.

Partners: NRCS, BLM, UDWR, USFS, landowners, interest groups

Threats Addressed: Concentrated wildlife and/or livestock use, dramatic weather events, alternative land uses (mining, wind power, water development)

Aspects of Sage-grouse Ecology Addressed: Population distribution, reduced nesting/early brood-rearing habitat quality, reduced summer/late brood-rearing habitat quality, reduced connectivity of seasonal habitat types, reduced connectivity of populations and sub-populations

4. **Strategy:** Increase participation of public and private landowners within the Resource Area.

Action: Distribute the fact sheet that we created to special interest groups.

Action: Increase our efforts to ensure that the public knows about open houses, field tours, and presentations.

Action: Distribute annual reports to local management agencies, county commissioners, and other interested parties.

Partners: USU EXT, NRCS

Threats Addressed: Recreational use, development of roads or utilities, lack of communication among public parties, alternative land uses (mining, wind power, water development)

Aspects of Sage-grouse Ecology Addressed: Reduced population size, population distribution, reduced lek habitat quality, reduced nesting/early brood-rearing habitat quality, reduced summer/late brood-rearing habitat quality, reduced winter habitat quality, reduced connectivity of seasonal habitat types, reduced connectivity of populations and sub-populations

5. **Strategy:** Locate and monitor new active lek sites within the Resource Area.

5.1 **Action:** Survey landowners and land users to determine extent of sage-grouse distribution.

5.2 **Action:** Investigate possible new lek sites based on local reports.

5.3 **Action:** Survey for new lek sites during lek counts and survey historic sites for new activity.

5.4 **Action:** Rejuvenate historic lek site habitat for potential re-use.

Partners: USU EXT, UDWR, NRCS, local landowners

Threats Addressed: Recreational use, invasive/alien vegetation species, concentrated wildlife and/or livestock use, alternative land uses (mining, wind power, water development), dramatic weather events.

Aspects of Sage-grouse Ecology Addressed: Reduced lek habitat quality, reduced population size, population distribution, reduced connectivity of populations and sub-populations

6. **Strategy:** Increase sage-grouse populations using direct management in Resource Area by 2016.

6.1 **Action:** Evaluate potential of translocation to supplement local populations.

6.2 **Action:** Support and encourage prevention of illegal harvest of sage-grouse. Encourage the UDWR to pursue the idea of changing the boundary of the Parker Mountain hunting unit. Currently it runs into John's Valley, which is not our desire.

Partners: UDWR, USU EXT

Threats Addressed: Dramatic weather events, enhanced native and domestic predators

Aspects of Sage-grouse Ecology Addressed: Reduced population size, population distribution, reduced connectivity of populations and sub-populations

7. **Strategy:** Minimize affects of new land developments and/or recreational uses on sage-grouse populations.

Action: Increase our efforts to involve local county and city planning commissions in meetings. This includes updating the email list serve as well as making personal contacts.

Partners: USU EXT, BLM, UDWR, USFS, SITLA, county commissioners, local landowners

Threats Addressed: Recreational use, development of roads or utilities, alternative land uses (mining, wind power, water development), lack of communication among public parties

Aspects of Sage-grouse Ecology Addressed: Reduced population size, reduced lek habitat quality, reduced nesting/early brood-rearing habitat quality, reduced summer/late brood-rearing habitat quality, reduced winter habitat quality, reduced connectivity of populations and sub-populations, reduced connectivity of seasonal habitat types

8. **Strategy:** Reduce impacts of concentrated wildlife or livestock use of sage-grouse winter and brood-rearing habitat by 2016.

Action: Identify and prioritize target areas needing improvement.

Action: Implement habitat improvements and direct management actions to improve distribution of problem animal communities.

Partners: BLM, NRCS, USU EXT, UDWR, local landowners

Threats Addressed: Concentrated wildlife and/or livestock use

Aspects of Sage-grouse Ecology Addressed: Reduced nesting/early brood-rearing habitat quality, reduced summer/late brood-rearing habitat quality, reduced winter habitat quality

9. **Strategy:** Reduce threat of invasive/unwanted plant species in sage-grouse habitat by 2016.

Action: Remove juniper and pinyon pines from brood-rearing habitat.

Action: Reduce abundance of unwanted and/or invasive plant species.

9.1.1 **Action step #2:** Use dedicated hunters to help with re-seeding and rehabilitation efforts.

Action: Evaluate and use chemical applications where appropriate to restore habitat dominated by cheatgrass and/or noxious weeds.

Action: Evaluate the feasibility of using fire as a tool in areas where cheatgrass has been established or is prone to establish.

Partners: UDWR, BLM, USFS, interest groups

Threats Addressed: Fire and vegetation management, invasive/alien vegetation species

Aspects of Sage-grouse Ecology Addressed: Reduced nesting/early brood-rearing habitat quality, reduced summer/late brood-rearing habitat quality, reduced connectivity of populations and sub-populations

B. Priority Evaluation

In order to help prioritize strategies, actions, and most effectively allocate resources, we have assigned a rank of “low,” “medium,” “high,” or “very high” to each threat with regards to its contribution to reduction in population health or habitat condition (Table 4). Again, given the stipulations regarding a lack of empirical, locally based information in many cases, these rankings are based on the best information available to us and our implicit, experiential knowledge of the Resource Area. Ranking definitions are based on The Nature Conservancy’s Conservation Action Planning process (TNC 2005). Rankings are provided to help highlight potential priorities for subsequent strategies and actions.

CoCARM partners and others can use the rankings in Table 4, combined with the strategies and actions listed above, to prioritize implementation and direct resources to efficiently and effectively abate threats, and maintain and improve sage-grouse populations and their habitats in the Resource Area.

Table 4. Relative importance/contribution of individual threats to reducing or degrading aspects of sage-grouse populations in the CoCARM Resource Area. Threats are described in the “Threat Analysis” section of this Plan. Ranks are defined according to TNC (2005).

Threat	Aspects of Sage-grouse population in the CoCARM Resource Area							
	Reduced Population Size	Population Distribution	Reduced Lek Habitat Quality	Reduced Nesting/Early Brood-rearing Habitat Quality	Reduced Summer/Late Brood-rearing Habitat Quality	Reduced Winter Habitat Quality	Reduced Connectivity of Seasonal Habitat Types	Reduced Connectivity of Populations & Sub-populations
Enhanced native and domestic predators	Medium	Low	Low	High	High	Medium	High	High
Recreational use	Medium	Medium	Medium	High	High	High	Medium	Medium
Invasive/alien vegetation species	High	High	Medium	Very High	High	Medium	High	High
Concentrated wildlife and/or livestock use	High	Medium	Medium	High	High	Medium	Medium	Medium
Fire and Vegetation Management	High	Medium	Medium	High	High	High	High	High
Development of roads or utilities	High	Medium	Low	Very High	High	High	High	High
Lack of communication among public parties	Medium	Medium	Low	High	Medium	Medium	Medium	Medium
Diseases and parasites	Medium	Medium	Low	Medium	Medium	Medium	High	High
Alternative Land Uses (mining, wind power, water development)	High	High	Medium	High	High	High	High	High
Dramatic Weather Events	High	Medium	Medium	High	High	High	High	High

