

**United States Department of the Interior  
Bureau of Land Management**

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**Environmental Assessment  
DOI-BLM-UT-Y010-2016-0078-EA**

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September 2016

**Monument Wash Allotment Ten Year Grazing Permit Renewal**

*Location:* Grand County, Utah

*Grazing Authorization Number:* 4306376

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U.S. Department of the Interior  
Bureau of Land Management  
Moab Field Office  
82 East Dogwood  
Moab, Utah 84532  
435-259-2100



# Monument Wash Allotment Ten Year Permit Renewal DOI-BLM-UT-Y010-2016-0078-EA

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# Monument Wash Allotment Ten Year Permit Renewal

## DOI-BLM-UT-Y010-2016-0078-EA

### 1.0 PURPOSE & NEED

#### 1.1 Introduction

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental consequences of renewing a ten year grazing permit on the Monument Wash Allotment with additional terms and conditions. The EA is a site-specific analysis of potential impacts that could result with the implementation of a Proposed Action or Alternatives to the Proposed Action. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any “significant” impacts could result from the analyzed actions. “Significance” is defined by CEQ and is found in regulation 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of “Finding of No Significant Impact” (FONSI). If the decision maker determines that this project has “significant” impacts following the analysis in the EA, then an EIS would be prepared for the project. If not, a Decision Record may be signed for the EA approving the selected alternative, whether the Proposed Action or another Alternative. A Decision Record (DR), including a FONSI statement, documents the reasons why implementation of the selected alternative would not result in “significant” environmental impacts (effects) beyond those already addressed in the Moab Resource Management Plan (October, 2008).

#### 1.2 Background

The current permittee of the Monument Wash Allotment (Authorization #4306376) requested to renew the ten year grazing permit for the Monument Wash Allotment. The Monument Wash Allotment is located approximately 24 miles north of Moab, Utah (Appendix A Map #1). The current grazing permit has been issued from November 21, 2013 to February 21, 2021, under the authority of Section 114, Public Law 107-67, and the Fiscal Year 2011 Appropriations Act.

The Animal Unit Months (AUMs) addressed throughout this document were taken directly from the existing ten year grazing permit (Grazing Authorization # 4306376). These numbers are represented in the current grazing use authorization; see Table 1-1 below. Active AUMs represent those AUMs associated with valid grazing preference.

**Table 1-1: Current Grazing Use Authorization**

| Allotment Name and Number | Livestock |        |               | Active Permitted Use (AUMs) | Acres                 | Land Status             |
|---------------------------|-----------|--------|---------------|-----------------------------|-----------------------|-------------------------|
|                           | Number    | Kind   | Season of Use |                             |                       |                         |
| Monument Wash 05392       | 861       | Cattle | 11/16 to 5/15 | 4713                        | 70,462<br>8,736<br>91 | BLM<br>State<br>Private |

The Moab Field Office (MFO) recognizes these AUMs as valid, while understanding that forage allocation varies from season to season, and from year to year.

### **1.3 Need for the Proposed Action**

The need for the Proposed Action is for the BLM to consider renewing the grazing permit for the Monument Wash Allotment while making adjustments to management to continue to move towards meeting Utah's Standards for Rangeland Health 1 upland soils and 3 desired plant species. In addition there is a need to implement a grazing management system to minimize the impacts to saline soils (Moab RMP (GRA-19, Pg. 71).

### **1.4 Purpose(s) of the Proposed Action**

The purpose of the Proposed Action and Alternatives are to modify current grazing practices on the Monument Wash Allotment to continue to make progress toward meeting Utah's Standards for Rangeland Health and to minimize impacts to saline soils and reduce salinity in the Colorado River drainage as required in the Moab RMP (GRA-19, page 71).

Improved allotments management would be achieved by modifying and renewing a grazing permit under the authority of the Taylor Grazing Act (TGA), the Federal Land Policy Management Act (FLPMA) and the Moab Field Office Resource Management Plan, approved in October of 2008 (2008 RMP). The grazing permit would be renewed for a period of ten years in accordance with the Federal Regulation at 43 CFR 4130.2. The BLM is responsible for ensuring that all management actions on public land conform to the appropriate land use plans, are site specific, and provide for balanced uses among different resource values.

### **1.5 Decision to be Made**

The BLM Moab Field Office will decide whether or not to renew the grazing permit and, if renewed, what modifications will be made from the current permit.

### **1.6 Conformance with BLM Land Use Plan**

As required by Federal regulation 43 CFR 1610.5, the Proposed Action and Alternatives addressed in this document have been determined to be in conformance with the goals and objectives of the of the Livestock Grazing (GRA) section Moab RMP (2008), which are 1) "achieve the attainment of Standards for Rangeland Health and other desired resource conditions by maintaining appropriate utilization levels of the range through management prescriptions and administrative adjustments of grazing permits and 2) achieve healthy, sustainable rangeland ecosystems that support the livestock industry while providing for other resource values such as wildlife habitat, recreation opportunities, clean water, and functional watersheds.". It has been determined that the Proposed Action and Alternatives would not conflict with other decisions throughout the Moab RMP (2008).

## 1.7 Relationship to Statutes, Regulations, or Other Plans

The Proposed Action and Alternatives are in conformance with the livestock grazing provisions of the Taylor Grazing Act 1934), the Federal Land Policy and Management Act (1976), the Public Rangelands Improvement Act (1978), and the applicable grazing regulations at 43 CFR 4100.

The Proposed Action and Alternatives also comply with the following additional Federal laws, State standards, and BLM policies as presented in Table 1-2.

**Table 1- 2: Authorities and Responsibilities**

| Land Management and Use  |  |
|--|--|
| Federal Land Policy and Management Act of 1976, Section 201(a) (PL 94-579; 43 USC 1701 et seq.)  | Directs the BLM to manage public lands “in a manner that will protect the quality of scientific, scenic, historic, ecological, environmental, air and atmospheric, water resources and archeological values” and to develop resource management plans (RMPs) consistent with those of state and local government to the extent that BLM programs also comply with federal laws and regulations.. |
| National Environmental Policy Act of 1969 (PL 91-190; 42 USC 4321); 40 CFR Parts 1500-1508 CEQ implementation of NEPA; BLM Handbook H-1790-1; U.S. Department of the Interior Department Manual 516, Environmental Quality | Evaluation of impacts to environmental resources that may result from a Proposed Action prior to its implementation.   |
| Grazing  |  |
| 43 Code of Federal Regulations 4100 Grazing Administration-Exclusive of Alaska; General  | Directs the BLM in the administrative functions of grazing management.   |
| The Pierce Act of 1938 (52 STAT. 1033)   | Directs federal agencies to lease State, county, or privately owned lands for grazing purposes with the boundaries of a grazing district. The leasing of these lands would be to promote the orderly use of the district.  |
| The Taylor Grazing Act of 1934 (P.L. 73-865)   | Directs the federal agencies to stop injury to the public grazing lands by preventing overgrazing and soil deterioration; to provide for their orderly use, improvements, and development; to stabilize the livestock industry dependent upon the public range.  |
| Rangeland Health; Standards and guidelines for Healthy Rangelands (BLM UTSO, 1997)   | Directs the field offices within Utah to set the minimum standard to achieve a healthy rangeland. It also sets guidelines for grazing  |

| Land Management and Use  |  |
|--|--|
|  | management to help achieve those standards.  |
| Public Rangelands Improvement Act of 1978 (PRIA).  | Requires the BLM to manage, maintain, and improve the condition of the public rangelands so they become as productive as feasible.   |
| BLM Utah Riparian Management Policy (Instruction Memorandum IM No. UT 2005-091, September 2005).   | Provides specific guidance to Utah BLM riparian lands while supporting all BLM national guidance directives (BLM Manual 1737 – Riparian-Wetland Area Management, Riparian-Wetland Initiative, and others). |
| Wildlife and Plants  |  |
| Endangered Species Act of 1973 (PL. 85-624; 16 USC 661,664 1008)   | Coordination, consultation and impact review regarding generally listed threatened and endangered wildlife and plant species.  |
| Migratory bird Treaty Act of 1918 (P.L. 65-186, 16 USC 703-712, as amended); EO 13186 Responsibilities of Federal Agencies to Protect Migratory birds; BLM MOU WO-230-2010-04 To Promote the conservation of Migratory Birds | Migratory bird impact coordination and protection of nesting migratory birds.  |
| State of Utah Authorities and Responsibilities   |  |
| Cultural Resources   |  |
| Section 106 of National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 et seq.) and Advisory council Regulations on the Protection of Historic and Cultural Properties, as amended (36 CRF. Part 800)          | Utah State Historic Preservation Office consultation on cultural resource survey, evaluation, and mitigation.  |
| Wildlife   |  |
| Utah Division of Wildlife Resources Rules and Regulations, Rule 657 series; UAC Title 23, Wildlife Resources of Utah. Utah Division of Wildlife Resources  | Coordination on wildlife and state sensitive species; management of big game and wildlife.   |
| Grand county Authorities and Responsibilities  |  |
| County codes   | Road use agreements/oversize trip permits, access permits, and road crossing; noxious weed control and designates economic uses such as livestock grazing.   |
| State of Utah Authorities and Responsibilities   |  |
| Cultural Resources   |  |
| Section 106 of National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 et seq.) and Advisory council Regulations on the Protection of Historic and Cultural Properties,  | Utah State Historic Preservation Office consultation on cultural resource survey, evaluation, and mitigation.  |

|  |  |
|--|--|
| <b>Land Management and Use</b>   |  |
| as amended (36 CRF. Part 800)  |  |
| <b>Wildlife</b>  |  |
| UDWR Rules and Regulations, Rule 657 series; UAC Title 23, Wildlife Resources of Utah. Utah Division of Wildlife Resources | Coordination on wildlife and state sensitive species; management of big game and wildlife.   |
| <b>Grand county Authorities and Responsibilities</b>   |  |
| County codes   | Road use agreements/oversize trip permits, access permits, and road crossing; noxious weed control and designates economic uses such as livestock grazing. |

The Proposed Action and Alternatives are in compliance with the Grand County Utah General Plan (2012). This Plan designates the land within the allotment as open for economic uses such as livestock grazing.

### **1.8 Identification of Issues**

The BLM conducted internal review and public scoping to solicit input and identify environmental issues associated with the Proposed Action. Through input from the BLM interdisciplinary team (IDT), issues were identified for this EA by considering the resources that could be affected by the implementation of the Proposed Action and Alternatives. These issues were identified during the internal review and are summarized below. Documentation of the determination of impacts is included in this EA as the Interdisciplinary Team Analysis Records Checklist (Appendix B). The notice of the preparation of an EA was posted on ePlanning on December 8, 2015. A press release was issued on January 25, 2016, seeking public comments on the Proposed Grazing Permit Renewal for the Monument Wash Allotment. The current grazing permittee was notified by mail in 2014 of the BLM’s intent to evaluate grazing on the Monument Wash Allotment through NEPA analysis and three meetings between the Moab Field Office and the permittee and his agents were conducted between September 11, 2014, and April 28, 2016. Initial scoping closed on February 15, 2016. Scoping comments were received from three parties; The State of Utah, Office of the Governor, Western Watersheds Project, and Marc Thomas. The detailed information including the scoping comments and responses are located in Appendix C.

The issues identified internally and externally during scoping are listed below:

#### **1.8.1 Livestock Grazing**

- How would grazing under new terms and conditions affect the livestock grazing on the Monument Wash Allotment?
- How would implementing a new grazing strategy affect livestock grazing on the Monument Wash Allotment?

### **1.8.2 Vegetation:**

- How would grazing under new terms and conditions impact vegetation and would the changes in management assist to continue to make meet Utah's Desired Species Standard.

### **1.8.3 Wildlife (Migratory Birds, Sensitive Species, Fish and Wildlife Excluding USFW Designated Species)**

- How would grazing under new terms and conditions affect general wildlife species?

### **1.8.4 Soils:**

- How would grazing under new terms and conditions affect Sensitive Soils on the Monument Wash Allotment?
- How would grazing with a new management strategy impact soils and vegetation in order to continue to meet Utah's Upland Soils Standard?

## **1.9 Issues Considered but Not Carried Forward for Analysis**

No other issues were identified.

## **1.10 Summary**

This chapter has presented the purpose and need of the proposed project, as well as the relevant issues, i.e., those elements of the human environment that could be affected by the implementation of the proposed project. In order to meet the purpose and need of the proposed project in a way that resolves the issues, the BLM has considered and/or developed a range of Alternatives. These Alternatives are presented in Chapter 2. The potential environmental impacts or consequences resulting from the implementation of each Alternative considered in detail are analyzed in Chapter 4 for each of the identified issues.

## **2.0 DESCRIPTION OF ALTERNATIVES, INCLUDING PROPOSED ACTION**

### **2.1 Introduction**

Alternatives are required in a NEPA analysis, but alternatives must be "reasonable". Alternatives must be technically and economically feasible (CEQ, 1981) and must provide the opportunity to achieve the purpose and need for the proposed project. Alternatives should explore the range of potential issues, and thus, alternative development is strongly influenced by the results of the scoping process.

Alternative A – Proposed Action: This Alternative involves: 1) developing an AMP that includes a grazing management system which allows spring rest in at least 50 percent of the allotment and 2) renewing the existing grazing permit with new terms and conditions.

Alternative B – Change the Season of Use to Exclude Spring Grazing: This Alternative involves: 1) changing the season of use to November 16 to February 28 in order to exclude spring grazing, 2) renewing the existing grazing permit with new terms and conditions.

Alternative C – No Action: This Alternative involves renewing the current permit for a term of 10 years with the same terms and conditions as the existing permit.

**2.2 Alternative A – Proposed Action**

This Alternative is designed to allow grazing while increasing the desired plant species and protecting saline soils by implementing a grazing management system that would rest at least 50 percent of the allotment every spring.

The Proposed Action is the renewal of a grazing permit for cattle (refer to Table 2-1), operated under a grazing management system that incorporates spring rest in at least 50 percent of the allotment. Currently the allotment consists of two pastures: East and West, but these are unfenced and without topographic barriers to keep cattle within them.

The Proposed Action would serve as the functional equivalent of an Allotment Management Plan as described in 43 CFR 4120.2.

**Resource Objectives:**

- 1) Protect saline soils. (Moab RMP grazing decision, GRA-19: Grazing in Saline Soils, pg. 71)
- 2) Improve frequency, diversity, density, age classes, and productivity of desired plant species (Indian ricegrass, galleta grass, shadescale, Castlevally saltbush and mat saltbush, which is necessary to ensure reproductive capability and survival of these species in order to continue to meet Utah’s Rangeland Health Standards.

**Grazing Practices to meet resource objectives:**

Authorize cattle grazing during the season of use and with the number of AUMs identified in Table 2-1.

**Table 2-1: Grazing use to be authorized under the Proposed Action**

| Allotment Name and Number | Livestock |        |               | Active Permitted Use (AUMs) | Acres                 | Land Status             |
|---------------------------|-----------|--------|---------------|-----------------------------|-----------------------|-------------------------|
|                           | Number    | Kind   | Season of Use |                             |                       |                         |
| Monument Wash 05392       | 861       | Cattle | 11/16 to 5/15 | 4713                        | 70,462<br>8,736<br>91 | BLM<br>State<br>Private |

**Grazing Management Strategy:**

Currently there are no fenced pastures on the Monument Wash Allotment. The goal of the grazing management strategy is to create use areas that would allow a grazing management system which would include spring rest for at least 50 percent of the allotment each year.

Spring rest in at least 50 percent of the allotment would be accomplished by herding. The ranchers would also use temporary panels to close off any waters that they feel would assist in keeping the cattle in the proper use area. Each year the Moab Field Office and the permittee of the Monument Wash Allotment would meet before fall grazing and again before spring grazing to work together and determine which use areas would be closed to spring use, based on past use, available water, and climatic conditions. The grazing rotation would allow at least 50 percent of the allotment to be rested each year in the spring. The goal of this meeting would be optimal coverage of vascular plants and biological soil crusts. This annual meeting would also include discussion on continuing to meet Rangeland Health Standards, site stability and proper nutrient cycling. A sample grazing rotation is shown below in Table 2-2.

**Table 2-2: Sample of Grazing Rotation for a Four Year Period.**

| Spring Grazing (3/7 to 5/15) | East  | West  | North | South |
|------------------------------|-------|-------|-------|-------|
| Year 1                       | Graze | Rest  |       |       |
| Year 2                       | Rest  | Graze |       |       |
| Year 3                       |       |       | Graze | Rest  |
| Year 4                       |       |       | Rest  | Graze |

If after five years herding is not effective in allowing at least 50 percent of the allotment spring rest a fence would be constructed along the Yellowcat road that would create an east and west pasture on the allotment. One pasture would be rested every year in the spring.

Construction of this fence, if needed, would not occur during the antelope fawning season, May 1 through June 15. Design of the fence would follow Appendix D and would include an antelope friendly construction with lay-down fences, underpasses or other passages every 2 to 3 miles where antelope concentrate to cross. The grazing permittees would consult with the Moab Field Office prior to construction.

Each year the Moab Field Office and the permittee of the Monument Wash Allotment would meet before fall grazing and again before spring grazing to work together and determine how cattle would rotate through the use areas on the allotment based on past use, available water, and climatic conditions. The grazing rotation would allow at least 50 percent of the allotment to be rested each year in the spring. A sample grazing rotation is shown below in Table 2-3.

**Table 2-3: Sample of Grazing Rotation for a Four Year Period.**

| Spring Grazing (3/7 to 5/15) | East  | West  |
|------------------------------|-------|-------|
| Year 1                       | Graze | Rest  |
| Year 2                       | Rest  | Graze |
| Year 3                       | Graze | Rest  |

|        |      |       |
|--------|------|-------|
| Year 4 | Rest | Graze |
|--------|------|-------|

### **Monitoring Plan:**

Monitoring in the Moab Field Office is conducted following the Draft Utah Monitoring Manual for Upland Rangelands. The Monument Wash Allotment key areas for monitoring were converted to nested frequency and line point intercept for long term trend in 2010. In 2013 an enclosure was constructed at one existing key area and a new key area was established with an enclosure.

This monitoring along with soil stability monitoring will be used to determine if grazing management needs to be adjusted during the term of the permit.

#### **2.2.1 Terms and Conditions**

The following items would be included in the terms and conditions of the functional equivalent of the AMP and the ten year permit. The terms and conditions of the grazing permit may be modified if additional information indicates that a revision is necessary to conform to the grazing regulations in 43 CFR Part 4100.

1. When forage conditions are determined by the BLM to be sufficient to allow grazing by cattle without causing damage, the permittee has the flexibility of starting 45 days early or remaining 15 days late only Grazing would not be extended during the spring in drought years (less than 70 percent rainfall) and grazing would not exceed the permitted AUMs of 4,713.
2. An actual use grazing report must be submitted to the BLM within 15 days after the end of the grazing use period. Failure to file an actual use report may result in future grazing authorizations being withheld. Billing will be based on actual use.
3. Feeding protein supplements, salt-grain mixtures, hay, and/or other roughage on public lands is prohibited without prior authorization of the authorized officer. Protein blocks and salt would be placed in outlying areas as necessary to help distribute livestock. These must be at least ¼ mile from water sources.
4. Range improvements assigned in cooperative agreements and range improvement permits must be maintained in a usable condition prior to livestock use each year. Construction of new range improvements on BLM lands is prohibited without approval from the authorized officer. Maintenance would be in accordance with cooperative agreements and/or range improvement permits. Failure to maintain assigned projects in a satisfactory condition may result in withholding authorization to graze livestock until maintenance is completed.
5. As specified in the 2008 Moab RMP, moderate utilization levels (40 to 60 percent) would be used to indicate if general management objectives can be met. Utilization levels above those identified as appropriate would be used to adjust livestock use on a yearly basis and possible early removal from the allotment as needed. The majority of the allotment would meet utilization standards. Exceptions may be granted in concentration areas such as water developments and salting areas.

6. Grazing would be in conformance with 43 CFR Part 4180: Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration.
7. Livestock operations would be conducted in accordance with the functional equivalent of the Monument Wash AMP analyzed in the Proposed Action, including the resource objectives and the grazing practices to meet those resource objectives.
8. Each year the Moab Field Office and the permittee of the Monument Wash Allotment would meet before fall grazing and again before spring grazing to work together and determine which use areas would be closed to spring use, based on past use, available water, and climatic conditions.
9. In drought years (below 70 percent annual rainfall) to protect highly wind erodible soils (46 percent of the allotment), at the annual meeting stocking rate would be reduced by a minimum of 25 percent and/or the spring season would be reduced.

### 2.3 Alternative B – Change the Season of Use to Eliminate Spring Grazing

This Alternative is designed to allow grazing while increasing the desired plant species and protecting saline soils by changing the season of use. There would be a corresponding reduction in the stocking rate with 1,741 AUMs being placed into suspended use. The new active preference for the allotment would be 2,972 AUMs.

Alternative B is the same as the Proposed Action except the season of use would be changed to eliminate spring grazing from the Monument Wash Allotment, 1,741 AUMs would be placed into suspended use, terms and conditions one would reflect the reduction in Active AUMs (Table 2-4), and there would be no need to construct a pasture fence or to require herding of cattle.

**Table 2-4: Grazing use to be authorized under the Alternative B**

| Allotment Name and Number | Livestock |        |               | Active Permitted Use (AUMs) | Suspended AUMs | Acres                 | Land Status             |
|---------------------------|-----------|--------|---------------|-----------------------------|----------------|-----------------------|-------------------------|
|                           | Number    | Kind   | Season of Use |                             |                |                       |                         |
| Monument Wash 05392       | 861       | Cattle | 11/16 to 2/28 | 2972                        | 1741           | 70,462<br>8,736<br>91 | BLM<br>State<br>Private |

#### 2.3.1 Terms and Conditions

The terms and conditions are the same as the Proposed Action with the exception of:

1. When forage conditions are determined by the BLM to be sufficient to allow grazing by cattle without causing damage, the permittee has the flexibility of starting 45 days early or remaining 15 days late only Grazing would not be extended during the spring in drought years (less than 70 percent rainfall) and grazing would not exceed the permitted AUMs of 2,972.

## **2.4 Alternative C – No Action**

The existing permit was signed on August 19, 2014 for the term of August 6, 2014 to February 14, 2021 under the appropriations rider.

Under the No Action Alternative, the BLM would issue a new permit for 10 years with the same terms and conditions as the existing permit.

### **2.4.1 Terms and Conditions**

1. Supplemental feeding without written authorization is prohibited.
2. The requirement to maintain assigned range improvements is a condition of this permit.
3. An actual use report is due 15 days following grazing use.

## **2.5 Alternative Considered, but Eliminated from Further Analysis:**

### **2.5.1 Increase the Authorized AUMs on the Monument Wash Allotment (Externally generated from scoping comments received by The State of Utah, Office of the Governor).**

The permittee has not requested to analyze an increase in authorized AUMs. It is unknown whether this allotment could support an increase in AUMs.

### **2.5.2 Convert the Monument Wash Allotment to a Common Use Allotment with Cattle and Sheep (Externally generated from scoping comments received by The State of Utah, Office of the Governor).**

The permittee has not requested to change the Monument Wash Allotment to a common allotment that authorizes both cattle and sheep grazing.

### **2.5.3 No Grazing.**

This Alternative was considered but is eliminated from further consideration in this EA for the following reasons:

- There were no issues that required a “No Livestock Grazing Alternative” (no grazing for an indefinite period of time) to resolve them.
- The Moab RMP does not include this allotment as not available for livestock grazing.
- Rangeland Health Assessment evaluation shows that Standards 1, 2, 3, and 4 are being met under the current grazing season of use, class of livestock and AUMs authorized in the current permit.

#### **2.5.4 Proposed Action with a term and condition that allows six weeks flexibility at the end of the season. (Externally generated from comments received by the current permittee).**

This Alternative was considered but is eliminated from further consideration in this EA for the following reasons: Allowing grazing for the entire spring and early summer would not be in compliance with the the Moab RMP specifically;

- SOL-WAT-21-Develop BMPs for activities on saline and other sensitive soils. Allowing grazing for the entire spring and early summer would not be a BMP for grazing on saline and sensitive soils.
- SOL-WAT-24-Manage public lands in a manner consistent with the Colorado River Salinity Control Program, implementing BMPs and watershed restoration projects to reduce salinity contributions to the Colorado River system. Allowing grazing for the entire spring and early summer would not be a BMP for grazing on saline and sensitive soils.
- SOL-WAT-28-Grazing: Use grazing systems and develop AMPs to minimize impacts to saline Soils. Allowing grazing for the entire spring and early summer would not minimize impacts to saline and sensitive soils.
- GRA-19-Grazing in Saline Soils: Use grazing systems and develop AMPs to minimize impacts to saline soils and reduce salinity in the Colorado River drainage in the following allotments: Agate, Athena, Big Flat-Ten Mile, Cisco, Cisco Mesa, Coal Canyon, Crescent Canyon, Floy Creek, Harley Dome, Highlands, Horse Canyon, Little Grand, Lone Cone, Monument, and San Arroyo. Allowing grazing for the entire spring and early summer would not minimize impacts to saline and sensitive soils.

### **3.0 AFFECTED ENVIRONMENT**

#### **3.1 Introduction**

This chapter presents the potentially affected existing environment (i.e., the physical, biological, social, and economic values and resources) of the impact area as identified in the Interdisciplinary Team Checklist found in Appendix B and presented in Chapter 1 of this assessment. This chapter provides the baseline for comparison of impacts/consequences described in Chapter 4.

#### **3.2 General Setting**

The Monument Wash Allotment is located northeast of the Moab area and is bounded by Arches National Park to the south and west, the Highlands to the south, and the Cisco Allotment to the east.

The Monument Wash Allotment is a desert allotment. A map of the allotment is attached (Appendix A Map #1). The following list shows the acreage in the allotment and current active federal cattle AUMs within the allotment:

**BLM Acres**

70,462 acres

**Active AUMs**

4,713 AUMs

Scattered across the allotment are range improvements that were implemented to improve range conditions. These improvements consist of fencing (to control the livestock and keep them within a given area), cattle guards (to allow for easier recreational access), and water developments (reservoirs, spring developments, and wells to distribute livestock over a broader area and reduce livestock pressure on natural water sources).

Geographically, the area of the Proposed Action is part of the Colorado Plateau physiographic province. The area in general is mainly situated within residuum and alluvium soil deposits derived dominantly from marine shale. Soils vary from coarse sands, fine sandy loams, gravelly sandy loams, clay, silty clay loam and loams. Topography for the Monument Wash Allotment is mostly level to rolling terrain. Surface waters for this allotment drain into the Colorado River via a series of desert washes. There is one perennial water sources within the Monument Wash Allotment

The climate is characterized by cold winters, hot summers and with a range of 5-8 inches of annual precipitation within the Monument Wash Allotment. Elevation ranges from approximately 4,000 to 5,000 feet. Most precipitation falls during spring, late summer and winter months within the allotment. Soil erosion occurs mainly during summer thunderstorm events, as these are usually high intensity and short duration storms. Precipitation records for these allotments are available from three local rain gauges (refer to Appendix E- Evaluation of Utah's Standards for Rangeland Health and Guidelines for Grazing Management): .

The allotment contains habitat for both game and nongame wildlife species.

Historic cultural uses of the area include approximately 100 plus years of range use by livestock ranching. Livestock ranching was once a major part of the local traditions and economic enterprise; however, the social and economic emphasis of Grand County is currently based on tourism and recreation. Ranching now plays a minor role in the area's social-economic atmosphere.

### **3.3 Issues Brought Forward for Analysis**

All the issues listed in Chapter 1 are brought forward for analysis and are discussed in the chapter below.

As identified in Appendix B- Interdisciplinary Team Analysis Record Checklist, the following resources have the potential to be impacted 1) Livestock Grazing, 2) Vegetation, 3) Wildlife (Migratory Birds, Utah BLM Sensitive Species, Fish and Wildlife Excluding USFW Designated Species, 4) BLM State Sensitive Plant Species, and 5) Soils. Specific resources or issues that may be affected by one of the Alternatives are carried forward for analysis in Chapter 4 "Environmental Consequences".

### 3.3.1 Livestock Grazing

Currently the Monument Wash Allotment has an authorization for 861 head of cattle from November 16 through May 15 for a total of 4,713 AUMs. The allotment consists of 79,289 acres. The Monument Wash Allotment was grazed by sheep until the mid-1980's when it was converted to cattle.

The Monument Wash Allotment is divided into two pastures. The East pasture is east of Sagers wash and the West pasture is west of Sagers Wash, but the pasture boundary is not fenced and there are no effective topographic barriers that will keep the cattle in one pasture at a time. Currently there is no grazing management system in use on the allotment. Historically cattle have been grazed on the allotment by dispersing them throughout the allotment at the water locations, with limited herding into areas with available water.

### 3.3.2 Vegetation

There are three known vegetation types located in the Monument Wash Allotment. The dominant type is Salt Desert Scrub. Table 3-1 lists the three known types and the amount of acreage for each in the allotment.

**Table 3-1: Vegetation Types**

| Type              | Acres  |
|-------------------|--------|
| Blackbrush        | 1,587  |
| Sagebrush         | 780    |
| Salt Desert Scrub | 75,734 |
| Unknown           | 1,187  |

Some areas on the allotment show residual impacts from the sheep grazing that occurred, including sheep bedding areas where perennial vegetation has been replaced by annual wheatgrass or by non-native invasive species (cheatgrass, halogeton, Russian thistle).

### Ecological Sites

Rangeland landscapes are divided into ecological sites for the purposes of inventory, evaluation, and management. Ecological sites have developed a characteristic kind and amount of vegetation. The natural plant community on an ecological site is typified by an association of species that differs from that of other ecological sites, in the kind and/or proportion of species or in annual production. While the natural plant community of a particular ecological site is recognized by characteristic patterns of species associations and community structure, the specific species present from one location to another may exhibit tremendous variability. The natural plant community is not a precise assemblage of species for which the proportions are the same from place to place, or even in the same place from year to year (Utah Ecological Site Descriptions, 1994). The distinctive plant communities associated with each ecological site

(including the tremendous variability which frequently occurs) can be identified and described, and are called ecological site descriptions.

The ecological sites where grazing occurs in the Monument Wash Allotment are listed in Table 3-2 below.

**Table 3-2: Ecological Sites (Ecological Site Descriptions NRCS website)**

| <b>Ecological site</b>                                      | <b>Plants</b>  | <b>Key Areas</b> |
|---|--|------------------|
| Alkali Fan (Castlevalley Saltbush)                          | Castlevalley saltbush, shadscale, indian ricegrass, squirreltail, and galleta grass.       | None             |
| Alkali Flat (Greasewood)                                    | Greasewood, fourwing saltbush, indian ricegrass, bottlebrush squirreltail, globemallow.    | None             |
| Desert Clay (Castlevalley Saltbush)                         | Castlevalley saltbush, galleta grass, indian ricegrass, globemallow.                       | 5, 6, 7, and 8   |
| Semidesert Shallow Loam (Utah Juniper-Pinyon James Galleta) | Utah Juniper, fourwing saltbush, galleta grass, indian ricegrass, and sand dropseed.       | None             |
| Desert Sandy Loam (Fourwing Saltbush)                       | Galleta grass, indian ricegrass, sand dropseed, and fourwing saltbush                      | 4                |
| Desert Shallow Clay (Mat Saltbush)                          | Mat saltbush, galleta grass, and indian ricegrass  | 2, 3             |
| Desert Shallow Sandy Loam (Shadescale)                      | Shadescale and galleta grass. Indian ricegrass and sand dropseed may or may not be present | None             |
| Desert Loam (Shadescale)                                    | Galleta grass, indian ricegrass, sand dropseed, shadescale, and Torrey's jointfir.         | 1,9              |

**Common attributes used to characterize the health of vegetation**

**Frequency** – The ratio between the number of sample units that contain a species and the total number of sample units.

**Vigor** – The relative health of a plant, judged by observing its robustness and over-all ability to sustain and regenerate itself considering the climate and productivity of the site it occupies.

**Diversity** – The number of different species in a particular area weighted by some measure of abundance.

**Density** - Number of individuals per unit area

**Age classes** – The distribution of different ages of the same species or group of species on a site.

**Species productivity** – The amount of plant growth produced annually.

**Vegetative monitoring and trend on the Monument Wash Allotment**

Vegetative trend data is an important tool used in determining if current management actions are effective in meeting, or enabling progress towards meeting, objectives related to the allotment.

The trend of a plant community may be determined by noting changes in characteristics such as composition, density, cover, production, reproduction, and frequency of occurrence for vegetation species tempered with climatic variations and uses.

The important forage grass species on the Monument Wash Allotment include Jame’s galleta grass and indian ricegrass. Important shrub species are Castlevally saltbush, mat saltbush, shadescale, fourwing saltbush, and spiney hopsage. These species are the main plant species used to monitor vegetative trend on the Monument Wash Allotment. These forage species are also the dominant plant species for the ecological sites listed in Table 3-2.

In the Monument Wash Allotment, photo density plots were established in the 1980s and 1990s. In 2013, the density studies were replaced with nested frequency and point intercept trend transects, recording foliar cover at key areas. Key areas are a relatively small portion of a range selected because of its location, use, or grazing value as a monitoring point for grazing use. It is assumed that key areas, if properly selected, will reflect the overall acceptability of current grazing management over the range. Collected monitoring data is summarized and used to help determine directions in vegetative trend over a period of time. Historically nine key areas were established on the Monument Wash Allotment. In 2010, four out of the nine key areas were converted from density monitoring to frequency and point intercept monitoring. In 2013 key area 10 was established and baseline data was collected. Because only baseline data has been collected for key area 10, it was not used for the evaluation of trend on the allotment.

**Trend data**

***Frequency:***

As shown in Table 3-3 below the overall vegetation on Monument Wash Allotment is static to upward trend. Shadescale is the only plant in a downward trend in Key area 1. Spiney hopsage is the only plant in a downward trend in key area 4. Valley Saltbush and budsage are in a downward trend in key area 5. Key area 7 has no plant species in a downward trend.

**Table 3-3: Frequency Data Summary**

| Species            | Key Area 1<br>percent Frequency/Year |      |          |      |          |      |          |      | Trend Rating |
|--------------------|--------------------------------------|------|----------|------|----------|------|----------|------|--------------|
|                    | 6x6 in                               |      | 12x12 in |      | 24x12 in |      | 24x24 in |      |              |
|                    | 2010                                 | 2013 | 2010     | 2013 | 2010     | 2013 | 2010     | 2013 |              |
| Indian ricegrass   | 1                                    | 2    | 4        | 5    | 4        | 6    | 10       | 12   | Static       |
| Jame's galleta     | 14                                   | 23   | 26       | 36   | 38       | 46   | 52       | 58   | Up           |
| Shadescale         | 24                                   | 16   | 32       | 24   | 41       | 32   | 57       | 46   | Down         |
| Pricklypear cactus | 2                                    | 2    | 2        | 2    | 2        | 2    | 2        | 3    | Static       |
| Rabbitbrush        | 0                                    | 1    | 0        | 1    | 1        | 2    | 2        | 7    | Up           |
| Winterfat          | 0                                    | 0    | 0        | 1    | 0        | 1    | 2        | 2    | Static       |
| Sand dropseed      | 0.5                                  | 4.5  | 0.5      | 3    | 0        | 2    | 0        | 1    | Up           |

|                    |   |   |   |   |   |   |   |   |    |
|--------------------|---|---|---|---|---|---|---|---|----|
| Desert globemallow | 0 | 4 | 0 | 2 | 0 | 2 | 0 | 0 | Up |
|--------------------|---|---|---|---|---|---|---|---|----|

#### Key Area 4

| Species            | percent Frequency/Year |      |          |      |          |      |          |      | Trend Rating |
|--------------------|------------------------|------|----------|------|----------|------|----------|------|--------------|
|                    | 6x6 in                 |      | 12x12 in |      | 24x12 in |      | 24x24 in |      |              |
|                    | 2010                   | 2013 | 2010     | 2013 | 2010     | 2013 | 2010     | 2013 |              |
| Indian ricegrass   | 1                      | 2    | 4        | 2    | 4        | 2    | 11       | 10   | Static       |
| Jame's galleta     | 16                     | 20   | 32       | 37   | 44       | 46   | 56       | 56   | Up           |
| Fourwing Saltbush  | 0                      | 0    | 2        | 1    | 3        | 2    | 4        | 4    | Static       |
| Spiney hopsage     | 7                      | 6    | 8        | 8    | 12       | 9    | 16       | 12   | Down         |
| Pricklypear cactus | 2                      | 2    | 7        | 6    | 11       | 10   | 13       | 13   | Static       |
| Sand dropseed      | 2                      | 2    | 8        | 6    | 10       | 7    | 12       | 9    | Static       |
| Desert globemallow | 0                      | 8.5  | 0        | 4.5  | 0        | 2    | 0        | 1    | Up           |

#### Key Area 7

| Species            | percent Frequency/Year |      |          |      |          |      |          |      | Trend Rating |
|--------------------|------------------------|------|----------|------|----------|------|----------|------|--------------|
|                    | 6x6 in                 |      | 12x12 in |      | 24x12 in |      | 24x24 in |      |              |
|                    | 2010                   | 2013 | 2010     | 2013 | 2010     | 2013 | 2010     | 2013 |              |
| Indian ricegrass   | 0                      | 0    | 2        | 0    | 4        | 3    | 6        | 4    | Static       |
| Jame's galleta     | 16                     | 20   | 36       | 37   | 54       | 56   | 68       | 70   | Static       |
| Mat saltbush       | 4                      | 4    | 6        | 5    | 8        | 6    | 11       | 10   | Static       |
| Valley saltbush    | 12                     | 8    | 16       | 16   | 23       | 22   | 33       | 30   | Static       |
| Pricklypear cactus | 1                      | 0    | 2        | 2    | 2        | 2    | 4        | 4    | Static       |
| Winterfat          | 2                      | 1    | 3        | 4    | 6        | 7    | 10       | 13   | Static       |
| Sandberg bluegrass | 0                      | 0    | 0        | 0    | 0        | 0    | 1        | 2    | Static       |
| Budsage            | 2                      | 0    | 3        | 2    | 5        | 2    | 7        | 4    | Static       |
| Horsebrush         | 0                      | 0    | 2        | 2    | 2        | 2    | 2        | 2    | Static       |

#### Key Area 5

| Species            | percent Frequency/Year |      |          |      |          |      |          |      | Trend Rating |
|--------------------|------------------------|------|----------|------|----------|------|----------|------|--------------|
|                    | 6x6 in                 |      | 12x12 in |      | 24x12 in |      | 24x24 in |      |              |
|                    | 2010                   | 2013 | 2010     | 2013 | 2010     | 2013 | 2010     | 2013 |              |
| Jame's galleta     | 18                     | 16   | 30       | 33   | 40       | 39   | 52       | 52   | Up           |
| Mat saltbush       | 16                     | 18   | 22       | 22   | 29       | 28   | 36       | 36   | Static       |
| Valley saltbush    | 11                     | 10   | 20       | 16   | 26       | 22   | 32       | 31   | Down         |
| Budsage            | 3                      | 2    | 6        | 4    | 8        | 7    | 15       | 12   | Down         |
| Desert globemallow | 0                      | 0    | 0        | 2    | 0        | 2    | 0        | 4    | Up           |

Point Intercept

**Table 3-4: Point Intercept Data Summary**

| Species               | percent Cover by Year |       |       |
|-----------------------|-----------------------|-------|-------|
|                       | *2008                 | 2010  | 2013  |
| Bare Ground           | 18.00                 | 53.50 | 57.63 |
| Duff                  | 41.00                 | 6.63  | 0.50  |
| Embedded Litter       | 4.00                  | 11.00 | 2.50  |
| Other Litter          | 0.00                  | 0.00  | 13.38 |
| Woody Litter >5mm     | 2.00                  | 2.13  | 1.13  |
| Biological Soil Crust | 6.00                  | 2.50  | 1.00  |
| Rock >5mm             | 14.00                 | 2.75  | 5.00  |
| Indian ricegrass      | 6.00                  | 0.38  | 0.75  |
| Jame's galleta        | 9.00                  | 6.00  | 7.25  |
| Shadescale            | 11.00                 | 14.25 | 6.76  |
| Pricklypear cactus    | 1.00                  | 0.00  | 0.00  |
| Winterfat             | 1.00                  | 0.13  | 0.13  |
| Tansyaster            | 3.00                  | 0.00  | 0.00  |
| Cheatgrass            | 41.00                 | 0.38  | 1.26  |
| Halogeton             | 0.00                  | 0.00  | 0.75  |

| Species               | percent Cover by Year |       |       |
|-----------------------|-----------------------|-------|-------|
|                       | *2008                 | 2010  | 2013  |
| Bare Ground           | 21.00                 | 44.88 | 42.5  |
| Duff                  | 47.00                 |       |       |
| Embedded Litter       | 3.00                  | 21.13 | 1.25  |
| Other Litter          | 6.00                  | 0.13  | 15.25 |
| Woody Litter >5mm     | 1.00                  | 2.25  | 2.63  |
| Biological Soil Crust | 1.00                  | 0.50  | 0.13  |
| Indian ricegrass      | 0.00                  | 1.63  | 1.13  |
| Jame's galleta        | 7.00                  | 7.66  | 9.38  |
| Fourwing saltbush     | 0.00                  | 0.75  | 0.76  |
| Spiney hopsage        | 6.00                  | 2.88  | 3.13  |
| Pricklypear cactus    | 3.00                  | 0.79  | 1.63  |
| Desert globemallow    | 1.00                  | 0.13  | 0     |
| Sand dropseed         | 0.00                  | 1.50  | 1.88  |
| Broom snakeweed       | 4.00                  | 0     | 0.13  |
| Cheatgrass            | 54.00                 | 0     | 12.88 |
| Russian thistle       | 1.00                  | 15.63 | 6.88  |

| Species               | percent Cover by Year |       |       |
|-----------------------|-----------------------|-------|-------|
|                       | *2008                 | 2010  | 2013  |
| Bare Ground           | 45.00                 | 57.00 | 67.63 |
| Embedded Litter       | 0.00                  | 12.88 | 0.38  |
| Duff                  | 12.00                 | *     | *     |
| Other Litter          | 3.00                  | 0.00  | 14.88 |
| Woody Litter >5mm     | 1.00                  | 1.00  | 0.13  |
| Biological Soil Crust | 19.00                 | 7.13  | 0.13  |
| Rock >5mm             | 4.00                  | 1.13  | 3.75  |
| Indian ricegrass      | 0.00                  | 0.13  | 0.13  |
| Jame's galleta        | 8.00                  | 7.01  | 4.01  |
| Mat saltbush          | 3.00                  | 1.26  | 1.00  |
| Valley saltbush       |                       | 4.88  | 3.25  |
| Pricklypear cactus    | 0.00                  | 0.38  | 0.26  |
| Winterfat             | 0.00                  | 0.75  | 0.50  |
| Budsage               | 0.00                  | 0.38  | 0.25  |
| Grand buchwheat       | 5.00                  | 3.00  | 1.63  |
| Desert globemallow    | 0.00                  | 0.50  | 0.25  |

| Species               | percent Cover by Year |       |       |
|-----------------------|-----------------------|-------|-------|
|                       | *2008                 | 2010  | 2013  |
| Bare Ground           | 33.00                 | 54.88 | 67.50 |
| Duff                  | 13.00                 | 0.38  | 0.25  |
| Embedded Litter       | 0.00                  | 10.63 | 0.00  |
| Other Litter          | 13.00                 | 0.00  | 4.38  |
| Woody Litter >5mm     | 0.00                  | 1.25  | 0.63  |
| Biological Soil Crust | 14.00                 | 7.51  | 2.88  |
| Rock >5mm             | 10.00                 | 0.25  | 0.00  |
| Indian ricegrass      | 0.00                  | 0.13  | 0.00  |
| Jame's galleta        | 1.00                  | 5.66  | 5.88  |
| Mat Saltbush          | 14.00                 | 9.38  | 7.88  |
| Valley Saltbush       |                       | 6.25  | 6.74  |
| Budsage               | 0.00                  | 1.00  | 1.00  |
| Desert globemallow    | 0.00                  | 0.75  | 0.13  |
| Cheatgrass            | 21.00                 | 0.00  | 1.38  |
| Halogeton             | 0.00                  | 0.50  | 0.50  |

|                   |      |      |      |
|-------------------|------|------|------|
| Horsebrush        | 0.00 | 0.25 | 0.38 |
| Annual wheatgrass | 0.00 | 0.13 | 0.25 |
| Cheatgrass        | 9.00 | 1.13 | 0.13 |
| Halogeton         | 0.00 | 0.38 | 0.00 |

**\*\*Key Area 2**

| Species               | percent Cover by Year |       |
|-----------------------|-----------------------|-------|
|                       | *2008                 | 2010  |
| Bare Ground           | 24.00                 | 53.38 |
| Embedded Litter       | 0.00                  | 15.50 |
| Duff                  | 33.00                 | 0.13  |
| Other Litter          | 11.00                 | 0.00  |
| Woody Litter >5mm     | 2.00                  | 0.88  |
| Biological Soil Crust | 6.00                  | 5.13  |
| Rock >5mm             | 6.00                  | 0.00  |
| Indian ricegrass      | 0.00                  | 0.13  |
| Jame's galleta        | 2.00                  | 2.00  |
| Mat saltbush (ATCO4)  | 2.00                  | 1.00  |
| Valley saltbush       | 4.00                  | 4.25  |
| Budsage               | 0.00                  | 0.75  |
| Grand buchwheat       | 2.00                  | 0.75  |
| Desert globemallow    | 0.00                  | 0.13  |
| Halogeton             | 0.00                  | 4.00  |
| Cheatgrass            | 37.00                 | 0.25  |
| Plantain              | 3.00                  | 0.00  |

**\*\*Key Area 9**

| Species               | percent Cover by Year |       |
|-----------------------|-----------------------|-------|
|                       | *2008                 | 2010  |
| Bare Ground           | 11.00                 | 40.00 |
| Embedded Litter       | 0.00                  | 18.75 |
| Duff                  | 57.00                 | 0.63  |
| Other Litter          | 2.00                  | 0.00  |
| Woody Litter >5mm     | 1.00                  | 2.13  |
| Biological Soil Crust | 0.00                  | 0.13  |
| Rock >5mm             | 2.00                  | 6.50  |
| Indian ricegrass      | 0.00                  | 0.38  |
| Jame's galleta        | 7.00                  | 7.13  |
| Shadescale            | 0.00                  | 3.25  |
| Winterfat             | 1.00                  | 2.63  |
| Desert globemallow    | 1.00                  | 2.50  |
| Russian Thistle       | 0.00                  | 0.50  |
| Cheatgrass            | 61.00                 | 2.75  |
| Halogeton             | 8.00                  | 7.63  |

**\*\*Key Area 8**

| Species               | percent Cover by Year |       |
|-----------------------|-----------------------|-------|
|                       | *2008                 | 2010  |
| Bare Ground           | 25.00                 | 43.63 |
| Embedded Litter       | 1.00                  | 24.13 |
| Duff                  | 25.00                 | 0.25  |
| Other Litter          | 19.00                 | 0.00  |
| Woody Litter >5mm     | 0.00                  | 0.75  |
| Biological Soil Crust | 2.00                  | 0.79  |
| Rock >5mm             | 7.00                  | 4.38  |
| Indian ricegrass      | 2.00                  | 0.13  |
| Jame's galleta        | 20.00                 | 8.25  |
| Shadescale            | 5.00                  | 4.00  |

**\*\*Key Area 6**

| Species           | percent Cover by Year |       |
|-------------------|-----------------------|-------|
|                   | *2008                 | 2010  |
| Bare Ground       | 39.00                 | 66.25 |
| Embedded Litter   | 0.00                  | 10.38 |
| Duff              | 29.00                 | 0.00  |
| Other Litter      | 9.00                  | 0.00  |
| Woody Litter >5mm | 0.00                  | 1.13  |
| Rock >5mm         | 2.00                  | 2.75  |
| Indian ricegrass  | 2.00                  | 0.13  |
| Jame's galleta    | 3.00                  | 0.25  |
| Mat saltbush      | 5.00                  | 4.25  |
| Valley saltbush   | 9.00                  | 3.63  |

|                    |       |      |
|--------------------|-------|------|
| Sand Dropseed      | 0.00  | 1.25 |
| Pricklypear cactus | 1.00  | 0.13 |
| Winterfat          | 0.00  | 0.50 |
| Desert globemallow | 0.00  | 0.25 |
| Russian Thistle    | 0.00  | 0.63 |
| Cheatgrass         | 22.00 | 3.38 |
| Halogeton          | 0.00  | 4.38 |

|                   |      |      |
|-------------------|------|------|
| Annual wheatgrass | 0.00 | 3.88 |
| Cheatgrass        | 0.00 | 2.25 |

**\*\*Key Area 3**

| Species               | percent Cover by Year |       |
|-----------------------|-----------------------|-------|
|                       | *2008                 | 2010  |
| Bare Ground           | 25.00                 | 44.00 |
| Embedded Litter       | 0.00                  | 8.00  |
| Duff                  | 53.00                 | 4.00  |
| Woody Litter >5mm     | 0.00                  | 0.63  |
| Biological Soil Crust | 11.00                 | 0.13  |
| Rock >5mm             | 0.00                  | 0.13  |
| Plantain              | 1.00                  | 0.00  |
| Cheatgrass            | 40.00                 | 2.00  |
| Halogeton             | 1.00                  | 15.50 |
| Russian Thistle       | 15.00                 | 19.75 |

\* The line point intercept data was collected by running two 50 foot transects for a total of 100 cover points. In 2010 and 2013 the line point intercept data was collected using the Draft Utah Monitoring Manual protocol which, collects 800 points of cover data.

\*\* Data at these key areas was utilized for rangeland health evaluation but no long term trend.

**Actual Use Data**

As summarized in appendix F of this EA, the average actual use from 1987 to 2015 was 2,864 AUMs used or 60 percent of the active preference AUMs. The average actual use reflects a normal range of actual use based on adjusting each year for climatic conditions and changes in the ranching operation.

**Utah’s Rangeland Health Standards:**

The evaluation conducted on the Monument Wash Allotment found that Standard 3 (Desired Species) was being met for the allotment with the exception of key area 3, which appears to be an old sheep bedding ground that is currently a monoculture of invasive species (see appendix E)

### 3.3.3 Wildlife (Migratory Birds, Sensitive Species, Fish and Wildlife Excluding USFW Designated Species)

#### Utah BLM Sensitive Species

Special Status Species Management Policy 6840 requires the BLM to manage State Sensitive Animal Species to prevent the need for future listing under the ESA. A total of 40 Utah State Sensitive Animal Species animals potentially occur within the MFO, seventeen (17) are either known to occur or the habitat is present for the species to potentially occur within the action area (UDWR, 2015), though six will not be impacted by the Proposed Action and will not be discussed further within this EA

The BLM maintains a list of sensitive species that may occur on BLM managed lands. The BLM Utah State director's Sensitive Species List includes those that are Federally listed species that are listed in Table 3-4 and also those identified by the BLM and those listed as State sensitive by the State of Utah. These species are either on the BLM Utah State director's Sensitive Species List or the Utah Division of Wildlife Resources' (UDWR) State Sensitive Species List. A brief description for wildlife species that will be further analyzed follows this table.

**Table 3-5: Special Status Species Occurring in Utah**

| Common Name<br>(Scientific Name)                               | Habitat   | Habitat Value†<br>and/or Known<br>Occurrence in<br>Project Area | Habitat Potential<br>Within Project<br>Area, that may be<br>impacted Project<br>Activities  | Further<br>Analysis<br>(Yes/No) |
|--|---|---|---|---------------------------------|
| <b>Mammals</b>   |   |   |   |                                 |
| Allen’s big-eared bat<br>( <i>Idionycteris phyllotis</i> )     | Rocky and riparian areas in woodland and scrubland regions, roosts in caves or rock crevices.                                 | Substantial Value†  | Species may occur within the project area. Livestock activities typically occurs during the day when bats are roosting, therefore no direct impacts will occur to bats that forage in the project area. Minimum site specific habitat alteration may occur but are not expected to reduce insect forage base. No impacts expected during roosting or to roosts. | No                              |
| Big free-tailed bat<br>( <i>Nyctinomops macrotis</i> )         | Rocky and woodland habitats, roosts in caves, mines, old buildings, and rock crevices.  | No Habitat†   |   | No                              |
| Fringed myotis<br>( <i>Myotis thysanodes</i> )                 | Desert and woodland areas, roosts in caves, mines, and buildings.   | Substantial Value†  |   | No                              |
| Spotted bat<br>( <i>Euderma maculatum</i> )                    | Found in a variety of habitats, ranging from deserts to forested mountains; roost and hibernate in caves and rock crevices.   | Substantial Value†  |   | No                              |
| Townsend’s big-eared bat<br>( <i>Corynorhinus townsendii</i> ) | Occur in many types of habitat, but is often found near forested areas; roosts and hibernates in caves, mines, and buildings. | Limited Value†.   |   | No                              |

| Common Name<br>(Scientific Name)                        | Habitat  | Habitat Value†<br>and/or Known<br>Occurrence in<br>Project Area | Habitat Potential<br>Within Project<br>Area, that may be<br>impacted Project<br>Activities  | Further<br>Analysis<br>(Yes/No) |
|---|--|---|---|---------------------------------|
| Western Red Bat<br>( <i>Lasiurus blossevillii</i> )     | Found near water, often in wooded areas, extremely rare in Utah.   | No Habitat†   |   | No                              |
| Gunnison's prairie dog<br>( <i>Cynomys gunnisoni</i> )  | Grasslands, semidesert and montane shrublands  | No Habitat†   | No habitat in project area.   | No                              |
| Kit fox<br>( <i>Vulpes macrotis</i> )                   | Open prairie, plains, and desert habitats  | No Habitat†   | Known occupancy – moderate potential for occurrence   | Yes                             |
| White-tailed prairie dog<br>( <i>Cynomys leucurus</i> ) | Semi desert grasslands and open shrublands   | Occupied/<br>Critical†  | Known occupancy - high potential for occurrence   | Yes                             |
| <b>Birds</b>  |  |   |   |                                 |
| Bald Eagle<br>( <i>Haliaeetus leucocephalus</i> )       | Roosts and nests in tall trees near bodies of water.   | Winter †  | Occasional winter sightings in project area, typically feeding on carrion along I-70. Cattle grazing on winter habitats is not expected to impact birds or habitat. No known winter roosts in allotment | No                              |
| Bobolink<br>( <i>Dolichonyx oryzivorus</i> )            | Riparian or wetland areas.   | No Habitat†   | Rare migrant on BLM lands   | No                              |
| Burrowing owl<br>( <i>Athene cunicularia</i> )          | Open grassland and prairies.   | Primary<br>Breeding†  | Known occupancy - high potential for occurrence   | Yes                             |
| Ferruginous hawk<br>( <i>Buteo regalis</i> )            | Flat and rolling terrain in grassland or shrub steppe; nests on elevated cliffs, buttes, or creek banks.               | No Habitat†   | Occupied nesting territories - high potential for occurrence  | Yes                             |
| Long-billed curlew<br>( <i>Numenius americanus</i> )    | Grassland/ herbaceous-nesting in mixed fields with adequate, but not tall, grass cover and fields with elevated points | No Habitat†   | Minimum habitat and occurrence in the MFO.  | No                              |
| Short-eared owl<br>( <i>Asio flammeus</i> )             | Grasslands, shrublands, and other open habitats.   | Winter†   | Occasional winter resident, nesting does not occur in project area  | No                              |
| <b>Fish</b>   |  |   |   |                                 |

| Common Name<br>(Scientific Name)                        | Habitat  | Habitat Value†<br>and/or Known<br>Occurrence in<br>Project Area | Habitat Potential<br>Within Project<br>Area, that may be<br>impacted Project<br>Activities | Further<br>Analysis<br>(Yes/No) |
|---|--|---|--|---------------------------------|
| Bluehead sucker<br>( <i>Catostomus discobolus</i> )     | Fast flowing water in high gradient reaches of mountain rivers                               | No Habitat†   | No Potential   | No                              |
| Roundtail chub<br>( <i>Gila robusta</i> )               | Large rivers, and is most often found in murky pools near strong currents                    |   |  | No                              |
| Flannelmouth sucker<br>( <i>Catostomus latipinnis</i> ) | Large rivers, where they are often found in deep pools of slow-flowing, low gradient reaches |   |  | No                              |

† Utah Conservation Data Center

### *Ferruginous Hawks*

Ferruginous hawks are summer residents in open areas throughout Utah and year-round residents in southern Utah. Ferruginous hawks occur in grasslands, agricultural lands, sagebrush/saltbush/greasewood shrub lands, and at the margins of pinyon-juniper forests. These hawks exhibit a strong preference for elevated nest sites, cliffs, buttes, and creek banks. During winter, they use open farmlands, grasslands, deserts, and other arid regions where rabbits, prairie dogs, or other major prey species are present. The primary food is small mammals and in western Utah ferruginous hawks eat a large numbers of prairie dogs. There are documented nesting territories in the West Pasture.

### *Burrowing Owls*

Burrowing owls are summer residents on much of Utah's plains and are casual winter residents in southern Utah and are known to nest within the project area. Burrowing owls are associated with dry, open habitat that has short vegetation and prairie dog burrows. Burrowing owls' diets consist of mainly insects, but the owl also consumes a variety of small mammals, birds, frogs, toads, lizards, and snakes. The presence of active and abandoned prairie dog colonies indicates there is suitable burrowing owl nesting habitat. There have been numerous nests documented throughout the allotment. The many acres of active and abandoned prairie dog colonies indicate the potential to expand burrowing owl nesting habitat.

### *Prairie dogs*

Throughout the allotment there are both large historic and active white-tailed prairie dog colonies and ample expansion habitats for currently active colonies. Their diet consists mainly of grasses, stems, seeds, roots and bulbs. The populations of the prairie-dogs have been cyclic. During the past decade, the populations of prairie-dogs have been low throughout the Cisco Desert due to drought and possible plague infections. Though population densities are still far below those recorded in the mid-1980s, prairie-dog populations have been increasing due to higher precipitation and persistent moisture in the last few years. The many acres of active and abandoned prairie dog colonies indicate potential for expansion of prairie dog populations.

### *Kit Fox*

The kit fox is native to much of the western United States and northern Mexico and is primarily nocturnal, but individuals may be found outside of their dens during the day. The species most often occurs in open prairie, plains, and desert habitats. The kit fox opportunistically feeds on small mammals, small birds, insects and plant matter. Currently no active dens have been documented within the allotment but there are known occurrences and historic den locations in the area. They generally live in small groups, digging clusters of dens with multiple entrances and have a strong affinity to natal den sites. Potential threats to the kit fox include diminishing prey base (small mammals and rodents) and water developments that encourage coyote and red fox distribution into kit fox home ranges, leading to competition and kit fox predation. Disturbances near natal dens while cubs are utilizing the den should be avoided. Typically natal and historic dens are occupied from March 1 through July 31. There are many documented sightings throughout the allotment and one den reported in the East Pasture and the entire allotment offers excellent habitat.

### **Migratory Birds**

A variety of migratory song bird species may use the Monument Wash Allotment for breeding, nesting, foraging, and migratory habitats. Migratory birds are protected under the Migratory Bird Treaty Act of 1918 (MBTA). Unless permitted by regulations, the MBTA makes it unlawful to pursue, hunt, kill, capture, possess, buy, sell, purchase, or barter any migratory bird, including the feathers or other parts, nests, eggs, or migratory bird products. In addition to the MBTA, Executive Order 13186 sets forth the responsibilities of Federal agencies to further implement the provisions of the MBTA by integrating bird conservation principles and practices into agency activities and by ensuring that Federal actions evaluate the effects of actions and agency plans on migratory birds.

A Memorandum of Understanding (MOU) between the BLM and USFWS (BLM MOU WO-230-2010-04) provides direction for the management of migratory birds to promote their conservation. At the project level, the MOU direction includes evaluating the effects of the BLM's actions on migratory birds during the NEPA process; identify potential measurable negative effects on migratory bird populations, focusing first on species of concern, priority habitats, and key risk factors. In such situations, BLM would implement approaches to lessen potential take. Identifying species of concern, priority habitats, and key risk factors includes identifying species listed on the USFWS Birds of Conservation Concern (BCC) that are most likely to be present in the project area and evaluating and considering management objectives and recommendations for migratory birds resulting from comprehensive planning efforts, such as Utah Partners in Flight American Land Bird Conservation Plan. The Utah Partners in Flight (UPIF) Working Group completed a statewide avian conservation strategy identifying "priority species" for conservation due to declining abundance distribution, or vulnerability to various local and/or range-wide risk factors. One application of the strategy and priority list is to give these birds specific consideration when analyzing effects of proposed management actions and to implement recommended conservation measures where appropriate.

The UPIF Priority Species List, the BCC list for Region 16 (Colorado Plateau) and the Utah Conservation Data Center database were used to identify potential habitat for priority species that could utilize habitats within this allotment.

Potential species are listed below.

**Table 3-6: Migratory Bird Priority Species**

| Species          | BCC§ | PIF‡ | UDWR Habitat Value† | Breeding Habitat‡             | Winter Habitat‡   |
|------------------|------|------|---------------------|-------------------------------|-------------------|
| Bald Eagle*      | X    |      | Winter              | Lowland Riparian              | Lowland Riparian  |
| Burrowing Owl    | X    |      | Critical            | High Desert Scrub/Grassland   | Migrant           |
| Brewer Sparrow   | X    | X    | High Value Habitat  | Shrubsteppe/High Desert Scrub | Migrant           |
| Ferruginous Hawk | X    | X    | Breeding Habitat    | Pinyon-Juniper                | Grassland         |
| Golden Eagle     | X    |      | Critical/High       | Cliff                         | High Desert Scrub |
| Sage Sparrow     |      | X    | Critical            | Shrubsteppe                   | Low Desert Scrub  |

\*State Sensitive Species §Birds of Conservation Concern 2008 (USFWS, 2008) † Utah Conservation Data Center ‡Utah Partners in Flight Avian Conservation Strategy Version 2.0.

### ***Raptors***

Raptors and eagles typically use the same nest site year after year. Nesting and fledgling seasons for raptors vary but typically extend from March 1 through August 31 with eagles often beginning their nesting season in January. The Project Area also offers suitable wintering and migration habitats for non-nesting several raptor species. The U.S. Fish and Wildlife Service (USFWS) issued guidelines for the protection of raptors that includes species-specific timing limitations and spatial offsets to active nests (Romin and Muck 2002). These guidelines have been incorporated into the BLM RMP.

Additionally, the Bald and Golden Eagle Protection Act, which initially protected only bald eagles, was amended in 1962 to include the golden eagle because of its dwindling populations and similar appearance to bald eagles when both eagles are young. The act prohibits anyone from "taking" eagles, including their parts, nests, or eggs without a permit issued by the Secretary of the Interior. A taking also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment.

### ***General Wildlife***

Animals typically associated with desert shrub and greasewood plant communities are found in this area and may include numerous species of snakes, lizards, small mammals and songbirds.

The most commonly observed species include gopher snakes, antelope ground squirrels, cottontail rabbits, blacktail jackrabbit, mourning doves, horned larks, and ravens. Predator species such as cougar, coyotes and fox can also be found here. The plant communities in the allotment would provide nesting habitat for various bird species.

### ***Pronghorn Antelope***

Pronghorn can be found throughout the western United States, Canada, and northern Mexico. They are generally associated with open plains where they feed mainly on forbs and grasses. Pronghorn prefer to occupy areas with large tracts of flat to rolling open terrain where they rely on keen eyesight and swift movement to avoid predators. They also rely on vegetation within the shrub and grassland plant communities for food. Pronghorn are often found in small groups and are usually most active during the day.

The UDWR and the Moab BLM have identified approximately 73,285 acres of year round crucial habitat for antelope in the Monument Wash Allotment. The herd was approaching over 900 animals but drought in the late 1990s reduced the Cisco antelope herd to fewer than 200 animals in 2004. Increased precipitation in recent years has helped to produced adequate vegetation resulting in improved fawn and adult survival. Antelope numbers have since increased to over 600 animals as of late 2014. Lack of consistent water sources, adequate forage availability and vegetative cover for antelope fawning may be limiting factors to antelope populations in the Cisco Desert.

### **3.3.4 Soils**

Soil information comes from the Soil Survey of Grand County Utah, Central Part (USDA,1981) and from field observations made during assessments and monitoring of the allotment. Based on existing soil survey information and field observations approximately 69,068 acres (87 percent) of the soils in the allotment are considered sensitive. Sensitive soils are defined as soils having characteristics that make them extremely susceptible to impacts or difficult to reclaim or restore after disturbance. They include soils that have high water or wind erosion, are saline or sodic, are droughty or have limitations to grazing, low nutrient levels, or very steep slopes (MFO Resource Management Plan October 2008).

The allotment contains 54,331 acres (69 percent) moderately saline soils, 36,696 acres (46 percent) of soils with high wind erosion potential, and 3,362 acres of dust blowout area.

Below is a summary of sensitive soils (map #2) that occur in the allotment. Note that soils may have multiple limitations, such as moderate salinity and high wind erosion hazard.

#### ***Moderately saline soils:***

Approximately 54,331 acres or 69 percent of the allotment have moderately saline soils (map #5). These soils can contribute salinity and selenium to the Colorado River Basin by storm runoff to the Colorado River (USDI BLM RMP p. 3-126).

*Soils with high wind erosion potential:*

Soils susceptible to with high wind erosion cover 36,696 acres, about 46 percent of the allotment (map #6). These soils should be managed to maintain vegetation based on desired future condition to provide adequate ground cover to prevent accelerated erosion in wind erodible soils (Moab RMP, SOL-WAT-12). Salt desert shrub communities are often susceptible to severe drought and may require partial or total removal of livestock during prolonged drought (USDA, SCS, Grand County Soil Survey, Central Part, 1989). The best management practices in trying to achieve the DFC during extended drought conditions are to avoid unnecessary disturbance.

*Dust blowout areas:*

There are six dust blowout areas in the Monument Wash Allotment that is approximately 3,362 acres, (see Map #3).

*Soils adversely affected by drought:*

Almost 89 percent (70,631 acres) of the allotment, are drought intolerant soils (see Map #4 in Appendix A). The soil survey describes these soils as follows, “Severe drought may adversely affect the production of the perennial vegetation. Partial or total removal of livestock from the range may be necessary” (USDA, 1981). Drought conditions should be assessed on a seasonal basis as annual rainfall totals can be skewed by one or two large storms in late fall or winter.

*Biological Soil Crusts (BSC):*

The biological soil crusts provide healthy nutrient cycling, increasing plant production, which decrease sediment movement and erosion. Biological soil crusts are found within portions of the allotment but as table 3-8 shows they are not a large percent of cover with the exception of Alkali Flat. Biological soil crusts are not commonly found on deeper well drained soils with sandy surface textures or the heavy clay and rocky surfaces associated with the Morrison formation.

**Table 3-7: Expected percent Biological Soil Crust Cover**

| Ecological site   | Expected Biological Soil Crust ( percent Cover) | Key Areas      |
|---|---|----------------|
| Alkali Fan (Castlevalley Saltbush)                          | 0   | none           |
| Alkali Flat (Greasewood)                                    | 10 to 55  | none           |
| Desert Clay (Castlevalley Saltbush)                         | 0 to 10   | 5, 6, 7, and 8 |
| Semidesert Shallow Loam (Utah Juniper-Pinyon James Galleta) | 0 to 2  | None           |
| Desert Sandy Loam (Fourwing Saltbush)                       | 1 to 10   | 4              |
| Desert Shallow Clay (Mat Saltbush)                          | 0 to 5  | 2, 3           |

|  |         |      |
|--|---------|------|
| Desert Shallow Sandy Loam (Shadescale) | 0 to 5  | None |
| Desert Loam (Shadescale)               | 0 to 28 | 1,9  |

**Utah’s Rangeland Health Standards:**

The evaluation conducted on the Monument Wash Allotment found that Standard 1 (Upland Soils) was being met for the allotment with the exception of key area 3, which appears to be an old sheep bedding ground that is currently a monoculture of invasive species (see appendix E)

**4.0 ENVIRONMENTAL IMPACTS**

**4.1 Introduction**

This chapter analyzes the impacts of the Alternatives to Livestock Grazing, Vegetation, and Wildlife (Migratory Birds, Sensitive Species, Fish and Wildlife Excluding USFW Designated Species), and Soils.

The potential consequences or effects of each Alternative are discussed in this section. The intent is to provide the scientific and analytical basis for comparison of the effect of each Alternative. This section analyzes the impacts of the Alternatives to those resources described in Chapter 3, Affected Environment above. A potential impact is defined as any change or alteration in the existing condition of the environment related to implementation of the Alternative, either directly or indirectly. Impacts can be beneficial to the resource (positive) or adverse (negative) and can be either long-term (permanent) or short-term (incidental and/or temporary).

**4.2.1 Alternative A – Proposed Action**

**4.2.1.1 Livestock Grazing**

The Proposed Action would implement a rotation grazing management system which would rest at least 50 percent of the allotment during the spring every year. “When properly applied, grazing management systems are powerful tools that can help rangeland and livestock managers achieve management objectives related to range-land and livestock production.” (Howery, Sprinkle, and Bowns, 2000). Perennial grasses vary in sensitivity to utilization, but a majority of them sustain little damage if grazing stops in time for them to complete seed maturation (Heady and Child, 1994).

The timing of grazing can have a significant impact on plant productivity and vigor, especially if livestock are repeatedly present during plant growth and reproductive stages (McGinty, Baldwin, and Banner 2009). These stages occur in the spring for shrubs and cool season grasses. If grazing is properly managed during the spring, plants can build their root systems and increase

nutrient storage. The result is more robust plants which are more likely to survive and increase overall forage production (McGinty, Baldwin, and Banner 2009).

The implementation of a grazing management system which rests at least 50 percent of the allotment each year during the spring would continue to maintain and improve the vigor and productivity of the forage plants on the Monument Wash Allotment because at least 50 percent of the allotment would be rested during spring, which as stated above is a critical time for plant growth, reproduction, and nutrient storage. Rotational systems schematically rotate cattle through a series of pastures during a calendar period. In theory, this type of system should provide a period of rest, recovery, and re-growth of grazed plants.” (Encinias and Smallidge, 2010).

Spring rest would allow plants that were grazed during the Fall and Winter the opportunity to regrow from stored carbohydrates which would maintain sufficient residual vegetation and litter on upland sites to protect the soil from wind and water erosion and support ecological functions with no grazing pressure. The implementation of a grazing management system which allows spring rest would ensure that plants are able to store enough carbohydrates to meet the physiological requirements of desired plants and facilitate reproduction and maintenance of desired plants to the extent natural conditions allow.

The Proposed Action includes a term and condition that limits utilization to an average of 50 percent (41 to 60 percent) utilization. “Using the suggested moderate utilization level of 50 percent as an **end of growing season value** ensures that half of the current year’s biomass (production), by weight, can be removed without affecting the health of the plants. Moderate grazing also provides an adequate yearlong cover crop that will protect the soil surface from wind and water erosion.” (Draft Utah Monitoring Manual, Appendix G Utilization Studies Pg. 300).

The Proposed Action includes a term and condition that require the permittee to maintain all range improvements on the allotment. Priority would be given to improvements that are critical to make the grazing management system work.

The Proposed Action would maintain a productive ranching operation by managing the Monument Wash Allotment for long term sustainability and would continue the use of a renewable resource for food production. To make the grazing management system succeed, range improvements such as fences and water developments may have to be either constructed or repaired and maintained, to ensure that cattle would not have access to the areas in the allotment that t are being rested.

#### **4.2.1.2 Vegetation**

Plants use water and carbon dioxide in the presence of sunlight to create carbohydrates and oxygen (a process called photosynthesis). Plants use carbohydrates as an energy source for growth. When plant growth slows and more carbohydrates are produced than needed for growth,

the surplus carbohydrates are stored. These reserves are important for the plant's survival over winter and for initiation of plant growth in spring. Regrowth after grazing depends on energy being produced either by the remaining leaf area, or from the carbohydrate reserves. (Ontario Ministry of Agriculture and Food. Publication 19, Pasture Production)

Plant growth starts slowly in the spring. Carbohydrate reserves stored in stem bases, roots, rhizomes and stolons have to be mobilized before they can be used to fuel growth. Once leaf area develops, growth quickens as the plant has an immediate source of energy from photosynthesis. After this vegetative period of fast growth is over, the plant becomes reproductive, growth slows and carbohydrate reserves are replenished. (Ontario Ministry of Agriculture and Food. Publication 19, Pasture Production)

Grazed plants left with enough leaf area to continue photosynthesizing regrow at a quicker rate, as they are not dependent on carbohydrate reserves. Plants frequently closely grazed can be damaged because they are unable to restore their carbohydrate reserves. With each defoliation, the plant's reserves are reduced and with time, depleted. In addition, any intensity of grazing causes plant root damage, root weight, length and vigor are reduced. The extent of the damage increases with the severity of the defoliation. (Ontario Ministry of Agriculture and Food. Publication 19, Pasture Production 2000)

Numerous benefits to the vegetation communities of the Monument Wash Allotment are incorporated into the Proposed Action. At least 50 percent of the allotment would be rested during the critical spring growing season every year (March 7 through May 15). The benefits of spring rest to the vegetative communities would include rest for the grasses, forbs and shrubs. Throughout the allotment, the benefits of spring rest include; forage production, seed production, good plant vigor, aid in seed dispersal and establishment of young plants.

Perennial grasses vary in sensitivity to utilization, but a majority of them sustain little damage if grazing stops in time for them to complete seed maturation (Heady and Child 1994). The Proposed Action includes a term and condition that would limit utilization to moderate levels (40 to 60 percent). Based on history of grazing in this allotment and current rangeland health conditions, this level of utilization is expected to continue to benefit desired plant species and maintain rangeland health.

The Proposed Action includes a term and condition that limits utilization to an average of 50 percent (41 to 60 percent) utilization. "Using the suggested moderate utilization level of 50 percent as an **end of growing season value** ensures that half of the current year's biomass (production), by weight, can be removed without affecting the health of the plants. Moderate grazing also provides an adequate yearlong cover crop that will protect the soil surface from wind and water erosion." (Draft Utah Monitoring Manual, Appendix G Utilization Studies Pg. 300).

The timing of grazing can have a significant impact on plant productivity and vigor, especially if livestock are repeatedly present during plant growth and reproductive stages (McGinty, Baldwin,

and Banner 2009) which occur in the spring for shrubs and cool season grasses. If grazing is properly managed during the spring, plants can build their root systems and increase nutrient storage. The result is more robust plants which are more likely to survive and increase overall forage production (McGinty, Baldwin, and Banner 2009).

Limiting spring grazing would help to maintain the vigor and productivity of the forage plants on the Monument Wash Allotment because at least 50 percent of the allotment would be rested during the critical spring growing season every year (March 7 through May 15), which as stated above is a critical time for plant growth, reproduction, and nutrient storage. Limited livestock grazing in the spring would allow plants to maintain the necessary protection to continue to be in compliance with the Grazing Guidelines

Implementation of a grazing system that allows at least 50 percent of the Monument Wash Allotment spring rest would continue to keep the allotment meeting rangeland standard 3 (Desired Species) at all key areas by improving vigor, reproductive capability, forage production, and composition of desired species. Those key areas that were meeting standard 3 (Desired Species) but at a lower amount of desired species would have the potential to continue to improve, by improving vigor, reproductive capability, forage production, and composition of desired species.

#### **4.2.1.3 Wildlife (Migratory Birds, Sensitive Species, Fish and Wildlife Excluding USFW Designated Species)**

Currently the entire Monument Wash Allotment is available for grazing from November 16 through May 15. The Proposed Action is developed to limit spring grazing in at least 50 percent or more of the allotment each year through an AMP that will rotate spring use for through three pastures for approximately 60 days per year in each area therefore spring grazing would not occur every year on two out of three pastures. As discussed in the Vegetation Section above, the timing of grazing can have a significant impact on plant productivity and vigor. If grazing is properly managed during the spring the result is more robust plants which are more likely to survive and increase overall forage production.

Due to the removal of spring grazing in approximately half the allotment, the analysis of the Proposed Action will assume that in the spring rested pastures(s), spring vegetative conditions will offer denser and taller vegetative cover during the spring (see Vegetation Section 4.2.1.2) then the current grazing system (No Action). It will also be assumed that there will be lack of physical grazing pressure in the spring in the rested portion of the allotment. It is also assumed that in the spring grazed pasture(s) there would be a greater reduction in vegetative structure up to a moderate utilization level and greater physical grazing pressure than the current grazing system as all cattle will be in one or two pastures.

## General Wildlife

Animals such as small mammals, reptiles, songbirds and insects rely on the cover and forage provided by the vegetative community they inhabit. This vegetative community offers forage and cover in the forms of leaves, stems, roots, seeds, pollen, canopy cover and duff for various animals and insects. Predator species such as mountain lions, coyotes, fox, badgers, birds and raptors are dependent upon the quantity and quality of their prey base, which is typically smaller mammals, reptiles, songbirds and insects that are reliant on the vegetative base. The ecological condition of the range directly affects the quality and quantity of the vegetative communities that support the wildlife in the allotment.

Vegetative structure often provides cover for various wildlife species and their life functions. Vegetative cover offers protection from the elements and predators and in the spring many wildlife species rely on dense and tall vegetation to give birth, protect their young from the elements and hide their young from predators. Adequate vegetative density and diversity is important to many wildlife species during the birthing and rearing of their young as the need for nutrition is typically great during this time. Additionally some wildlife species do not tolerate the presence of cattle well, especially during the spring, due to birthing, nesting and rearing activities.

As discussed in the Vegetation section the AMP in the Proposed Action Alternative is designed to facilitate good range conditions by requiring spring rest in alternating pastures at a minimum of every other year, removing grazing within the riparian area and requiring moderate utilization. The development and implementation of the AMP in the Proposed Action is designed to maintain and encourage range condition improvements. As range conditions improve, the density and diversity of these vegetative communities would also be expected to improve. Increased plant density offers improved thermal protective cover for both prey and predator species and a greater forage base for prey species. Improve plant diversity increases forage opportunities and develops greater opportunities for diversification in ecological niches, thus allowing for enhanced species diversity.

In the spring grazed, portions of the allotment, spring grazing could have short-term detrimental effects to habitat for wildlife as various species may be temporarily displaced due to cattle activity, loss of cover and reductions in forage. Most individuals may readily find suitable habitat on adjacent lands within the allotment that will be rested during the spring. Habitat disturbance could also result in the direct loss of less mobile species but, because of the high fecundity of small mammals and reptiles, populations are expected to recover quickly. Any displacement of mobile species such as rabbits and passerine birds would be short term and insignificant because of the expanse of habitat available in the allotment that would not be grazed at that time.

Migratory birds utilizing the allotment would tend to avoid the grazed portions and occupy the un-grazed areas for nesting. Migratory birds avoiding portions of the allotment would be specific to that nesting season, as parent birds would re-nest in following years in suitable locations.

Some wildlife species would avoid interactions with cattle by utilizing portions of the allotment that are not being grazed that spring.

Within the spring rested portions of the allotment competition for space and forage between wildlife and cattle would be eliminated. It is expected that adequate vegetative density and diversity would provide important cover, structure and forage to resident wildlife species during the birthing and rearing of their young. The lack of grazing in these areas would provide space for wildlife species less tolerant of livestock activity.

Alternative A would insure on an annual basis that a large portion of the allotment is void of livestock activity and grazing during the spring, thus facilitating space, cover and forage for wildlife during sensitive breeding, nesting and rearing seasons whereas the current system (No Action) permits competition between wildlife and livestock throughout the entire area in the spring during sensitive breeding, nesting and rearing seasons. The portion of the allotment that is grazed during the spring would experience additional grazing pressures than the No Action Alternative and short-term detrimental effects to wildlife as discussed above.

By providing a large area of un-grazed space during the spring Alternative A would benefit wildlife more than the No Action Alternative but less than Alternative B, as this Alternative provides un-grazed space during the spring throughout the entire allotment.

### **Utah BLM Sensitive Species**

Two Utah Sensitive mammal species (white-tailed prairie dog and kit fox) and three sensitive raptor species may or are known to inhabit the Monument Allotment.

The ecological condition of the range directly affects the quality and quantity of the vegetative communities that support the wildlife in the allotment. The AMP in the Proposed Action would facilitate rangeland health improvements by providing a grazing management system that incorporates spring rest. The goal of the grazing management strategy is to create use areas and/or pastures that would allow a grazing management system which would include spring rest for at least 50 percent of the allotment each year. The entire allotment has known occupancy and potential habitats for the white-tailed prairie dog, kit fox, burrowing owl and ferruginous hawk and winter use by the bald eagle. As range conditions improve, the density and diversity of these vegetative communities would also be expected to improve. Increased plant density offers improved thermal protective cover for both prey and predator terrestrial species and a greater forage base for prey species. Improved plant diversity increases forage opportunities and develops greater opportunities for diversifications in ecological niches thus allowing for enhanced species diversity.

Prairie dogs forage almost solely on plant matter, while kit fox and burrowing owls feed on smaller mammals, insects and birds. Ferruginous hawks, eagles and other raptors feed on small mammals, birds and rodents. Insects are an important food source to kit fox and borrowing owls. Improved vegetative condition and plant cover would provide a forage base for prairie dogs,

small mammals and rodents while offering forage and cover for insects, which in turn would provide prey base for kit fox and other predator species and for raptors such as ferruginous hawks and eagles.

#### *Ferruginous Hawks*

Ferruginous hawks are known to nest in this allotment, though nest sites are typically elevated sites, cliffs, buttes, and creek banks, therefore it is not expected that grazing activities would impact nest sites. Nesting success is reliant on the availability of small mammals and prairie dogs. As noted above the AMP in the Proposed Action would continue to support good range conditions through rotational spring rest and moderate utilization. The rotational spring rest and moderate utilization would further facilitate improved range conditions by allowing vegetation in un-grazed portions of the allotment to reach full spring growth and seeding potential, thus facilitating greater density and diversity of these vegetative communities. Un-grazed areas would offer greater cover and forage base for small mammals and prairie dogs than the grazed areas. As stated in the vegetation section, range conditions are expected to improve through rotational spring rest, resulting in increased density and diversity of these vegetative communities in the rested pasture over time, providing improved cover and forage base for small mammals and prairie dogs. Within the spring rested portions of the allotment competition for space would be eliminated during rest providing space for wildlife species less tolerant of livestock activity.

#### *Burrowing Owls*

Burrowing owls are known to nest in in this allotment typically in abandon prairie dog burrows from March 1 through August 31. Grazing could occur in the vicinity of nesting owls in the spring when eggs and young owls are present. There is potential for cattle to impact nest burrows, especially near stock pond and watering areas where cattle congregate.

Nesting success is reliant on nest burrow availability and the availability of small mammals, insects and birds for forage. As noted above the AMP in the Proposed Action would continue to support good range conditions and as range conditions improve, the density and diversity of these vegetative communities would also be expected to improve further providing a greater forage base for small mammals' insects and birds.

Additionally, the U. S. Wildlife Service indicates that burrowing owls prefer grasslands moderately or heavily grazed by cattle or prairie dogs ( [James and Seabloom 1968, Butts 1973, Wedgwood 1976, MacCracken et al. 1985, Bock et al. 1993] Klute et al. 2003). Optimal breeding habitat in portions of Colorado, Montana, Nebraska, North Dakota, South Dakota, and Wyoming occurred in heavily grazed areas with aridic ustoll soils and grazed areas with typic boroll soils (Klute et al. 2003 [Kantrud and Kologiski 1982] Klute et al. 2003). Though spring rest would ensure adequate prey base habitat, continuation of grazing throughout the allotment would facilitate adequate suitable burrowing owl nesting habitat.

#### *Prairie dogs*

As recommended by the White-tailed Prairie Dog Conservation Assessment (Seglund 2004), the proposed AMP has developed grazing management practices that consider the season, duration,

distribution, frequency and intensity of grazing use within the allotment to maintain sufficient vegetation on both upland and riparian sites to protect the soil from wind and water erosion. As noted above the AMP in the Proposed Action would continue to support good range conditions by providing spring rest and moderate utilization.

#### *Kit Fox*

As noted above, the AMP in the Proposed Action would continue to support good range conditions through spring rest and moderate utilization. As range conditions improve, the density and diversity of these vegetative communities would also be expected to improve, further providing greater cover and forage base for kit fox prey base.

Though no new water developments are proposed, existing water developments and water haul sights may impact kit fox. Water developments in arid desert environments have been identified as creating negative influence to kit fox by enabling coyotes to expand distribution into arid landscapes under the assumption that water-dependent competitors would occur more frequently in areas near free water and would spatially and/or temporally displace arid-adapted subordinate competitors.

Previous work has demonstrated that removal of coyotes did not influence survival of kit foxes, indicating that coyote-induced mortality may be compensatory and that other factors affect population dynamics of kit foxes, such as prey availability. (Cypher & Scriver 1992, Dennis & Otten 2000).

In the recently available study ‘Water Developments and Canids in Two North American Deserts: A Test of the Indirect Effect of Water Hypothesis’ done on the United States Army Dugway Proving Ground in west-central Utah, approved and sanctioned by the United States Department of Defense and the Utah Division of Wildlife Resources, found that the intensity of visitation to water developments by kit foxes in Mojave indicates that arid-adapted species may use water developments more frequently than previously believed. The frequent visitation to free water by kit foxes in Mojave suggests that water developments may be more beneficial to this species than what has been previously understood. (Simpson et al 2011).

Additionally, the results of the study did not find any support for the assertion that free water played a negative indirect role on kit foxes but rather indicated that factor(s) other than the presence or distribution of free water were associated with occurrence of coyotes. (Hall et al., 2013). Therefore the various livestock water developments found throughout this allotment is not expected to limit potential kit fox habitat or occupancy.

Overall, Alternative A would benefit most Utah sensitive species more the No Action Alternative as it will provide large area of un-grazed space during the spring but less the Alternative B, as this Alternative provides un-grazed space during the spring throughout the entire allotment.

## **Migratory Birds and Raptors**

A variety of migratory bird and raptor species, including two Utah Partners in Flight (UPIF) priority species and four sensitive raptor species, may use the allotment for breeding, nesting, foraging and migratory habitats. The ecological condition of the range directly affects the quality and quantity of the vegetative communities that support migratory birds. As discussed in the sensitive species section above, the AMP in the Proposed Action Alternative for the Monument Wash Allotment would continue to support good range conditions. As range conditions improve through the rest/rotation system implementation, the density and diversity of these vegetative communities would also be expected to improve. Increased plant density offers improved thermal protective cover, nesting opportunity and an increased forage and prey base. Improved plant diversity increases forage opportunities and develops greater opportunities for diversifications in ecological niches, thus allowing for enhanced species diversity.

Shrubsteppe and high desert scrub provides nesting and foraging habitats for Brewer's sparrow and sage sparrow and offers habitat to small mammals and insects that provide a prey base for golden eagles burrowing owls and other raptors. Stable or improving range conditions will maintain or facilitate greater density and diversity of these vegetative communities thus ensuring these species and other migratory bird species have suitable habitats for nesting and foraging in this allotment.

The allotment would be managed to achieve the objectives described in the Utah's Rangeland Health Standards, including maintaining desired species "at a level appropriate for the site and species involved". Additionally, riparian areas would be managed in accordance with the Utah BLM Riparian Policy for Proper Functioning Condition. Riparian areas offer high quality breeding and foraging habitat to migratory birds due to the diversity and density of vegetation and insect prey.

Livestock may be in the area and have direct contact with breeding and nesting migratory birds during the first two weeks of migratory birds nesting season (typically May 1 – July 31) and the first three months of the raptor nesting season (typically March 1 – August 31) in pastures where spring grazing is occurring on a given year. Direct contact with cattle could result in migratory birds moving to other areas in or outside of the allotment that lack cattle activities to nest. If birds chose to nest in areas where grazing is occurring, nesting success of nesting birds could be directly affected by trampling nests sites located on the ground or in low shrub substrate, resulting in loss of eggs or possibly nestlings.

Re-nesting is often a very important way for birds to increase their lifetime fitness and for populations to maintain stable numbers (Bollinger 2001). Many birds are unsuccessful in their first nesting attempt, so re-nesting often ensures reproductive success. Birds experiencing early nest failure due to the presents of cattle during the first few weeks of the nesting season may readily re-nest, resulting in reproductive success.

Overall migratory bird populations within the allotment are expected to be impacted less than under the current grazing system as the spring rest/rotation system proposed in Alternative A will provide un-grazed nesting habitats throughout at least half of the allotment.

The spring rest rotation would maintain good range condition in the allotment and help to improve range and ecological condition in the Monument Wash Allotment, more than the No Action Alternative, thus benefiting migratory birds and raptors more than the current grazing system. Alternative A would provide a large area of un-grazed space during the spring therefore Alternative A would benefit migratory birds and raptors more than the No Action Alternative but less than Alternative B, as this Alternative provides un-grazed space during the spring throughout the entire allotment.

### **Pronghorn Antelope Habitat**

On a year round basis, forage and space competition between antelope and cattle is relatively low, as their dietary overlap is less than 30 percent and aggressive behavior between cattle and pronghorn appears to be minimal (Roebuck 1982). There are generalized tabulations over many different habitats that consistently depict a low rate of dietary overlap, therefore, on a year-round basis; competition is relatively low between cattle and pronghorn because of the consumption of different forage classes by the two species (Autenrieth et al 2006).

Livestock utilizing pronghorn habitat in the spring prior and during fawning can cause competition for space resulting in does moving to sites with less desirable vegetative height. This may result in higher predation on the newborn fawns. Spring forbs and grass are important to female antelope prior to and during fawning. Forage competition between livestock and antelope for early spring forbs and grass can result in low fawn survival rates due to both nutritional and predation factors (Autenrieth et al 2006). Fawning season is from May 1 through June 30. Cattle are removed from the allotment by May 15; therefore the competition for space and forage would only be during the first 15 days of fawning season and only one pasture annually.

The Proposed Action's grazing schedule developed in the AMP would benefit antelope and their habitats more than the No Action Alternative, as it reduces grazing pressures and offers spring rest in at least half of the allotment every year. This would allow for improved annual early spring forb and grass growth, recruitment, vegetative density and plant height, plus eliminates any space competition from cattle during fawning.

At least half of the allotment would provide suitable antelope fawning habitat and could be readily utilized by antelope that may be impacted by spring grazing in other areas of the allotment. Therefore, sufficient and suitable fawning habitats for local populations of antelope would be available.

The Proposed Action may construct a fence in five years after authorization of the permit renewal. All fences would be constructed outside of the fawning period and would be designed to allow for antelope passage and therefore would not impede antelope movement.

The spring rest rotation proposed in the AMP would maintain good range condition in the allotment and help to improve range and ecological conditions as discussed in the Vegetation section and would provide a large area of un-grazed space during the spring, therefore the Proposed Action would benefit antelope populations more than the No Action Alternative that allows spring grazing throughout the entire allotment but less the Alternative B, as this Alternative provides un-grazed space during the spring throughout the entire allotment.

#### 4.2.1.4 Soils

The Proposed Action has potential for reduced impacts to overall soil conditions throughout the allotment, with fewer impacts than the No Action Alternative. Every pasture is grazed at some time every year. During the spring at least 50 percent of the allotment is rested. This is less impacting than the No Action Alternative where the pastures are grazed at the same time of year each year, with no rest.

Limiting grazing in the spring would allow upland soils the protection necessary to continue to meet Utah's Rangeland Health Standard 1 (Upland Soils). Implementation of the proposed grazing system would increase vegetative cover and litter which protect the soil surface from excessive water and wind erosion by increasing infiltration and soil moisture conditions (Lusby, 1963).

The Rangeland Health Assessments (Appendix E) did not make a determination that there was any erosion or soil stability issues on the Monument Wash Allotment. The allotment is meeting standard 1 (Upland Soils) and the soil stability tests conducted for the rangeland health assessments showed that all key areas with the ratings of what is expected for the site except key area 4, which was slightly to moderately reduced from what was expected.

The Proposed Action includes a term and condition that limits utilization to an average of 50 percent (41 to 60 percent) utilization. "Using the suggested moderate utilization level of 50 percent as an **end of growing season value** ensures that half of the current year's biomass (production), by weight, can be removed without affecting the health of the plants. Moderate grazing also provides an adequate yearlong cover crop that will protect the soil surface from wind and water erosion." (Draft Utah Monitoring Manual, Appendix G Utilization Studies Pg. 300).

Although Alternative B may reduce the impacts on the soils in the Monument Wash Allotment, at a quicker rate than the Proposed Action, currently Standard 1 (Upland Soils) is being met and there is little evidence of wide spread soil erosion issues on the allotment.

*Dust blowout areas:*

This Alternative is less impacting to soils within the dust blowout area than the No Action Alternative. With a grazing system that would rest at least 50 percent of the allotment every year areas impacted by past drought and intense grazing use would have the potential to improve and increase in vegetative cover and soil stability, reducing the dust generation at these sites. In addition the term and condition that would reduce grazing and/or limit spring grazing on the allotment during drought (less than 70 percent rainfall), would further protect dust blowout areas.

*Soils adversely affected by drought:*

This Alternative is less impacting to soils adversely affected by drought than the No Action Alternative. With a grazing system that would rest at least 50 percent of the allotment every year, areas impacted by past drought would have the potential to improve and increase in vegetative cover and soil stability. In addition the term and condition that would reduce grazing and/or limit spring grazing on the allotment during drought (less than 70 percent rainfall), would further protect these soils.

*Moderately saline soils:*

Natural erosion rates of saline soils are accelerated by surface disturbances. According to Lusby, 1963, “rest from grazing during ...Feb 15 to May 15 allows soils to go partially through the annual change cycles of freezing/ thawing ... and developing the popcorn surface appearance”. This reduces the potential for wind and water erosion, increases infiltration rates, and reduces compaction. When soil erosion and compaction are kept to a minimum, the loading of salinity, selenium and sediment are minimized as well as maintaining overall soil health conditions.

The spring season is defined in the Proposed Action as March 7 through May 15. In year 1 the East pasture is used in the spring (March 7 to May 15) while the West pasture is rested. In year 2 the West pasture is used in the spring (March 7 to May 15) while the East pasture is rested.

This is less impacting than the No Action Alternative where the pastures would be grazed at the same time of year each year, with no pasture rotation. Under the Proposed Action every other year at least 50 percent of the allotment would be rested in the spring. The benefits to vegetation from spring rest are documented in section 4.2.1.2. and include improves vigor, vegetative cover, reproduction, and recruitment, all of which have the potential to protect the soil by decreasing accelerated wind and water erosion, increasing infiltration rates, reducing compaction, increasing overall soil health and reducing potential salinity and selenium in the Colorado River Basin.

*Soils with high wind erosion potential:*

Soils are most susceptible to wind erosion in the spring (April – June) during the heavy wind period in this area of the Colorado Plateau. Early spring rains can help reform physical crusts that may help stabilize the soil surface if the soils are undisturbed following storm events.

This Alternative is less impacting to soils with high wind erosion potentials than the No Action Alternative because with the implementation of a pasture rotation system, vegetative ground cover should increase which would help to stabilize soils and reduce erosion. The terms and

conditions that limit stocking rate by a minimum of 25 percent and/or close grazing in the spring and would not allow the flexibility to graze past May 15 during drought (below 70 percent rainfall), these actions would protect soils with high wind erosion potential during drought when they are more susceptible to damage and would comply with desired future condition for salt desert shrub communities which states “ Salt desert shrub communities are often susceptible to severe drought and may require partial or total removal of livestock during prolonged drought (USDA, SCS, Grand County Soil Survey, Central Part, 1989). The best management practices in trying to achieve the DFC during extended drought conditions are to avoid unnecessary disturbance.” (Moab RMP, Appendix S).

*Biotic Soil Crusts:*

This Alternative is less impacting to biotic soil crusts than the No Action Alternative. With a pasture rotation system there should be a decrease in soil compaction and an increase in vegetative cover and soil stability, improving overall soil health conditions as well as biotic soil crust conditions.

**4.2.1.5 Mitigation Measures**

None

**4.2.1.6 Monitoring and/or Compliance**

Monitoring in the Moab Field Office is conducted following the Draft Utah Monitoring Manual for Upland Rangelands. The Monument Wash Allotment has been converted to nested frequency and line point intercept for long term trend monitoring.

**4.2.2 Alternative B – Change the Season of Use to Exclude Spring Grazing**

**4.2.2.1 Livestock Grazing**

This Alternative would require the permittee to adjust the management of his ranching operation. There would be an economic impact to the permittee, who would have to find alternate spring grazing, reduce livestock numbers, or feed the cattle on their private land. The loss of spring grazing on the Monument Wash Allotment may make the costs of grazing on the allotment outweigh the benefits to the permittee’s ranching operation, which may make the operation unviable.

Although Alternative B may make the costs of grazing outweigh the benefits, this would not constitute a social or economic impact to the local community.

**4.2.2.2 Vegetation**

Spring grazing would not occur on the allotment, which would completely rest the allotment every spring during the critical time of growth and reproduction for plants. Currently the

allotment is meeting Standard 3 (Desired Species). The Proposed Action also includes spring rest by restricting cattle to 50 percent of the allotment during the spring and alternating the areas being grazed each spring. Refer to section 4.2.1.1, and 4.2.1.2 for analysis of the benefits of not grazing vegetation during the spring. The advantage that this Alternative has over the Proposed Action and the No Action Alternative is that this Alternative has greater potential for quicker improvement of desired species.

Although Alternative B would have greater potential for quicker improvement of desired species, currently Standard 3 (Desired Species) is being met and the monitoring data shows a static to upward trend for vegetation on the allotment.

#### **4.2.2.3 Wildlife (Migratory Birds, Sensitive Species, Fish and Wildlife Excluding USFW Designated Species)**

Currently the entire Monument Wash Allotment is available for grazing from November 15 through May 15. Alternative B is designed to change the season of use to exclude spring grazing. As discussed in the Vegetation Section for the Proposed Action, the timing of grazing can have a significant impact on plant productivity and vigor. Alternative B would further insure vigor and productivity of the forage plants and vegetative cover in the Monument Wash Allotment, as plants would not be subjected to cattle grazing during the spring when most plants are actively growing, blooming and developing seeds. This increase in vigor and productivity would lead to greater vegetative density and diversity resulting in increased cover, structure and forage for wildlife. Alternative B would eliminate cattle use during the spring when most wildlife species give birth and raise their young. Therefore no competition for space and forage would occur between wildlife and cattle.

Due to the removal of spring grazing throughout the entire allotment, the analysis of the Alternative B will assume that with spring rest, spring vegetative conditions will offer denser and taller vegetative cover (see Vegetation Section 4.2.1.2.) during the spring than the current grazing system (No Action). It will also be assumed that there will be lack of physical grazing pressure in the spring throughout the allotment. It is also assumed, due to winter grazing, there would be a greater reduction in prior years vegetative structure up to a moderate utilization level and greater physical grazing pressure during the winter months.

#### **General Wildlife**

As discussed in section 4.2.1.3, animals rely on the cover and forage provided by the vegetative community they inhabit. Under this Alternative all pastures would be rested during the spring. Compared to the Proposed Action and the No Action Alternatives, this Alternative has greater potential to benefit vegetative cover and diversity that supports local wildlife species. Greater plant density offers improved thermal protective cover for both prey and predator species and a greater forage base for prey species. Improved plant diversity increases forage opportunities and develops greater opportunities for diversification in ecological niches, thus allowing for enhanced species diversity.

Alternative B would insure on an annual basis that the entire allotment is void of livestock activity and grazing during the spring, thus facilitating space, cover and forage for wildlife during sensitive breeding, nesting and rearing seasons whereas the current system (No Action) permits competition between wildlife and livestock for space, cover and forage throughout the entire area in the spring during sensitive breeding, nesting and rearing seasons and Alternative A would provide approximately half of the allotment with removed livestock activity and grazing during the spring and the remaining portion of the allotment is grazed during the spring and would experience additional grazing pressures than the No Action Alternative and short-term detrimental effects to wildlife as discussed above.

### **Utah BLM Sensitive Species**

Under this Alternative all pastures would be rested during the spring. Compared to the Proposed Action and the No Action Alternatives, this Alternative has greater potential to benefit vegetative cover and diversity, as grazing would be removed prior to the majority of the spring growing season, potentially increasing plant vigor of plant species and cool season plants. Improved ecological conditions of the range would directly affect the quality and quantity of the vegetative communities that supports the Utah Sensitive species. Improved ecological conditions further improve thermal protective cover for both prey and predator species and a greater forage base for prey species. Improved plant diversity increases forage opportunities and develops greater opportunities for diversifications in ecological niches thus allowing for enhanced species diversity.

#### *Ferruginous Hawks*

Ferruginous hawks are known to nest in this allotment, though nest sites are typically elevated sites, cliffs, buttes, and creek banks, therefore it is not expected that grazing activities would directly impact nest sites. The removal of spring grazing would further facilitate improved range conditions by allowing vegetation to reach full spring growth and seeding potential thus facilitating greater density and diversity of these vegetative communities enabling them to provide greater cover and forage base for small mammals and prairie dogs than the Proposed Action.

Additionally as note to the Vegetation section, range conditions are expected to improve through spring rest, resulting in increased density and diversity of these vegetative communities in rested pastures over time, providing improved cover and forage base for small mammals and prairie dogs. Within the lack of spring rested throughout the allotment, competition for space would be eliminated during the spring providing space for wildlife species less tolerant of livestock activity.

#### *Burrowing Owls*

Burrowing owls are known to nest in in this allotment typically in abandoned prairie dog burrows from March 1 through August 31. The removal of spring grazing would eliminate the potential for cattle to impact nest burrows.

Nesting success is reliant on nest burrow availability and the availability of small mammals, insects and birds for forage. The removal of spring grazing would further improve range conditions and the density and diversity of these vegetative communities providing greater cover and forage base for prey species such as small mammals' insects and birds than Proposed Action.

As noted above, the U. S. Wildlife Service indicates that burrowing owls prefer grasslands moderately or heavily grazed by cattle or prairie dogs ( [James and Seabloom 1968, Butts 1973, Wedgwood 1976, MacCracken et al. 1985, Bock et al. 1993] Klute et al. 2003). Optimal breeding habitat in portions of Colorado, Montana, Nebraska, North Dakota, South Dakota, and Wyoming occurred in heavily grazed areas with aridic ustoll soils and grazed areas with typic boroll soils (Klute et al. 2003 [Kantrud and Kologiski 1982] Klute et al. 2003). The removal of spring grazing would ensure adequate prey base habitat and the continuation of fall and winter grazing throughout the allotment would adequately facilitate adequate suitable burrowing owl nesting habitat.

#### *Prairie dogs*

As recommended by the White-tailed Prairie Dog Conservation Assessment (Seglund 2004), this Alternative has developed grazing management practices that removes spring grazing and would maintain sufficient vegetation on both upland and riparian sites to protect the soil from wind and water erosion.

#### *Kit Fox*

The removal of spring grazing would further improve range conditions and the density and diversity of these vegetative communities providing greater cover and forage base for kit fox prey base than Proposed Action.

Though no new water developments are proposed in this Alternative, existing water development and water haul sights may impact kit fox. Though no new water developments are proposed in this Alternative, existing water development and water haul sights may impact kit fox. Impacts are expected to be similar as discussed in Proposed Action.

Overall, Alternative B would ensure on an annual basis that the entire allotment is void of livestock activity and grazing during the spring, thus facilitating space, cover and forage for Utah sensitive species during sensitive breeding, nesting and rearing seasons whereas the current system (No Action) permits competition between wildlife and livestock for space, cover and forage throughout the entire area in the spring during sensitive breeding, nesting and rearing seasons and Alternative A would provide approximately half of the allotment with removed livestock activity and grazing during the spring and the remaining portion of the allotment is grazed during the spring and would experience additional grazing pressures than the No Action Alternative and short-term detrimental effects to wildlife as discussed above.

## **Migratory Birds and Raptors**

As discussed in section 4.2.1.3, a variety of migratory bird, raptor species and sensitive raptor species may utilize this allotment and the ecological condition of the range directly affects the quality and quantity of the vegetative communities that support migratory birds.

Under this Alternative all pastures would be rested during the spring as discussed in the sensitive species section above. As discussed in the Vegetation Section above, the timing of grazing can have a significant impact on plant productivity and vigor. If grazing is properly managed during the spring the result is more robust plants which are more likely to survive and increase overall forage production. This Alternative would further improve range conditions more than the Proposed Action and the No Action. Improving the density and diversity of these vegetative communities and developing greater opportunities for diversifications in ecological niches would enhance species diversity and density. Livestock would not have any direct contact with breeding and nesting migratory birds or raptors as cattle would be removed from the range prior to migratory birds nesting season (typically May 1 – July 31) and raptor nesting season (typically March 1 – August 31).

Alternative B would insure on an annual basis that the entire allotment is void of livestock activity and grazing during the nesting season whereas the current system (No Action) permits grazing during the nesting season and Alternative A would provide approximately half of the allotment with removed livestock activity and grazing during the nesting season and the remaining portion of the allotment is grazed during the nesting season and would experience additional grazing pressures then the No Action Alternative and short-term detrimental effects to birds as discussed above. Also, discussed in the Vegetation Section above, lack of spring grazing would result in more robust plants which are more likely to survive and increase overall forage production. This Alternative would further improve range conditions more than the Proposed Action and the No Action.

## **Pronghorn Antelope Habitat**

As discussed in section 4.2.1.3 livestock utilizing pronghorn habitat in the spring prior and during fawning can cause low fawn survival rates due to both nutritional and predation factors. This Alternative would eliminate spring grazing, therefore competition for space and forage would be eliminated. Antelope would benefit more from this Alternative than from the Proposed Action and No Action Alternative, as grazing pressures during the spring are eliminated.

Under this Alternative there would be no need for a pasture fence therefore antelope passage would not be impeded.

Alternative B would sustain and improve good range condition in the allotment and help to improve range and ecological condition in the allotment and reduce competition for cover, forage and space during the spring when wildlife species are breeding, nesting and rearing their young. Overall Alternative B would benefit most wildlife species and their habitats more than the

Proposed Action and the No Action Alternatives, thus benefiting Utah sensitive species, migratory birds, raptors, pronghorn and general wildlife. Also, discussed in the Vegetation Section above, lack of spring grazing would result in more robust plants which are more likely to survive and increase overall forage production. This Alternative would further improve range conditions more than the Proposed Action and the No Action

#### 4.2.2.4 Soils

This Alternative calls for a shorter season of use. Each pasture is grazed every year, but for a shorter duration and only in the fall and winter months. This Alternative has a higher potential to positively benefit the overall condition of soils in the allotment than the Proposed Action or the No Action Alternative.

The Proposed Action includes a term and condition that limits utilization to an average of 50 percent (41 to 60 percent) utilization. “Using the suggested moderate utilization level of 50 percent as an **end of growing season value** ensures that half of the current year’s biomass (production), by weight, can be removed without affecting the health of the plants. Moderate grazing also provides an adequate yearlong cover crop that will protect the soil surface from wind and water erosion.” (Draft Utah Monitoring Manual, Appendix G Utilization Studies Pg. 300).

Although Alternative B may reduce the impacts on the soils in the Monument Wash Allotment, at a quicker rate than the Proposed Action, currently Standard 1 (Upland Soils) is being met and there is little evidence of wide spread soil erosion issues on the allotment.

##### *Dust blowout areas:*

This Alternative is less impacting to soils within the dust blowout areas than the Proposed Action or the No Action Alternative. With no spring grazing there is potential for the vegetative cover and soil stability to improve at a quicker rate than the Proposed Action or the No Action Alternatives by reducing the dust generation at the dust blowout areas.

##### *Soils adversely affected by drought:*

This Alternative is less impacting to drought sensitive soils than the Proposed Action or the No Action Alternative. With no spring grazing there is potential for the vegetative cover and soil stability to improve at a quicker rate than the Proposed Action which would reduce impacts during droughts.

##### *Moderately saline soils:*

Natural erosion rates of saline soils are accelerated by surface disturbances. According to Lusby, 1963, “rest from grazing during ...Feb 15 to May 15 allows soils to go partially through the annual change cycles of freezing/ thawing ... and developing the popcorn surface appearance”. This reduces the potential for wind and water erosion, increases infiltration rates, and reduces compaction. When soil erosion and compaction are kept to a minimum, the loading of salinity, selenium and sediment are minimized as well as maintaining overall soil health conditions.

The spring season is defined in the Proposed Action as March 7 through May 15. This is less impacting than the No Action Alternative where the pastures are grazed at the same time of year each year. Every year at least 50 percent of the moderately saline soils would be rested in the spring, reducing the potential for accelerated wind and water erosion, increasing infiltration rates, reducing compaction, increasing overall soil health and reducing salinity and selenium loading to the Colorado River Basin. This Alternative has a higher potential to positively benefit the overall condition of soils in the allotment than the Proposed Action.

Although Alternative B may reduce the impacts on the soils in the Monument Wash Allotment, at a quicker rate than the Proposed Action, currently Standard 1 (Upland Soils) is being met and there is little evidence of wide spread soil erosion issues on the allotment.

*Soils with high wind erosion potential:*

Soils are most susceptible to wind erosion in the spring (April – June) during the heavy wind period in this area of the Colorado Plateau. Early spring rains can help reform physical crusts that may help stabilize the soil surface if the soils are undisturbed following storm events.

This Alternative is less impacting to soils with high wind erosion potentials than the No Action Alternative. No spring grazing has the potential for vegetative cover and soil stability to improve at a quicker rate than the Proposed Action or the No Action Alternative which would help to stabilize soils and reduce erosion.

Although Alternative B may reduce the impacts on the soils in the Monument Wash Allotment, at a quicker rate than the Proposed Action, currently Standard 1 (Upland Soils) is being met and there is little evidence of wide spread soil erosion issues on the allotment.

*Biotic Soil Crusts:*

This Alternative is less impacting to biotic soil crusts than the Proposed Action or the No Action Alternative. With no spring grazing there is less danger of compaction and an increase in vegetative cover and soil stability, improving overall soil health conditions as well as biotic soil crust conditions.

Although Alternative B may reduce the impacts on the soils in the Monument Wash Allotment, at a quicker rate than the Proposed Action, currently Standard 1 (Upland Soils) is being met and there is little evidence of wide spread soil erosion issues on the allotment.

#### **4.2.2.5 Mitigation Measures**

None

#### **4.2.2.6 Monitoring and/or Compliance**

Same as Proposed Action.

### **4.2.3 Alternative C – No Action (Continuation of Current Permit Terms)**

#### **4.2.3.1 Livestock Grazing**

This Alternative would not implement a grazing system that allows for spring rest. The trend of the allotment may decline or continue to be static. As the quality and quantity of forage declines the livestock operation would have to adjust by reducing their stocking rate and/or changing the season of use on the allotment. There are potential negative impacts for long term sustainability of livestock grazing.

#### **4.2.3.2 Vegetation**

The No Action Alternative would negatively impact the vegetation within the allotment by not allowing for a management system that includes periodic spring rest. The potential negative impacts to vegetation would include a reduction in desired species and an increase in non-native invasive species.

#### **4.2.3.3 Wildlife (Migratory Birds, Sensitive Species, Fish and Wildlife Excluding USFW Designated Species)**

Currently the entire Monument Wash Allotment is available for grazing from November 16 through May 15. The No Action Alternative would continue this use. The No Action Alternative would not facilitate the potential for improvements in vigor and productivity of the forage plants and vegetative cover in the Monument Wash Allotment, as plants would be subjected to cattle grazing season long.

Due to the continuation of spring grazing throughout the entire allotment, the analysis of Alternative C will assume that the continuation of spring grazing would maintain the spring vegetative conditions but would not facilitate denser and taller vegetative cover during the spring (see Vegetation Section 4.2.1.2). It will also be assumed that there will be physical grazing pressure in the spring throughout the entire allotment.

#### **General Wildlife**

The No Action Alternative would not allow for rest/rotation. As discussed in the vegetation section there is a potential to negatively impact the vegetation as this Alternative does not allow for spring rest and may affect the cool season vegetation, decreasing cover. For reasons discussed in above sections the No Action Alternative would benefit wildlife less than the Proposed Action and Alternative B. The No Action Alternative would have the greatest negative impacts to these habitats.

## **Utah BLM Sensitive Species**

The No Action Alternative would not allow for a grazing management system. As discussed in the vegetation section, there is a potential to negatively impact the vegetation as the Alternative does not allow for any spring rest and may affect the cool season vegetation, decreasing cover. There could also be direct conflicts and competition between nesting raptors during nesting season and denning fox and prairie dogs during the pupping season. Therefore the No Action Alternative would benefit sensitive species less than the Proposed Action and Alternative B (no spring grazing). The No Action Alternative would have the greatest negative impacts to these habitats.

## **Migratory Birds and Raptors**

The No Action Alternative would not allow for a grazing management system. There is a potential to negatively impact the vegetation as the Alternative does not allow for early spring rest and may affect the cool season vegetation, decreasing cover. The insect base may also be decreased. Livestock may have any direct contact breeding and nesting season migratory birds during the first two weeks of migratory birds nesting season (typically May 1 – July 31) and the first three months of the raptor nesting season (typically March 1 – August 31). Therefore the No Action Alternative would benefit migratory birds less than the Proposed Action and Alternative B (no spring grazing). The No Action Alternative would have the greatest negative impacts to these migratory bird and raptor habitats.

## **Pronghorn Antelope Habitat**

Antelope would not benefit from the action Alternative as grazing pressures would occur every year throughout the allotment. Annual early spring forb and grass growth, recruitment, vegetative density and plant height could be greatly reduced and there would be space competition from cattle during fawning. Under this Alternative there would be no need to fence livestock pastures therefore antelope passage would not be impeded. Therefore the No Action Alternative would benefit antelope and their habitats less than the Proposed Action and Alternative B (no spring grazing). Alternative C may have the greatest negative impacts to this habitat.

Overall, Alternative C would have the least potential to improve range and ecological conditions in the Monument Wash Allotment, less than the Proposed Action and Alternative B (no spring grazing), thus providing the least benefits to Utah sensitive species, migratory birds, raptors, pronghorn and general wildlife.

### **4.2.3.4 Soils**

This Alternative has the highest potential for negative impacts to the condition of soils in the allotment.

*Dust blowout areas:*

This Alternative is the most impacting to soils within the dust blowout areas of all the Alternatives. With no pasture rotation the vegetative cover and soil stability conditions would remain the same or may decline, increasing dust generation at these sites.

*Soils adversely affected by drought:*

This Alternative is the most impacting to soils adversely affected by drought. With no pasture rotation, the vegetative cover would stay the same or may decline, reducing soil and plant resiliency and increasing impacts during droughts.

*Moderately saline soils:*

This Alternative has the highest potential for negative impacts due to the potential for accelerated rates of wind and water erosion, reduced infiltration rates, decreased overall soil health conditions and accelerated salinity and selenium loading to the Colorado River Basin. Salinity and sediment loading to the Colorado River Basin would continue at current levels and may increase.

*Soils with high wind erosion potential:*

With no pasture rotation, vegetation and overall ground cover may not increase which affects soil stability and erosion rates. This Alternative is the most impacting to soils with moderate to high wind erosion.

*Biotic Soil Crusts:*

This Alternative is the most impacting to biotic soil crusts within the dust blowout areas of all the Alternatives. With no pasture rotation the soil compaction, vegetative cover and soil stability conditions would remain the same or may decline, impacting overall soil health conditions as well as biotic soil crust conditions.

#### **4.2.3.5 Mitigation Measures**

None

#### **4.2.3.6 Monitoring and/or Compliance**

Same as Proposed Action.

### **4.3 Cumulative Impacts Analysis**

Federal Regulations at 40 CFR 1508.7, define a cumulative impact as: "...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." The

following sections describe past, present and reasonably foreseeable actions in the vicinity of the proposed project.

#### **4.3.1 Livestock Grazing, Vegetation and Soils**

The cumulative impact area (CIA) of analysis for livestock grazing, vegetation and soil resources is the Monument Wash Allotment boundary because it is the area where livestock grazing would be authorized under the grazing permit; topographic features and fencing limit the influence that livestock would have beyond the allotment boundary. The timeframe for analysis of cumulative impacts is 10 years because that is the length of time that the grazing permit would authorize grazing. After 10 years the area would be evaluated again to determine if it is appropriate to issue another permit and what management changes may be necessary.

Past, present and reasonably foreseeable actions within the cumulative impact area for livestock grazing, vegetation and soils resources include the activities and actions of livestock grazing, and range improvements, energy and mineral exploration and development, road development and use, wildlife use and habitat improvements, recreation use, and the occurrence of wildland fires.

Livestock grazing has taken place in the CIA for more than the last 100 years. Both cattle and sheep have been grazed in the CIA. Range improvements in the CIA include 4 corrals, 6 cattle guards, 62 water developments (about 0.25 acres each), and approximately 44 miles of fence. It is anticipated that approximately six miles of fencing and 4 to 5 new water reservoirs would be constructed in the Monument Wash Allotment in the reasonably foreseeable future.

The cumulative impacts to vegetation and soils resources from the past, present, and reasonably foreseeable actions include: Changes and loss of vegetation, decreased forage for livestock, and loss of soils from construction activities.

Energy development, mining activity, road construction and use, the construction use of range improvements and livestock grazing have resulted in a loss of vegetation and soil stability. These activities have also led to the introduction of cheatgrass and Russian thistle which are non-native invasive plant species. Recreational activities would be the least impacting within the livestock grazing, vegetation and soils CIA, as use is minimal and these activities typically utilize existing roads. Wildfires remove and alter the vegetative community, expose the soil to wind and water erosion and lead to a reduction in forage for livestock grazing. Improvements including water developments and pasture fences can improve use of the vegetation, improve forage quality and quantity, and protect the soils from erosion.

The Proposed Action and Alternative B would allow for spring rest of vegetation which would increase the vigor, density, diversity, quality, and quantity of forage, providing protection of soils from water and wind erosion and therefore would not contribute to the cumulative impacts. The cumulative effect would be the continuation of meeting Utah's Standards for Rangeland Health and Guidelines for Grazing Management by promoting a healthy vegetative community and by

better protecting soils from erosion. However, these Alternatives would contribute a small amount (less than 5 acres) to the cumulative impacts as a result of proposed range improvements.

#### **4.3.2 Wildlife (Migratory Birds, Sensitive Species, Fish and Wildlife Excluding USFW Designated Species)**

The CIA of analysis for wildlife resources (State Sensitive Species and Fish and Wildlife) is the extent of the HUC 12 watersheds and the overlapping antelope habitats that have been identified by the UDWR located south of I-70, east of 191 and encompassing approximately 131,980 acres. This area would be used as the Wildlife CIA because it encompasses all habitats for discussed species and general wildlife that have the capacity to move across the terrestrial landscape, represents all vegetative communities that support these species and offers natural (habitat type) and man-made boundaries (Interstate 70 and State Route 191) that would restrict or impede terrestrial movement. The CIA also includes the habitat for many avian species. The wildlife cumulative impact area (Wildlife CIA) overlaps with livestock use in this area and is effected by grazing, energy exploration and development, road development and transportation use, wildlife use and habitat improvements, limited recreation use, limited hunting opportunities, and the other resources. The timeframe for the analysis of cumulative impacts is 10 years because that is the length that the permit would be issued.

Past, present and reasonably foreseeable actions within the CIA for wildlife resources include the activities and actions of energy and mineral exploration and development, road development and use, livestock grazing, and range improvements, wildlife use and habitat improvements, recreation use and the occurrence of wildland fires.

The cumulative effects to wildlife resources from the past, present, and reasonably foreseeable actions include: vegetative alternation, habitat fragmentation, increased human disturbances and the anthropogenic effects on the landscape that alters and impacts the quality, quantity and use of habitat associated with local wildlife species that utilize the Wildlife CIA for breeding, nesting, foraging, year-round use and migration.

Typical energy, mineral and road development and road use have the greatest impacts to wildlife habitats as these activities fragment the landscape, remove and alter the vegetative community and increase human conflicts and disturbances to wildlife populations. Livestock use alters the vegetative community, decreases large ungulate movements and increases spatial and foraging competition between domestic animals and wildlife thus reducing available habitats. Recreational activities would be the least impacting within the Wildlife CIA, as use is minimal and these activities typically utilize existing roads. Wildfires remove and alter the vegetative community leading to habitat degradation and loss. Habitat improvements including water developments, vegetative treatments and improving wildlife passage through allotment and pasture fences can improve and increase quality, quantity and use of habitat for wildlife.

The proposed action and Alternative B would allow for some type of spring rest that would help promote annual early spring forb and grass growth, recruitment, vegetative density, diversity,

and reduce spatial competition from cattle during the birthing and nesting season of avian species in some or all areas, therefore reducing the rate of cumulative impacts that are occurring under the grazing management system (No Action) that is in place currently.

All Alternatives except the No Action Alternative would allow for increased vegetative growth and decreased spatial competition during the spring in at least two out of five pastures each year, which would result in cumulative improvement of wildlife habitat and therefore reducing the rate of cumulative impacts that are occurring under the current grazing management system (No Action).

The No Action Alternative would continue to contribute to the degradation of vegetative communities that support wildlife habitats due to the lack of spring rest throughout the entire allotment and would continue a decrease in habitat availability due to continued spatial competition throughout the year and during the spring season when birthing and nesting occur, therefore the rate of cumulative impacts that are occurring under the No Action Alternative would continue to contribute to the cumulative degradation of the vegetative communities and the occurrence of spatial competition.

## 5.0 CONSULTATION AND COORDINATION

### 5.1 Introduction

The issue identification section of Chapter 1 identifies those issues analyzed in detail in Chapter 4. The ID Team Checklist provides the rationale for issues that were considered but not analyzed further. The issues were identified through the public and agency involvement process described in sections 5.2 and 5.3 below.

### 5.2 Persons, Groups, and Agencies Consulted

**Table 5-1: List of Persons, Groups and Agencies Consulted**

| Name   | Purpose & Authorities for Consultation or Coordination   | Findings & conclusion  |
|--|--|--|
| Grazing Authorization number 4306376 – Current Permittee | Consulting with permittees for Alternatives and grazing system.  | Several meetings were held between the permittee and the BLM to discuss potential management actions needed to be included in the Monument Wash Allotment Management Plan. |
| Utah State Historic Preservation Office (SHPO)           | Consultation for undertakings, as required by the National Historic Preservation Act (NHPA) (16 USC 470) | The BLM sent the SHPO a letter seeking concurrence on a “no effect on historic property determination. On May 12, 2015 SHPO concurred that no archaeological sites and no  |

| Name                | Purpose & Authorities for Consultation or Coordination   | Findings & conclusion   |
|---------------------|--|---|
|                     |  | Historic Properties are Adversely Affected.   |
| Tribal Consultation | Consultation as required by the American Indian Religious Freedom Act of 1978 (42 USC 1531) and NHPA (16 USC 1531) | BLM sent letters to the Hopi, Southern Ute, Ute Mountain Ute, Northern Ute, Zuni, Jemez, and Navajo tribes on 4/21/2016 April 21, 2016. The Hopi requested further information which the BLM sent. Consultation with the Hopi is ongoing. |

### 5.3 Summary of Public Participation

Posting of notification was made on the Utah BLM ePlanning website in January, 2015 and The current grazing permittee was notified in 2014 of the BLM’s intent to evaluate grazing on the Monument Wash Allotment through a NEPA analysis. Initial scoping closed on February 15. See section 1.8 for more detail about scoping.

#### 5.3.1 Comments and Responses

Table 5-2 contains comments received from the public and the responses to those comments from the BLM.

**Table 5-2: Public Comments with Responses**

| <i>Western Watersheds Project</i>      |   |  |
|--|---|--|
| #                                      | Comment   | Response   |
| <b>Allotment Management Plan (AMP)</b> |   |  |
| 1                                      | The Proposed Action does not contain all the elements of an AMP so it is not possible to comment on the AMP that this decision is supposed to implement.  | The Proposed Action in the EA contains all required elements of an Allotment Management Plan under 43 CFR 4120.2.  |
| <b>Utilization</b>                     |   |  |
| 2                                      | GRA-6 requires that the BLM “Identify appropriate utilization levels based on allotment or site-specific management practices, such as season-of-use, grazing intensity and duration, and utilization patterns, as well as vegetative conditions, the presence or absence of range improvements, and resource issues or concerns.” This was not done in either EA. This is particularly critical given the dominant vegetation types and conditions on the allotment. | In Section 2.2.1 of the EA, the BLM has identified the appropriate utilization level for this allotment which is moderate use. Section 4.2.1.1 and 4.2.1.2 discusses the impacts of utilization on plants: Alternative A will incorporate the utilization standards stated in the Moab RMP which allow for moderate use throughout the |

allotment and when moderate use is reached livestock would be removed from the allotment. "Perennial grasses vary in sensitivity to utilization, but a majority of them sustain little damage if grazing stops in time for them to complete seed maturation (Heady and Child, 1994)."

As analyzed in sections 4.2.1.1, 4.2.1.2, 4.2.2.1, and 4.2.2.2 "The implementation of a grazing management system which rests at least 50 percent of the allotment each year during the spring would continue to maintain and improve the vigor and productivity of the forage plants on the Monument Wash Allotment because at least 50 percent of the allotment would be rested during spring, which as stated above is a critical time for plant growth, reproduction, and nutrient storage. Rotational systems schematically rotate cattle through a series of pastures during a calendar period. In theory, this type of system should provide a period of rest, recovery, and re-growth of grazed plants." (Encinias and Smallidge, 2010).

Spring rest would allow plants that were grazed during the Fall and Winter the opportunity to regrow from stored carbohydrates which would maintain sufficient residual vegetation and litter on upland sites to protect the soil from wind and water erosion and support ecological functions with no grazing pressure. The implementation of a grazing management system which allows spring rest would ensure that plants are able to store enough carbohydrates to meet

|                         |   |  |
|-------------------------|---|--|
|                         |   | the physiological requirements of desired plants and facilitate reproduction and maintenance of desired plants to the extent natural conditions allow.”  |
| 3                       | The EA provides a limited amount of utilization data over only 4 years of the last 11 which shows significantly heavy utilization particularly on the cool season bunchgrasses when actual use approaches permitted use. The failure to address the major difference between actual use and permitted use, current conditions and utilization rates vitiates the NEPA analyses. | This comment is not specific to the Monument Wash EA   |
| 4                       | Nowhere in the EA is there any rationale as to how a 60% utilization rate is appropriate for these salt desert communities.   | In Section 2.2.1 of the EA, the BLM has identified the appropriate utilization level for this allotment which is moderate use. “As specified in the 2008 Moab RMP, moderate utilization levels (40 to 60 percent) would be used to indicate if general management objectives can be met. Utilization levels above those identified as appropriate would be used to adjust livestock use on a yearly basis and possible early removal from the allotment as needed. The majority of the allotment would meet utilization standards. Exceptions may be granted in concentration areas such as water developments and salting areas.” |
| <b>Rangeland Health</b> |   |  |
| 5                       | We see that the Rangeland Health Evaluation was done 8 years ago. It is unclear the quality of this evaluation or its accuracy 8 years later.   | The Rangeland Health Assessment was started in 2008 and the evaluation has been on going to the present time. The <i>Draft Utah Monitoring Manual for Upland Rangelands</i> (page 27) states: "Rangeland Health Assessments are a process of estimating or judging the value or functional status of ecological processes. It is generally a "moment-in-time" evaluation that is not repeated in the future (not a monitoring tool)'. The Manual further states (page 27): “The assessment is designed to provide a preliminary evaluation, communicate fundamental ecological   |

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|-------------------|---|---|
|                   |   | <p>concepts, improve communication, focusing discussion on critical ecosystem properties and processes, select monitoring sites in the development of monitoring programs, provide early warnings of potential problems and opportunities where resource problems currently exist”.</p>   |
| <b>Vegetation</b> |   |   |
| <b>6</b>          | In the common attributes section some definitions have been added but no data for all but frequency.  | The common attributes definitions were included for information purposes only as they are discussed in the analysis section and in the references.  |
| <b>7</b>          | The EA fails to address doubling livestock density in half the allotment each spring will do to vegetation or BSC.  | <p>The EA does not include any authorization for an increase in AUMs and utilization on the Monument Wash Allotment is restricted to moderate use, which is analyzed for each Alternative.</p> <p>The BLM assumes that BSC refers to biological soil crusts. Most of the soils on the Monument Wash Allotment do not support high amounts of BSC's. Developing an Allotment Management Plan (AMP) with a grazing system that rests at least 50% of the allotment every spring is considered a Best Management Practice (BMP) for grazing on saline and other sensitive soils.</p> |
| <b>8</b>          | The EA fails to provide information regarding the confidence level of the data collected which is, of course, critical for valid trend determinations. The document fails to provide information regarding how objectives were set or how they were determined to be meeting or moving towards. | <p>It is unclear what objectives the comment relates too.</p> <p>The trend data was gathered for descriptive purposes only. The data was not gathered for statistical purposes and confidence levels are not</p>  |

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|    |   | applicable to descriptive data. The data in Table 3-3 shows that conditions on the allotment have not changed or have improved.  |
| 9  | <p>The EA needs to provide information as to acres per ESD, including a map. It also needs to display key areas to show which ESD's are properly represent and those that are not.</p> <p>This is extremely critical since a stunning 50% of the allotment is in the Desert Shallow Clay (mat) and Desert Clay (castle) ESD's which produce 26 and 35 lbs. of forage per acre respectively, and that is in HCPC which these lands are clearly not. Yet the AUM's authorized for removal by the proposed decision requires that each and every acre produce 135 lbs. of forage per acre.</p> | <p>Mapping of the Ecological Sites does not exist. Ecological Sites are verified on the ground when rangeland health assessments are conducted and that data is included on the individual evaluation sheets.</p> <p>It is unclear where the commenter is getting the 26 to 35 lbs. of forage acre figure. Desert Clay (Castle Valley Saltbush) R035XY103UT, lists 145 to 209 lbs. per acre of forage and Desert Shallow Clay (Mat Saltbush) 035XY124UT, lists 132 to 219 lbs. per acre of forage.</p>           |
| 10 | Table 3-2 needs to be updated with the new key area numbers, along with a map of all key areas on ESD's.  | <p>The table has been updated.</p> <p>Mapping of the Ecological Sites does not exist. Ecological Sites are verified on the ground when rangeland health assessments are conducted and that data is included on the individual evaluation sheets.</p>   |
| 11 | <p>We also include as attachments two more recent papers by Lusby. In the most recent paper the author states:</p> <p>During the period 1954-65, when the area was grazed by cattle and sheep from November 15 to May 15 each year, the grazed watersheds produced 54 percent more sediment per unit area than the ungrazed watersheds.</p> <p>This is a similar time frame to the proposed action. In addition, we have provided Lusby 1971 which found decreases in ground cover and vegetative cover under grazing systems similar to the proposed</p>                                   | <p>The Lusby (1979) article does not compare any areas where a rotational grazing system with cattle was analyzed. In addition there was no analysis which compared cattle grazing without sheep grazing.</p> <p>The Lusby (1971) article does not discuss rotational grazing systems but only compares areas of no grazing to areas of grazing. Additionally the study did not look at areas only grazed by cattle but by cattle and sheep.</p> <p>As indicated in the EA the proposed grazing system which</p> |

|           |  |   |
|-----------|--|---|
|           |  | <p>will rest at least 50% of the Monument Wash Allotment will have beneficial effects with regards to ground cover (Section 4.2.1.2).</p>   |
| <p>12</p> | <p>The point intercept data is revealing in that most critical components of the ecosystem, cool season bunch grasses and BSC are either declining or already functionally extirpated on most key areas.</p> <p>Take for instance K1, it should have 45% grass cover with most of that coming from Indian ricegrass, yet grass cover 8% (17% of potential) and even though Indian ricegrass is the dominant grass which should be making up most of the 45% grass cover, it only makes up 0.75%.</p> <p>K4 should be having 40% grass cover, yet current conditions are only 12% and Indian rice grass should be the dominant species making up that 40% cover yet is only at 1%</p> | <p>There was no data found that supports the statement that K1 should have 45% grass cover. K1 is located in the Desert Loam (Shadescale) ecological site. Indian ricegrass is not the dominant grass. "Galleta is typically the dominant perennial grass species in this plant community phase. Other perennial grasses may or may not be present." 035XY109UT, Desert Loam (Shadescale).</p> <p>There was no data found to support the statement that K4 should have 40% grass cover. K4 in located in Desert Sandy Loam (Fourwing Saltbush) ecological site. "This plant community phase is characterized by a fourwing saltbush overstory with a perennial cool and warm season grass understory. The dominant cool season grass is Indian ricegrass and the dominant warm season grass is James galleta." R035XY118UT, Desert Sandy Loam (Fourwing Saltbush).</p> <p>As stated in section 3.3.2 of the EA. "While the natural plant community of a particular ecological site is recognized by characteristic patterns of species associations and community structure, the specific species present from one location to another may exhibit tremendous variability. The natural plant community is not a precise assemblage of species for which the proportions are the same from place to place, or even in the same place from year to year</p> |

|              |   |   |
|--------------|---|---|
|              |   | (Utah Ecological Site Descriptions, 1994). The distinctive plant communities associated with each ecological site (including the tremendous variability which frequently occurs) can be identified and described, and are called ecological site descriptions.”   |
| <b>NEPA</b>  |   |   |
| <b>13</b>    | We provide as exhibits some recent rulings regarding the BLM's failure to fully analyze the no action (no grazing) alternative. It is the no grazing alternative that the action alternatives MUST be compared against.   | <p>In BLM Manual 1790 (page 52) defines the No Action Alternative as “the No Action Alternative is generally to reject the proposal or deny the application. (The sole exception to this is for renewal of a grazing permit, for which the No Action Alternative is to issue a new permit with the same terms and conditions as the expiring permit).”</p> <p>In Section 2.5.3 of the EA, a No Grazing Alternative was considered but was eliminated from further consideration for the reasons stated in that section.</p>   |
| <b>14</b>    | An obvious alternative that needs to be analyzed is not grazing the sensitive soils areas until HCPC conditions are recovered. In addition, for the rest of the areas a utilization limit (term and condition) appropriate to the vegetation types needs to be required for instance 25% on the non-sensitive soils and 15% on the saline soils. No literature supports a 60% utilization rate on these types of systems. Both the USDA NRCS National Range and Pasture Handbook as well as the Holechek range management text book state that the maximum utilization rates in the western US would be 25% and this does not take into account the added fragility of salt desert types. | <p>An Alternative that would restrict grazing until HCPC is reached is not needed because there are a reasonable range of Alternatives that are designed to continue to meet Rangeland Health Standards.</p> <p>BLM searched the USDA NRCS National Range and Pasture Hand book, and could not find a discussion pertaining to a 25% utilization rate. The commenter did not specify the Holechek range management text book referenced. There are numerous Holechek range management textbooks and editions. Therefore, the BLM cannot respond to the comment.</p> |
| <b>Soils</b> |   |   |
| <b>15</b>    | Nearly all of the allotment is listed as ‘sensitive soils’ that “make them extremely susceptible to impacts” yet the proposed action is to continue the status quo (or actually increases in livestock density). Clearly this is an   | The Proposed Action is not status quo, it provides management changes in the  |

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|    | <p>unresolved conflict over alternative uses of resources that at a minimum would require another alternative such as the no action alternative, and certainly would require very different management that soils that are not sensitive to disturbance.</p>  | <p>form of a rotational grazing system, new terms and conditions, and an AMP, and does none of the Alternatives propose an increase livestock density.</p> <p>The action Alternatives (Alternatives A and B) provide changes in management to improve vegetative cover and increase frequency of desired species and the amount of litter. These are important factors in protecting all soils including sensitive soils. The management changes in each Alternative are sufficiently different to allow a wide range of solutions for the protection of sensitive soils. Therefore, an additional Alternative was not considered necessary.</p> <p>Impacts to soils in general and sensitive soils from each Alternative are described in chapter 4 in sections 4.2.1.4 and 4.2.2.4. Impacts to sensitive soils are described for each sensitive soil type (ie. moderately saline soils).</p> |
| 16 | <p>The EA does not explain how increasing soil disturbance through the increase in livestock density would result in less erosion.</p>  | <p>The AUM allocation will not be increased under any Alternative.</p>   |
| 17 | <p>SOL-WAT-9 disallows surface disturbing activities November through April. SOL-WAT-11 requires “Minimize surface disturbance in areas identified as having "sensitive soils" unless long-term impacts can be mitigated.” But the EA is silent on actions needed to accomplish this.</p>   | <p>The soil and water decisions SOL-WAT-9 and SOL-WAT 11 in the Moab RMP refer to surface disturbing activities and are not applicable to livestock grazing.</p> <p>On page A-1 of Appendix A of the Moab RMP, livestock grazing is excluded from the definition of a surface disturbing activity.</p>   |
| 18 | <p>SOL-WAT-12 requires “Maintain vegetation based on desired future condition to provide adequate ground cover to prevent accelerated erosion in wind erodible soils.” But no desired future conditions have been defined not timeframes to achieve those objectives.</p> <p>The SOL-WAT-12 requires management result in high amounts of BSC</p> | <p>The Moab RMP (Appendix S) defines desired future conditions for vegetation in the Moab Field Office. A term and condition has been added that limits grazing during drought</p>   |

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|                  | <p>yet the EA admits that BSC is very limited.</p> <p>SOL-WAT-12. There are no objectives at all for BSC and those provided for the plant species are below recent measured amounts.</p> | <p>for the protection of highly wind erodible soils.</p> <p>Analysis has been added in section 4.2.1.4 regarding desired future conditions. “The terms and conditions that limit stocking rate by a minimum of 25% and/or close grazing in the spring and would not allow the flexibility to graze past May 15 during drought (below 70% rainfall), would protect soils with high wind erosion potential during drought when they are more susceptible to damage and would comply with desired future condition for salt desert shrub communities which states “ Salt desert shrub communities are often susceptible to severe drought and may require partial or total removal of livestock during prolonged drought (USDA, SCS, Grand County Soil Survey, Central Part, 1989). The best management practices in trying to achieve the DFC during extended drought conditions are to avoid unnecessary disturbance.” (Moab RMP, Appendix S).</p> <p>SOL-WAT-12 does not require high amounts of BSC.</p> <p>The comment that the objectives provided for the plant species are below recent measured amounts has no clear reference to the EA in order to supply a response.</p> |
| <p><b>19</b></p> | <p>SOL-WAT-16 requires the BLM to “Manage uses to minimize and mitigate damage to soils.”</p>  | <p>Alternatives A and B propose changes to the grazing permit and schedule which would minimize and mitigate damage to soils. Refer to comment response #14.</p>  |
| <p><b>20</b></p> | <p>SOL-WAT-21 requires that the BLM “Develop BMPs for activities on saline and other sensitive soils.” This has not been done.</p>   | <p>Developing an Allotment Management Plan (AMP) with a pasture rotation system is considered a Best Management</p>   |

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|           |  | <p>Practice (BMP) for grazing on saline and other sensitive soils. Other BMP actions discussed in the EA to address impacts to sensitive soils include reduced spring grazing, especially late spring grazing, and longer rest periods between grazing season in each pasture. These actions and respective reduction in impacts are discussed on pages Sections 4.2.1.4 and 4.2.2.4 of the EA.</p>  |
| <p>21</p> | <p>SOL-WAT-23 requires that the BLM “Implement guidelines from Technical Reference 1730-2, where feasible, to protect or restore the functions of biological soil crusts.” This has not been done.</p> | <p>The Proposed Action and Alternatives include actions from the guidelines in Technical Reference 1730-2. These include:</p> <p>“The goal of the grazing management strategy is to create use areas that would allow a grazing management system which would include spring rest for at least 50 percent of the allotment each year.”</p> <p>“Each year the Moab Field Office and the permittee of the Monument Wash Allotment would meet before fall grazing and again before spring grazing to work together and determine which use areas would be closed to spring use, based on past use, available water, and climatic conditions. The grazing rotation would allow at least 50 percent of the allotment to be rested each year in the spring. The goal of this meeting would be optimal coverage of vascular plants and biological soil crusts. This annual meeting would also include discussion on continuing to meet Rangeland Health Standards, site stability and proper nutrient cycling.”</p> |

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|    |  | <p>This standard procedure has been added to the Proposed Action and Alternatives as a term and condition for clarity.</p> <p>A term and condition is included in the Proposed Action and Alternatives that specifies “Feeding protein supplements, salt-grain mixtures, hay, and/or other roughage on public lands is prohibited without prior authorization of the authorized officer. Protein blocks and salt would be placed in outlying areas as necessary to help distribute livestock. These must be at least ¼ mile from water sources”. Using protein blocks and salt to improve distribution of livestock minimizes impacts to biological soil crusts.</p> <p>Most of the soils on the Monument Wash Allotment do not support high amounts of BSC’s. Developing an Allotment Management Plan (AMP) with a grazing system that rests at least 50% of the allotment every spring is considered a Best Management Practice (BMP) for grazing on saline and other sensitive soils.</p> |
| 22 | <p>SOL-WAT-24 requires the BLM to “Manage public lands in a manner consistent with the Colorado River Salinity Control Program, implementing BMPs and watershed restoration projects to reduce salinity contributions to the Colorado River system.” This has not been done.</p> | <p>Alternatives A and B propose changes to the grazing permit which would minimize and mitigate damage to saline soils therefore reducing salinity contributions to the Colorado River. These potential reductions in impacts for these three Alternatives are described in sections 4.2.1.4 and 4.2.2.4.</p>  |

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| 23              | <p>GRA-19 requires the BLM to “Grazing in Saline Soils: Use grazing systems and develop AMPs to minimize impacts to saline soils and reduce salinity in the Colorado River drainage in the following allotments: Agate, Athena, Big Flat-Ten Mile, Cisco, Cisco Mesa, Coal Canyon, Crescent Canyon, Floy Creek, Harley Dome, Highlands, Horse Canyon, Little Grand, Lone Cone, Monument, and San Arroyo.” This has not been done.</p>  | Refer to response #1   |
| 24              | <p>SOL-WAT-19 the BLM is required to “Implement portions of Greater Sagers Wash Watershed Management Plan that pertain to surface disturbance.”</p> <p>There is no discussion of what the actions of this plan are.</p>  | <p>The soil and water decision SOL-WAT-1 in the Moab RMP refer to surface disturbing activities and are not applicable to livestock grazing.</p> <p>On page A-1 of Appendix A of the Moab RMP, livestock grazing is excluded from the definition of a surface disturbing activity.</p>   |
| 25              | <p>We also include as attachments two more recent papers by Lusby. In the most recent paper the author states:</p> <p>During the period 1954-65, when the area was grazed by cattle and sheep from November 15 to May 15 each year, the grazed watersheds produced 54 percent more sediment per unit area than the ungrazed watersheds.</p> <p>This is a similar time frame to the proposed action. In addition, we have provided Lusby 1971 which found decreases in ground cover and vegetative cover under grazing systems similar to the proposed.</p> | <p>The Lusby (1979) article does not compare any areas where a rotational grazing system with cattle was analyzed. In addition there was no analysis which compared cattle grazing without sheep grazing and the second period of analysis from 1966-1973.</p> <p>The Lusby (1971) article does not discuss rotational grazing systems but only compares areas of no grazing to areas of grazing. As indicated in the EA the proposed rotational grazing system for the Monument Wash Allotment will have beneficial effects with regards to ground cover (Section 4.2.1.4).</p> |
| 26              | <p>4.2.1.5 is inaccurate. The entire allotment is grazed every year till March, and then, assuming the permittee actually herds effectively 5-7 days a week (which will not happen) then during March, April and May the entire herd is grazed on half the allotment, greatly increasing utilization and impacts. The EA fails to discuss the impacts of this.</p>   | <p>Section 4.2.1.5 is now section 4.2.1.4. The section has been changed to clarify the analysis.</p>   |
| <b>Cultural</b> |  |  |
| 27              | <p>NHPA – No adverse effects does not square with the archi report which clearly demonstrates adverse effects.</p> <p>The 2009 archi report confirms the BLM’s assumptions are incorrect</p>   | <p>The commenter is referencing old documentation. This comment references a 2009 report that was used for consultation with the Utah State Historic Preservation Officer (SHPO).BLM conducted previous consultation under the</p>   |

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|    |   | <p>State Protocol Agreement. This agreement has expired and new consultation was needed.</p> <p>The BLM completed new a cultural resource inventory report and consultation in the subsequent years. Please see updated reports and letters that include a discussion of improved fencing at a number of sites, including 42GR680, about which the commenter appears to be concerned. The fencing will prevent livestock access to the site and prevent impacts from the renewal of the permit. BLM conducted new consultation based on these updates. Based on the updates the BLM made a determination of “No Adverse Effect [36 CFR 800.5(b)],” which the SHPO concurred with on 6/29/2016.</p> |
| 28 | <p>All impacts to cultural resources are by definition cumulative and permanent, so it is disingenuous to states that “impacts likely reached their most detrimental levels decades ago” All impacts to cultural resources are cumulative. The fact that impacts may have been more severe in the early 20th century is irrelevant to what the impacts are from the continuation of grazing for the next 10 years.</p>  | <p>The commenter is referring to old reports. The BLM has improved the fence at the site (42GR680), with which the commenter appears to be concerned, to prevent access by livestock. See updated letters and reports referencing these improvements in Appendix A of the ID Team Checklist located in Appendix B of the EA.</p>   |
| 29 | <p>No information is provided regarding cultural resources or their conditions.</p>   | <p>All the reports provide specific details on cultural resource conditions, please see updated reports.</p>   |
| 30 | <p>It is inconceivable that continued livestock grazing could be determined to not directly or indirectly alter any of the characteristics of a culture property. We are providing a range of documents discussing this issue including a review of grazing impact to cultural resources on BLM lands throughout Colorado which found the majority of sites reviewed did have adverse impacts occurring from livestock grazing. It would be illogical to think that this allotment somehow is an exception.</p> | <p>No documents were provided with the comments that discuss this issue that continued livestock grazing could be determined to not directly or indirectly alter any of the characteristics of cultural property.</p>  |

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| 31             | <p>There is no rational way the BLM can conclude that renewal of the 10 year grazing permits does not have the “potential for affecting the characteristics” of cultural resources.</p>  | <p>The BLM has not concluded that the renewal of the Monument Wash permit has “No Potential to Cause Effects” [36 CFR 800.3 (a) (1)]. The BLM has conducted multiple identification efforts for the allotment permit renewal to assess potential effects on cultural resources and consulted with the SHPO (U09BL0299 and U15BL0211). The BLM has made a determination of “No Adverse Effects” [36 CF 800.5 (b)] based on those efforts and modifications to the permit renewal.</p>  |
| <b>Grazing</b> |  |   |
| 32             | <p>The document fails to discuss the issue that over the last nearly 30 years actual use has been only 60% of permitted use. The document fails to discuss the impacts that would occur if this use was nearly doubled to permitted use.</p> | <p>Chapter 3 of the EA describes the current and existing conditions under permitted use levels. The No Action Alternative (continuation of the permit) analyzes current management under permitted use. Based on data in the Rangeland Health Evaluation (Appendix E), the allotment is meeting standards and guides and is in a static to upward trend (also refer to Section 3.3.2). Therefore the EA does analyze permitted use.</p> <p>Full permitted use is allowed only when climactic, forage, and water conditions are favorable. The BLM and the permittee work together at the beginning of the grazing season to assess range conditions; actual use authorizations are keyed to the number of cattle that the vegetation can support for that grazing season. This is why the actual use for the time period averages 60%. The actual use each year is dependent on the current range conditions which are affected yearly by the amount of precipitation.</p> |

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| 33 | <p>4.2.1.1 Fails to discuss the likely effectiveness of the BLM’s absurd ‘herding’ proposal.</p> <p>Further undercutting the absurd proposal is there are no requirements to herd or to rest half the allotment during spring. I perfect recipe for failure and lack of accountability.</p> | <p>Section 2.2 of the EA states:</p> <p><b>“Grazing Management Strategy:</b></p> <p>Currently there are no fenced pastures on the Monument Wash Allotment. The goal of the grazing management strategy is to create use areas that would allow a grazing management system which would include spring rest for at least 50 percent of the allotment each year.</p> <p>Spring rest in at least 50 percent of the allotment would be accomplished by herding. The ranchers would also use temporary panels to close off any waters that they feel would assist in keeping the cattle in the proper use area. Each year the Moab Field Office and the permittee of the Monument Wash Allotment would meet before fall grazing and again before spring grazing to work together and determine which use areas would be closed to spring use, based on past use, available water, and climatic conditions. The grazing rotation would allow at least 50 percent of the allotment to be rested each year in the spring.”</p> |
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**Butch Jensen Comment**

| #  | Comment  | Response  |
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| 34 | <p>We would like the flexibility in our on and off date 6 weeks on either side of the current permit. This will allow both the permittees and the BLM additional management flexibility.</p> | <p>Term and condition 1 of the Proposed Action has been changed to allow up to 45 days of flexibility for turnout in the fall.</p> <p>Section 2.5 Alternatives Considered, but Eliminated from Further Analysis: was updated to include, “2.5.4 Proposed Action with a term and condition that allows six weeks flexibility at the end of</p> |

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|   |   | the season. (Externally generated from comments received by the current permittee).”   |
| 35  | <p>We would like it clarified that if a fence becomes necessary as proposed in the Environmental Assessment (EA), the BLM will fund the construction of the fence in both the materials and labor. This needs to be stated in the EA. Permittees will assume yearly maintenance after completion.</p> <p>It is our understanding that if panels are needed to fence off ponds they will be provided by the BLM. This also needs to be clarified in the EA.</p>  | <p>Environmental analysis does not need to be conducted on the assignment of who will construct or pay for range improvement projects. The Moab Field Office has committed to purchasing panels to fence off water developments to assist in the grazing system and also has committed to the purchase and installation of the fence along the Yellowcat road if it becomes necessary.</p> <p>The financial, installation, and maintenance responsibilities for the proposed range improvement projects will either be addressed in the Grazing Decision or the Cooperative Agreements for the projects.</p> |
| 36  | We are also interested in <b>changing</b> our current billing plan to the actual use billing plan.  | The Actual Use term and condition has been modified to include “billing to be based on actual use”.  |
| <b>Great Old Broads for Wilderness • Grand Canyon Trust • Lindsay Trudeau</b> |   |  |
| <b>#</b>  | <b>Comment</b>  | <b>Response</b>  |
| 37  | Issue 1: The EA claims financial impact to the permittee but fails to analyze economic impacts to the public.   |  |
|   | <p>Documentation of the Determination of Impacts is included in the EA as the Interdisciplinary Team Analysis Records (Appendix B). Under the "Socio - Economics" category, a determination of "NI" (present, but not affected to a degree that detailed analysis is needed) is given. The rationale listed is:</p> <p>Reduction in ranching-based income could make it more difficult for families to earn a living on ranching alone. Family members may have to get second jobs or work off the farm to bring in additional income. However, <u>none of the alternatives analyzed in this EA proposes any changes in the authorized AUMs</u>, or any other changes that would likely cause any more than minimal changes to the local economy. Consequently, there would be no social or economic impacts to the livestock operators who graze these allotments, or to the local communities. This issue is therefore not addressed further in this EA. [Emphasis added.]</p> <p>However, this is inaccurate. EA 2.3 Alternative B - Change the Season of Use to Exclude Spring Grazing, states:</p> | <p>A correction has been made to the ID Team Checklist to remove the incorrect statement that no Alternatives include a reduction in AUMs.</p> <p>Although the EA at 4.2.2.1 states that “The loss of spring grazing on the Monument Wash Allotment may make the costs of grazing on the allotment outweigh the benefits to the permittee’s ranching operation, which may make the operation unviable.”</p> <p>If the rancher were to decide not to continue grazing on the Monument Wash Allotment, the</p>   |

|   | <p>This alternative is designed to allow grazing while increasing the desired plant species and protecting saline soils by changing the season of use. <u>There would be a corresponding reduction in the stocking rate with 1 741 AUMs being placed into suspended use. The new active preference for the allotment would be 2.972. AUMs.</u> [Emphasis added]</p> <p>Furthermore, since ecological benefits to Vegetation, Wildlife (Migratory Birds, Sensitive Species, Fish and Wildlife Excluding USFW Designated Species), and Soils would all be enhanced by elimination of spring grazing (EA 4.2.2.1), it can only be construed that the reason for selecting Alternative A over B is the <u>economic hardship to the rancher.</u> As stated at 4.2.2.1 Livestock Grazing:</p> <p>This alternative would require the permittee to adjust the management of his ranching operation. <u>There would be an economic impact to the permittee,</u> who would have to find alternate spring grazing, reduce livestock numbers, or feed the cattle on their private land. The loss of spring grazing on the Monument Wash Allotment <u>may make the costs of grazing on the allotment outweigh the benefits to the permittee's ranching operation,</u> which may make the operation unviable. [Emphases added.]</p> <p>The EA fails to back up its claims of "<b>may</b> make the costs of grazing on the allotment outweigh the benefits to the permittee's ranching operation", and yet it appears to be the sole reason for selecting Alternative A over Alternative B.</p> <p>According to EA 3.2 General Setting:</p> <p>Although livestock ranching was once a major part of the local traditions and economic enterprise, the social and economic emphasis of Grand County is currently based on tourism and recreation. Ranching now plays a minor role in the areas social-economic atmosphere.</p> <p>The private benefit to one permittee has been considered in this EA, but the natural resources and ecosystem services costs/benefits and unquantified economic costs to the public including public costs for grazing management, have been wholly ignored. It is arbitrary and capricious to consider one element of a cost-benefit analysis and ignore others. Minimally, the following economic impacts need to be analyzed:</p> | <p>change would not likely cause any more than minimal changes to the local economy. Consequently, there would be no social or economic impacts to the local communities.</p> <p>As stated above the current permittee could determine that the loss of spring grazing on the Monument Wash Allotment may make the costs of grazing on the allotment outweigh the benefits. This impact simply disclosed a potential impact to the rancher. No decision has been made on which Alternative will be selected at this stage in the analysis process.</p> <p>Economic impacts shown in parts A, B, C, and D of this comment do not need to be analyzed, because there has been a determination made in the ID Team checklist that socio economic impact are present, but not affected to a degree that detailed analysis is required.</p> |      |  |  |          |      |      |      |  |  |  |  |  |
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| A   | <p><b><u>Rapid decline in biocrust contribution to dust on snow and early snowmelt.</u></b></p> <p>BLM monitoring data since 2008 on Monument Wash Allotment indicates that biological soil crust is significantly declining on the allotment (Table 1).</p> <table border="1" data-bbox="302 1663 829 1852"> <thead> <tr> <th colspan="4">Table 1. Biological soil crust percent cover in Monument Wash Allotment by year</th> </tr> <tr> <th>Key Area</th> <th>2008</th> <th>2010</th> <th>2013</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>  | Table 1. Biological soil crust percent cover in Monument Wash Allotment by year  |      |  |  | Key Area | 2008 | 2010 | 2013 |  |  |  |  |  |
| Table 1. Biological soil crust percent cover in Monument Wash Allotment by year |   |  |      |  |  |          |      |      |      |  |  |  |  |  |
| Key Area  | 2008  | 2010   | 2013 |  |  |          |      |      |      |  |  |  |  |  |
|   |   |  |      |  |  |          |      |      |      |  |  |  |  |  |

|      |            |            |              |
|------|------------|------------|--------------|
| KA 1 | 6.0        | 2.5        | 1.13         |
| KA 4 | 1.0        | 0.5        | 0.13         |
| KA 7 | 19.0       | 7.13       | 0.13         |
| KA 5 | 14.0       | 7.51       | 2.88         |
| KA 2 | 6.0        | 5.13       | not measured |
| KA 9 | 0.0        | 0.13       | not measured |
| KA 8 | 2.0        | 0.79       | not measured |
| KA 6 | not listed | not listed | not measured |
| KA 3 | 11.0       | 0.13       | not measured |

Compiled from nine tables in EA Table 3-4: Point Intercept Data Summary

Based on existing soil survey information and field observations, approximately 87 % (69,068 acres) of the soils in Monument Wash allotment are considered sensitive. Sensitive soils are defined as soils having characteristics that make them extremely susceptible to impacts or difficult to reclaim or restore after disturbance. Soils susceptible to high wind erosion cover about 46percent of the allotment (EA 3.3.5 Soils).

In this area of the Colorado Plateau these soils are most susceptible to wind erosion in the spring. These soils should be managed for high amounts of ground cover (biological soil crusts, litter, and plants) in order to stabilize the soils and reduce erosion (EA 3.3.5 Soils).

Additionally, 3,362 acres of the allotment are in dust blowout areas (EA 3.3.5 Soils).

The dust on snow that results from soil erosion has been demonstrated to melt snow three to seven weeks earlier than clean snow (Deems, 2014). Since snow pack provides the western U.S. with 80% of its water supply, earlier and faster melting snow, resulting in a shorter runoff season, creates a critical problem by exacerbating shortages in already over-allocated rivers downstream. As stated by Deems et al. 3013:

Agriculture, which uses 70-80 percent of the surface water runoff throughout the western U.S., will feel the brunt of these shortages. As water becomes scarcer and more valuable, there will be increasing pressure to divert it away from agriculture to cities.

Watchable wildlife could also suffer, including pikas as well as plant species that rely on a substantial snowpack.

Fluctuating river volume and water temperatures could affect fish survival. White water recreationists and the businesses that rely on these rafters and kayakers could also face a shorter season. The diminished snow pack and shortened runoff could also lead to longer and more damaging fire seasons." (Deems, et al. 2013)

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|                 | <p>Wildlife watching, fishing and water recreation all bring economic benefits, none of which are mentioned in the EA.</p>   |
| <p><b>B</b></p> | <p><b>Reduction in biocrust contributes salinity and selenium to the Colorado River Basin:</b> Approximately 54,331 acres or 69 percent of the allotment have moderately saline soils. These soils can contribute salinity and selenium to the Colorado River Basin by storm runoff to the Colorado River. (EA 3.3.5 Soils)</p> <p>Regulating salinity needs to be a high priority in this area because an unnaturally high salt load has a negative economic impact on municipal, industrial, and agricultural users, as well as fish and wildlife. Additionally, selenium adversely affects endangered fish species. Storm runoff can be mitigated by a healthy biocrust.</p> <p>It is stated in EA 4.2.2.5 Soils, under Biotic Soil Crusts:</p> <p style="padding-left: 40px;">Alternative (B) is less impacting to biotic soil crusts within the dust blowout areas than the proposed action or the no action alternative. With no spring grazing there is potential for a decrease in soil compaction and an increase in vegetative cover and soil stability, improving overall soil health conditions as well as biotic soil crust conditions.</p> <p>Nevertheless, Alternative (A) is the proposed action. This has economic consequences.</p>  |
| <p><b>C</b></p> | <p><b>Increased cheatgrass results in increased risk of fire, and consequent loss of wild and domestic ungulate shrub forage:</b> It is well known that cheatgrass is a continuous, highly flammable fuel that significantly increases the risk of fire. Once a fire occurs, cheatgrass increases the frequency of fires transforming native shrub/grass communities to annual grasslands dominated by cheatgrass and other invasive (Reisner, et al. 2013). For practical purposes these shifts are irreversible because of the significant investments necessary to restore these systems. A significant concern in this EA is the assessment of the magnitude of the cheatgrass problem. Although BLM point intercept data in Key Areas indicates that cheatgrass is decreasing, it must be noted that the last monitoring that occurred was 6 years ago (2010) for KA 2, 9, 8, 6 and 3. Furthermore, the unreliability of the data is demonstrated by the fact that Key Area 3 was disbanded and replaced with KA10, as a result of its "currently being a monoculture of invasive species," (EA 3.3.2 Utah's Rangeland Health Standards), but this is contrary to the trend indicated in the monitoring data. Without current data (e.g. in the last 5 years), there is no way to know what the level of cheatgrass is at the present time. My own observations on 7/7/16 in Monument Wash Allotment indicate that there are significant areas of cheatgrass and (annual wheatgrass) throughout, and in KA 1 and KA 5: cheatgrass was <u>common</u> and <u>dominant</u> in KA 2.</p> <p>There are large economic costs of fighting fire, and losing wild ungulate forage production (economics of hunting and wildlife watching).</p> |

|           | <p><b>Table 2. Cheatgrass percent cover in Monument Key Areas by year</b></p> <table border="1"> <thead> <tr> <th>Key Area</th> <th>2008</th> <th>2010</th> <th>2013</th> </tr> </thead> <tbody> <tr> <td>KA 1</td> <td>41</td> <td>0.38</td> <td>1.26</td> </tr> <tr> <td>KA 4</td> <td>54</td> <td>0</td> <td>12.88</td> </tr> <tr> <td>KA 7</td> <td>9</td> <td>1.13</td> <td>0.13</td> </tr> <tr> <td>KA S</td> <td>21</td> <td>0</td> <td>1.38</td> </tr> <tr> <td>KA 2</td> <td>37</td> <td>0.25</td> <td>not measured</td> </tr> <tr> <td>KA 9</td> <td>61</td> <td>2.75</td> <td>not measured</td> </tr> <tr> <td>KA 8</td> <td>22</td> <td>3.38</td> <td>not measured</td> </tr> <tr> <td>KA 6</td> <td>0</td> <td>2.25</td> <td>not measured</td> </tr> <tr> <td>KA 3</td> <td>40</td> <td>2</td> <td>not measured</td> </tr> </tbody> </table> <p>Compiled from nine tables in EA Table 3-4: Point Intercept Data Summary</p>   | Key Area  | 2008         | 2010 | 2013 | KA 1 | 41 | 0.38 | 1.26 | KA 4 | 54 | 0 | 12.88 | KA 7 | 9 | 1.13 | 0.13 | KA S | 21 | 0 | 1.38 | KA 2 | 37 | 0.25 | not measured | KA 9 | 61 | 2.75 | not measured | KA 8 | 22 | 3.38 | not measured | KA 6 | 0 | 2.25 | not measured | KA 3 | 40 | 2 | not measured |  |
|-----------|--|---|--------------|------|------|------|----|------|------|------|----|---|-------|------|---|------|------|------|----|---|------|------|----|------|--------------|------|----|------|--------------|------|----|------|--------------|------|---|------|--------------|------|----|---|--------------|--|
| Key Area  | 2008   | 2010  | 2013         |      |      |      |    |      |      |      |    |   |       |      |   |      |      |      |    |   |      |      |    |      |              |      |    |      |              |      |    |      |              |      |   |      |              |      |    |   |              |  |
| KA 1      | 41   | 0.38  | 1.26         |      |      |      |    |      |      |      |    |   |       |      |   |      |      |      |    |   |      |      |    |      |              |      |    |      |              |      |    |      |              |      |   |      |              |      |    |   |              |  |
| KA 4      | 54   | 0   | 12.88        |      |      |      |    |      |      |      |    |   |       |      |   |      |      |      |    |   |      |      |    |      |              |      |    |      |              |      |    |      |              |      |   |      |              |      |    |   |              |  |
| KA 7      | 9  | 1.13  | 0.13         |      |      |      |    |      |      |      |    |   |       |      |   |      |      |      |    |   |      |      |    |      |              |      |    |      |              |      |    |      |              |      |   |      |              |      |    |   |              |  |
| KA S      | 21   | 0   | 1.38         |      |      |      |    |      |      |      |    |   |       |      |   |      |      |      |    |   |      |      |    |      |              |      |    |      |              |      |    |      |              |      |   |      |              |      |    |   |              |  |
| KA 2      | 37   | 0.25  | not measured |      |      |      |    |      |      |      |    |   |       |      |   |      |      |      |    |   |      |      |    |      |              |      |    |      |              |      |    |      |              |      |   |      |              |      |    |   |              |  |
| KA 9      | 61   | 2.75  | not measured |      |      |      |    |      |      |      |    |   |       |      |   |      |      |      |    |   |      |      |    |      |              |      |    |      |              |      |    |      |              |      |   |      |              |      |    |   |              |  |
| KA 8      | 22   | 3.38  | not measured |      |      |      |    |      |      |      |    |   |       |      |   |      |      |      |    |   |      |      |    |      |              |      |    |      |              |      |    |      |              |      |   |      |              |      |    |   |              |  |
| KA 6      | 0  | 2.25  | not measured |      |      |      |    |      |      |      |    |   |       |      |   |      |      |      |    |   |      |      |    |      |              |      |    |      |              |      |    |      |              |      |   |      |              |      |    |   |              |  |
| KA 3      | 40   | 2   | not measured |      |      |      |    |      |      |      |    |   |       |      |   |      |      |      |    |   |      |      |    |      |              |      |    |      |              |      |    |      |              |      |   |      |              |      |    |   |              |  |
| <b>D</b>  | <p><b>Costs to the public of Monument Wash Allotment management.</b> Given that the EA predicates choice of Alternative A over Alternative B on economics, a supplemental EA must document public costs of managing Monument Wash Allotment, including AOI preparation and meetings; BLM annual monitoring; materials for expected fencing and other infrastructure, and other BLM costs. The proportion of these costs covered by grazing fees should be estimated, with documentation. Economic issues would not arise if the BLM had not stated economics as the apparent disadvantage of Alternative B compared to Alternative A.</p>  |   |              |      |      |      |    |      |      |      |    |   |       |      |   |      |      |      |    |   |      |      |    |      |              |      |    |      |              |      |    |      |              |      |   |      |              |      |    |   |              |  |
| <b>38</b> | <p><b>Issue 2: The EA does not analyze the environmental consequences of the interaction of global warming with cattle grazing.</b></p>  |   |              |      |      |      |    |      |      |      |    |   |       |      |   |      |      |      |    |   |      |      |    |      |              |      |    |      |              |      |    |      |              |      |   |      |              |      |    |   |              |  |
| <b>A</b>  | <p>The Public Rangelands Improvement Act of 1978 (PRIA) requires the BLM to manage, maintain, and improve the condition of the public rangelands so they become as productive as feasible. Beschta et al. 2012 reference research papers for stating expected impacts of global warming:</p> <p>The interaction with anticipated changes in climate will likely worsen soil erosion, dust generation, and stream pollution. Soils whose moisture retention capacity has been reduced will undergo further drying by warming temperatures and/or drought and become even more susceptible to wind erosion (Sankey and others 2009). Increased aeolian deposition on snowpack will hasten runoff, accentuating climate-induced hydrological changes on many public lands (Neff and others 2008). Warmer temperatures will likely trigger increased fire occurrence, causing further reductions in cover and composition of biological soil crusts (Belnap and others 2006), as well as vascular plants (Munson and others 2011).</p> | <p>There are no tools or methodologies approved for use in NEPA that could analyze the issues raised. Until such time as these are made available any global warming analysis is necessarily qualitative. This EA does that commiserate with the magnitude of potential greenhouse gas emissions and/or sequestration potential (neither of which is possible to quantify in any meaningful way).</p> |              |      |      |      |    |      |      |      |    |   |       |      |   |      |      |      |    |   |      |      |    |      |              |      |    |      |              |      |    |      |              |      |   |      |              |      |    |   |              |  |
| <b>B</b>  | <p>According to a ten-year research study in Castle Valley UT, in which biocrusts were exposed to artificial increases in temperature similar to those expected in the coming decades, and changed precipitation (Ferrenberg et al. 2015), damage to the crusts was similar to (and thus cumulative with) damage by trampling:</p> <p>Experimental climate change and physical disturbance had strikingly similar impacts on biocrust communities, with both promoting a shift to degraded, early successional states. These results herald ecological state</p>   |   |              |      |      |      |    |      |      |      |    |   |       |      |   |      |      |      |    |   |      |      |    |      |              |      |    |      |              |      |    |      |              |      |   |      |              |      |    |   |              |  |

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|    | <p>transitions in drylands as temperatures rise, calling for management strategies that consider risks from both physical disturbances and climate change.</p> <p>If grazing is discontinued in the spring, as in Alternative B, the impact to crusts will be significantly reduced. In high altitude or cool-season grazed lands, crusts on all soil types are least vulnerable to disturbance when the soils are frozen or snow-covered. (Belnap et al. 2013) Livestock should be removed before the end of the wet season to prevent soil-crust organisms from becoming brittle and increasingly vulnerable to damage by livestock trampling.</p> <p>The EA has failed to mention climate change or compare the alternatives in light of climate changes that flow from global warming. This is not an issue that has to be raised by the public in scoping comments. The CEQ, in their <i>Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts</i> (2014) indicates that such environmental consequences are the type that are expected to be considered under NEPA:</p> <p>The analysis of impacts on the affected environment should focus on those aspects of the human environment that are impacted by both the proposed action and climate change.</p>  |  |
| 39 | <p><b>Issue 3: Spring grazing impact on pollinators:</b></p>  |  |
|    | <p>Spring grazing impact on pollinators:<br/>The EA under 4.2.2.2 Vegetation, for Alternative B states:<br/>Spring grazing would not occur on the allotment, which would completely rest the allotment every spring during the critical time of growth and reproduction for plants.</p> <p>Reproduction of many native forbs (wildflowers) depends on annual, native pollinators. Pollinating insects provide important services to ecosystems and are responsible for the maintenance of ecosystem diversity and function. In 2014, President Obama issued a memorandum directing the heads of executive departments and agencies to create a Federal strategy to promote the health of pollinators. The Presidential Memorandum directs Federal departments and agencies to evaluate and use their resources, facilities, and land management responsibilities to expand knowledge of pollinator health and to increase habitat quality and availability. There is an inverse relationship between intensity and time of year of grazing and pollinator health. Nevertheless, <u>pollinators are never mentioned in the EA</u>. Allowing grazing every other spring will eventually remove from the allotment both an unknown number of species of forbs and an unknown number of their native annual pollinators that depend upon them.</p> <p>Despite the President's memorandum, the BLM fails to mention pollinators, which begs the question of whether the BLM knows anything about any pollinators and their dependence on particular native forbs in the Monument Wash Allotment.</p> | <p>At this time this comment is out of the scope of this document: The Presidential Memorandum (PM) directs DOI to assist States in identifying and implementing projects to conserve pollinators at risk ... through State Wildlife Action Plans and provide technical support. <i>PM guidance does not indicate pollinators need to be analyzed during NEPA development.</i></p> <p>Several documents have resulted from this memorandum that task the BLM:</p> <p>The National Strategy to Promote the Health of Honey Bees and Other Pollinators (Strategy) outlines the three overarching goals: reduce honey bee losses, increase eastern monarchs and restore or enhance land for pollinators, DOI is tasked with including pollinator friendly plants in land management programs (post-fire vegetation, fuels</p> |

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|  |  | <p>management, and green stripping) and supporting conservation of the monarch butterfly. Additional tasks include developing landscaping policy on all DOI facilities, revising its Renewable Resource Treatments and Improvements, and exploring opportunities to forage honey bees on managed lands. <i>Strategy guidance does not indicate pollinators need to be analyzed during NEPA development.</i></p> <p>The Pollinator Research Action Plan (Plan) includes addressing the health of managed honey bees and native bees, data collection and data, assessments of native bee and monarch butterfly, affordable pollinator-friendly seed mixes, minimizing pollinator exposure to pesticides, strategies for targeting restoration efforts in areas that will yield the greatest expected net benefits for pollinator health. <i>Plan guidance does not indicate pollinators need to be analyzed during NEPA.</i></p> <p>The Draft Pollinator-Friendly Best Management Practices for Federal Lands gives us a variety of BMPs to consider. This guidance is still in draft.</p> |
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**40 Issue 4. The EA fails to document claims for comparative environmental consequences of Alternatives A and B with any evidence.**

| Vegetation |  |  |  |  |
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|            | Alternative A  | Alternative B  | Comments   |  |
|            | At least 50 percent of the allotment would be rested during the critical spring growing season every year (March 7 through May 15). The benefits of spring rest to the vegetative communities would include rest for the | Spring grazing would not occur on the allotment, which would completely rest the allotment every spring during the critical time of growth and | If biological soil crust is grazed after the ground is thawed and is dry, the damage done by grazing through May 15 in one year is not undone by not grazing through | Most of the soils on the Monument Wash Allotment do not support high amounts of BSC's. Developing an Allotment Management Plan (AMP) with a grazing system that rests at least 50% of the allotment every spring is considered a Best Management |

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| <p>grasses, forbs and shrubs. Throughout the allotment, the benefits of spring rest include; forage production, seed production, good plant vigor, aid in seed dispersal and establishment of young plants.</p>  | <p>reproduction for plants. The advantage that this alternative has over the proposed action and the no action alternative is that this alternative has greater potential for quicker improvement of desired species.</p> | <p>May 15 the next year. Most native bees are annual. If the flowers they would visit are grazed off in 60 percent utilization one year, they will not be there the next year when it is not grazed, unless they are widespread generalists.</p> | <p>Practice (BMP) for grazing on saline and other sensitive soils</p>  |
| <p>The proposed action includes a term and condition that would limit utilization to moderate levels (40 to 60 percent). Based on history of grazing in this allotment and current rangeland health conditions, this level of utilization is expected to continue to benefit desired plant species and maintain rangeland health.</p>  |   | <p>A utilization of 40-60 percent means 60 percent. That is considered "heavy" grazing (not "moderate") in grazing literature (e.g., Holechek 1999)</p>  | <p>According to the Draft Utah Monitoring Manual and the Moab RMP 40-60% is not heavy grazing but is classified as moderate grazing.</p>   |
| <p>Limiting spring grazing would help to maintain the vigor and productivity of the forage plants on the Monument Wash Allotment because at least 50 percent of the allotment would be rested during the critical spring growing season every year (March 7 through May 15), which as stated above is a critical time for plant growth, reproduction, and nutrient storage. Limited livestock grazing in the spring would allow plants to maintain the necessary protection to continue to be in compliance with the Grazing Guidelines. Although standard 3</p> |   | <p>The EA has provided no evidence that 60 percent utilization every other spring will result in vegetation improvement. This violates CEQ regulation 1502.24</p>  | <p><b>Section 4.2.1.1 Livestock Grazing States:</b> "The Proposed Action would implement a rotation grazing management system which would rest at least 50 percent of the allotment during the spring every year. "When properly applied, grazing management systems are powerful tools that can help rangeland and livestock managers achieve management objectives related to range-land and livestock production." (Howery, Sprinkle, and Bowns, 2000). Perennial grasses vary in sensitivity to utilization, but a majority of them sustain little damage if grazing stops in time for them to complete seed maturation (Heady and Child, 1994).<br/><br/>The timing of grazing can have</p> |

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| <p>(desired species) is being met, there are some key areas that had a lower amount of desired species than others. These key areas have not reached a level of change from what is expected that makes them not meeting standard 3 and implementation of a grazing system that allows at least 50 percent of the Monument Wash Allotment spring rest would increase the potential for these key areas to continue to improve and to keep the allotment meeting the standard, by improving vigor, reproductive capability, forage production, and composition of desired species.</p> |  |  | <p>a significant impact on plant productivity and vigor, especially if livestock are repeatedly present during plant growth and reproductive stages (McGinty, Baldwin, and Banner 2009). These stages occur in the spring for shrubs and cool season grasses. If grazing is properly managed during the spring, plants can build their root systems and increase nutrient storage. The result is more robust plants which are more likely to survive and increase overall forage production (McGinty, Baldwin, and Banner 2009).</p> <p>The implementation of a grazing management system which rests at least 50 percent of the allotment each year during the spring would continue to maintain and improve the vigor and productivity of the forage plants on the Monument Wash Allotment because at least 50 percent of the allotment would be rested during spring, which as stated above is a critical time for plant growth, reproduction, and nutrient storage. Rotational systems schematically rotate cattle through a series of pastures during a calendar period. In theory, this type of system should provide a period of rest, recovery, and re-growth of grazed plants.” (Encinias and Smallidge, 2010).</p> <p>Spring rest would allow plants that were grazed during the Fall and Winter the opportunity to regrow from stored carbohydrates which would maintain sufficient residual vegetation and litter on upland sites to protect the soil from wind and water erosion and support ecological functions</p> |
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|  |   |  | with no grazing pressure. The implementation of a grazing management system which allows spring rest would ensure that plants are able to store enough carbohydrates to meet the physiological requirements of desired plants and facilitate reproduction and maintenance of desired plants to the extent natural conditions allow.” Additional analysis was added which states:” The Proposed Action includes a term and condition that limits utilization to an average of 50% (41 to 60%) utilization. “Using the suggested moderate utilization level of 50% as an <b>end of growing season value</b> ensures that half of the current year’s biomass (production), by weight, can be removed without affecting the health of the plants. Moderate grazing also provides an adequate yearlong cover crop that will protect the soil surface from wind and water erosion.” (Draft Utah Monitoring Manual, Appendix G Utilization Studies Pg. 300”.” |   |
| Wildlife (Migratory Birds, Sensitive Species, Fish and Wildlife) |   |  |  |   |
|  | The proposed action will ensure vigor and productivity of the forage plants and vegetative cover in the Monument Wash Allotment will improve. | Alternative B would eliminate cattle use during the spring when most wildlife species give birth and raise their young. Therefore no competition for space and forage would occur between wildlife and cattle. | The EA has not discussed the consequences in Alternative A of removing forage plant cover every other year with 60% utilization when most wildlife species give birth and raise their young.   | EA has been updated   |
| Utah BLM Sensitive Species                                       |   |  |  |   |
|  | Two Utah Sensitive mammal species (white-tailed prairie dog and kit fox) and three sensitive raptor species may or are                        | This alternative has greater potential to benefit vegetative cover and diversity, as   | The EA provides no documentation on Monument Wash Allotment of: population trends of   | Correct. For many sensitive species the UDWR and BLM has very limited or no trend data. The Utah Conservation Data Center. (Center) |

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|  | <p>known to inhabitant the Monument Allotment. As range conditions improve, the density and diversity of these vegetative communities would also be expected to improve.</p> <p>Increased plant density offers improved thermal protective cover for both prey and predator terrestrial species and a greater forage [sic] base for prey species.</p> <p>Improved plant diversity increases forage opportunities and develops greater opportunities for diversifications in ecological niches thus allowing for enhanced species diversity.</p> <p>Improved vegetative condition and plant cover would provide a forage base for prairie dogs, small mammals and rodents while offering forage and cover for insects, which in tum would provide prey base for kit fox and other predator species and for raptors such as ferruginous hawks and eagles.</p> | <p>grazing would be removed prior to the majority of the spring growing season, potentially increasing plant vigor of plant species and cool season plants.</p> <p>Improved ecological conditions of the range would directly affect the quality and quantity of the vegetative communities that supports the Utah Sensitive species.</p> <p>Improved ecological conditions further improve thermal protective cover for both prey and predator species and a greater forage [sic]base for prey species.</p> <p>Improved plant diversity increases forage opportunities and develops greater opportunities for diversifications in ecological niches thus allowing for enhanced species diversity.</p> <p>The removal of spring grazing would further improve range conditions and the density and diversity of these vegetative communities providing greater cover and forage</p> | <p>prairie dog or kit fox, despite these being Utah Sensitive mammal species.</p> | <p>(<a href="http://dwrcdc.nr.utah.gov/ucdc/">http://dwrcdc.nr.utah.gov/ucdc/</a>) provides habitat data and the Utah Natural Heritage Program provides a data set with individual locations. Using that information combined with additional siting or anecdotal information collected by BLM outings and UDWR work we have documentation that these species do occur in this allotment but currently no population trend data has been collected by either the UDWR or BLM. For prairie dogs, during the mid-1980s/early 1990s a mapping contract provided the BLM and UDWR with colony information that we use. Anecdotal information noted by both the BLM and UDWR during the late 1990s had indicated that population had potentially declined. In 2002 &amp; 2003 some of these areas where assessed by UDWR, it appeared that the colonies had decreased substantially. No trend data has been collected but it does appear, as noted in the EA, that population look to be increasing, but this is not supported by trend data. The EA does indicate this.</p> <p>For kit fox the Center currently does not indicate we have habitat in our field office but, as mentioned above, we also use the Heritage Program along with additional siting or anecdotal information collected by the BLM and UDWR that do indicate we have a population of kit fox throughout the area. There have been various types of surveys that have indicated occupancy but no trend data is available.</p> |
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|                                    |  | <p>base for small mammals and prairie dogs than the proposed action.</p> <p>The removal of spring grazing would eliminate the potential for cattle to impact nest burrows.</p> <p>The removal of spring grazing would ensure adequate prey base habitat and the continuation of fall and winter grazing throughout the allotment would adequately facilitate adequate suitable burrowing owl nesting habitat.</p> <p>As recommended by the White-tailed Prairie Dog Conservation Assessment (Seglund 2004), this alternative has developed grazing management practices that removes spring [sic] and would maintain sufficient vegetation on both upland and riparian sites to protect the soil from wind and water erosion.</p> |   |   |
| <b>Migratory Birds and Raptors</b> |  |   |   |   |
|                                    | <p>The proposed action alternative for the Monument Wash Allotment would continue to support good range conditions. As</p> | <p>The removal of spring grazing would further improve range conditions and the density and</p>   | <p>In Alternative A, how do "stable" range conditions "facilitate greater density and diversity of these vegetative</p> | <p>Corrected: Stable or improving range conditions will <b>maintain</b> or facilitate greater ...</p> <p>Additional clarification has</p> |

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| <p>range conditions improve, the density and diversity of these vegetative communities would also be expected to improve.</p> <p>Increased plant density offers improved thermal protective cover, nesting opportunity and an increased forage and prey base. Improved plant diversity increases forage opportunities and develops greater opportunities for diversifications in ecological niches, thus allowing for enhanced species diversity.</p> <p>Stable or improving range conditions facilitate greater density and diversity of these vegetative communities thus ensuring these species and other migratory bird species have suitable habitats for nesting and foraging in this allotment.</p> | <p>diversity of these vegetative communities providing greater cover and forage base for small mammals and prairie dogs than the Proposed action.</p>  | <p>conditions?<br/>None of the claims for Alternative A or B are referenced to any research literature, or any documentation of any of the wildlife in Monument Wash Allotment. This violates CEQ regulation 1502.24.</p>  | <p>been added to the EA.</p>  |
| <p>With the proposed action, livestock may be in the area and have direct contact with breeding and nesting migratory birds during the first two weeks of migratory birds nesting season (typically May 1—July 31) and the first three months of the raptor nesting season (typically March 1 – August 31) in pastures where spring grazing is occurring on a given year. Direct contact with cattle could result in migratory birds moving to another area lacking cattle activities to nest. Nesting success of</p>  | <p>Under this alternative all pastures would be rested during the spring thus improving range conditions more than the Proposed action and the no action. Improving the density and diversity of these vegetative communities and developing greater opportunities for diversifications in ecological niches would enhance species diversity</p> | <p>The EA provides no evidence of any monitoring of the impacts to ground nesting birds of cattle grazing on the allotment. Thus there is no evidence for indicating the degree to which spring grazing will or will not impact ground nesting birds</p> <p>In Alternative A, is the BLM implying that having the first nesting attempt impacted by livestock grazing increases fitness?</p> | <p>NEPA requires the BLM to disclose potential impacts, as noted in the EA: <i>Direct contact with cattle could result in migratory birds moving to another area lacking cattle activities to nest. Nesting success of nesting birds could be directly affected by trampling nests sites located on the ground or in low shrub substrate, resulting in loss of eggs or possibly nestlings.</i></p> <p>The EA also provides a timeline when these impacts may occur Evidence of any monitoring is out of the scope of this document.</p> <p>EA has been reworded for clarification. : <i>Re-nesting is</i></p> |

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|                         | <p>nesting birds could be directly affected by trampling nests sites [sic] located on the ground or in low shrub substrate, resulting in loss of eggs or possibly nestlings. Many birds are unsuccessful in their first nesting attempt, so re-nesting is often a very important way for birds to increase their lifetime fitness and for populations to maintain stable numbers (Bollinger 2001), therefore overall migratory bird populations within the allotment are not expected to be impacted or reduced as a result of this limited seasonal overlap</p> | <p>and density. Livestock would not have any direct contact with breeding and nesting migratory birds or raptors as cattle would be removed from the range prior to migratory birds nesting season (typically May 1 – July 31) and raptor nesting season (typically March 1 – August 31).</p>   | <p>The expectation that livestock grazing will not impact migratory bird populations is not referenced to any monitoring in the allotment. This violates CEQ regulation 1502.24.</p>  | <p><i>often a very important way for birds to increase their lifetime fitness and for populations to maintain stable numbers (Bollinger 2001). Many birds are unsuccessful in their first nesting attempt, so re-nesting often ensures reproductive success. Birds experiencing early nest failure due to the presence of cattle during the first few weeks of the nesting season may readily re-nest, resulting in reproductive success.</i><br/> Clarification has been made in the EA: <i>Overall migratory bird populations within the allotment are expected to be impacted less than under the current grazing current as the proposed spring rest/rotation system that will provide un-grazed nesting habitats throughout at least half of the allotment.</i></p> |
| <p>General Wildlife</p> |  |   |   |  |
|                         | <p>The proposed action would encourage range condition improvements. As range conditions improve, the density and diversity of these vegetative communities would also be expected to improve. Increased plant density offers improved thermal protective cover for both prey and predator species and a greater forage base for prey species. Improve plant diversity increases forage opportunities and develops greater opportunities for diversification in ecological niches, thus allowing for enhanced species diversity.</p>                             | <p>Compared to the proposed action and the no action alternatives, this alternative has greater potential to benefit vegetative cover and diversity that supports local wildlife species. Greater plant density offers improved thermal protective cover for both prey and predator species and a greater forage base for prey species. Improve plant diversity increases forage opportunities and develops greater</p> | <p>None of the claims for Alternative A (i.e., 60% grazing in every other spring) or B are referenced to any research literature, or any documentation of any monitoring of wildlife in Monument Wash Allotment This violates CEQ regulation 1502.24.</p> | <p>Comment is too vague, need to identify 'claims'. Clarification has been made in the various section identified.</p>   |

|  |  |   |  |   |
|--|--|---|--|---|
|  |  | opportunities for diversification in ecological niches, thus allowing for enhanced species diversity.   |  |   |
|  | <p>The proposed action's grazing schedule would benefit antelope and their habitats more than the no action Alternative, as it reduces grazing pressures and offers spring rest in at least half of the allotment every year. This would allow for improved annual early spring forb and grass growth, recruitment, vegetative density and plant height, plus eliminates any space competition from cattle during fawning.</p> | <p>Livestock utilizing pronghorn habitat in the spring prior and during fawning can cause low fawn survival rates due to both nutritional and predation factors. This alternative would eliminate spring grazing, therefore competition for space and forage would be eliminated. Antelope would benefit more from this alternative than from the proposed action and no action alternative, as grazing pressures during the spring are eliminated. Overall, alternative B would improve and sustain good range condition in the allotment and help to improve range and ecological condition in the allotment, more than the proposed action and the no action alternatives, thus benefiting Utah sensitive species, migratory birds, raptors,</p> |  | <p>There is no comment to respond to.</p> |

|                                  |  |   |  |  |
|----------------------------------|--|---|--|--|
|                                  |  | pronghorn and general wildlife.   |  |  |
| Utah BLM Sensitive Plant Species |  |   |  |  |
|                                  | The Entrada rushpink has habitat within the allotment. If grazing is properly managed during the spring, the result would be more robust Entrada rushpink plants which are more likely to survive and increase overall number of plants. | No spring grazing would help with the survival of the Entrada rushpink because there would be no grazing when most plants are actively growing, flowering and developing seeds. | The EA does not indicate the current population trends of Entrada rushpink and does not provide any documentation of the impacts of grazing on Entrada rushpink; The conclusory statements are not backed by evidence (CEQ regulation 1502.24) | <p>Entrada rushpink habitat is found in sandy soils that are deposits from Entrada sandstone and is found mainly in juniper and mixed desert shrub communities. There is only limited habitat for this plant within the southern portion of the Monument Wash Allotment next to Arches National Park. This area is very steep, rough terrain and lacks livestock forage and water. The area is inaccessible to livestock and livestock would have no impact to the plants. Another portion of the habitat is found in Long Valley in the southern portion of the allotment. Long Valley has soils that are deep and sandy which may have limited habitat for Entrada rushpink. Surveys were done in Long Valley in April and May of 2015 and 2016 and no plants were found. There are no known populations of Entrada rushpink in Monument Wash Allotment. Entrada rushpink plants do not occur on clay soils which represent majority (95%) of the Monument Wash Allotment. There would be no impacts from cattle grazing to this species.</p> <p>The interdisciplinary team checklist for Utah BLM Sensitive Species was changed from PI to NI (Appendix B) of the EA. Sections 3.3.4 Utah BLM Sensitive Plant Species, 4.2.1.4 Utah BLM Sensitive Plant Species, 4.2.2.4 Utah BLM Sensitive Plant Species, 4.2.3.4 Utah BLM Sensitive Plant Species, and 4.4.3 Utah BLM Sensitive Plant Species were removed from the EA.</p> |

| Soils |   |   |   |  |
|-------|---|---|---|--|
|       | Implementation of the proposed grazing system would increase vegetative cover and litter which protect the soil surface from excessive water and wind erosion by increasing infiltration and soil moisture conditions   | This alternative has a higher potential to positively benefit the overall condition of soils in the allotment than the proposed action or the no action alternative.  |   | There is no comment to respond to.   |
|       | This alternative is less impacting to soils within the dust blowout area than the no action alternative. With a pasture rotation system, areas impacted by past drought and intense grazing use would increase in vegetative cover and soil stability, reducing the dust generation at these sites. | This alternative is less impacting to soils within the dust blowout areas than the proposed action or the no action alternative. With no spring grazing there is potential for the vegetative cover and soil stability to improve at a quicker rate than the proposed action or the no action alternatives by reducing the dust generation at the dust blowout areas. | The EA provides no evidence that Alternative A will be less impacting to soils within the dust blowout area. This violates CEQ regulation 1502.24         | The dust blowout analysis in section 4.2.1.4 has been changed and analysis added for clarification.  |
|       | This alternative is less impacting to drought sensitive soils than the no action alternative. With a pasture rotation system, the increase in vegetative cover would increase soil and plant resiliency and reduce impacts during droughts.   | This alternative is less impacting to drought sensitive soils than the proposed action or the no action alternative. With no spring grazing there is potential for the vegetative cover and soil stability to improve at a quicker rate than the proposed action which would reduce impacts during droughts.  | The EA provides no evidence that 60% utilization will result in increased soil and plant resiliency during droughts. This violates CEQ regulation 1502.24 | Section 4.2.1.2 of the EA states “The proposed action includes a term and condition that limits utilization to an average of 50% (41 to 60%) utilization. “Using the suggested moderate utilization level of 50% as an <b>end of growing season value</b> ensures that half of the current year’s biomass (production), by weight, can be removed without affecting the health of the plants. Moderate grazing also provides an adequate yearlong cover crop that will protect the soil surface from wind and water erosion.” (Draft Utah Monitoring Manual, Appendix G Utilization Studies Pg. 300).” |

|  |  |   |  |   |
|--|--|---|--|---|
|  | <p>Every other year pastures with moderately saline soils would be rested in the spring, reducing the potential for accelerated wind and water erosion, increasing infiltration rates, reducing compaction, increasing overall soil health and reducing salinity and selenium loading to the Colorado River Basin.</p>   | <p>The spring season is defined in the proposed action as March 7 through May 15. Alternative B is less impacting than the no action alternative where the pastures are grazed at the same time of year each year. Every year pastures with moderately saline soils would be rested in the spring, reducing the potential for accelerated wind and water erosion, increasing infiltration rates, reducing compaction, increasing overall soil health and reducing salinity and selenium loading to the Colorado River Basin</p> | <p>The EA has apparently not compared Alternative A and B for saline soils. The EA does not provide any evidence that 60% utilization every other spring will result in increased infiltration rates, overall soil health, or reduced salinity and selenium.</p> | <p>Sections 4.2.1.4. and 4.2.2.4 have been updated and analysis added to clarify the analysis of the Proposed Action and Alternative B.</p>   |
|  | <p>This alternative is less impacting to soils with high wind erosion potentials than the no action alternative because with the implementation of a pasture rotation system, vegetative ground cover should increase which would help to stabilize soils and reduce erosion. Soils are most susceptible to wind erosion in the spring (April–June) during the heavy wind period in this area of the Colorado Plateau. Early spring rains can help</p> | <p>Soils are most susceptible to wind erosion in the spring (April – June) during the heavy wind period in this area of the Colorado Plateau. Early spring rains can help reform physical crusts that may help stabilize the soil surface if the soils are undisturbed following storm events. This alternative is less impacting to</p>  | <p>The EA provides no documentation that 60% utilization every other spring in soils with high wind erosion potential will not erase any gain in not being grazed every other year. (CEQ regulation 1502.24)</p>   | <p>Section 4.2.1.2 of the EA states “The Proposed Action includes a term and condition that limits utilization to an average of 50% (41 to 60%) utilization. “Using the suggested moderate utilization level of 50% as an <b>end of growing season value</b> ensures that half of the current year’s biomass (production), by weight, can be removed without affecting the health of the plants. Moderate grazing also provides an adequate yearlong cover crop that will protect the soil surface from wind and water erosion.” (Draft Utah Monitoring Manual, Appendix G Utilization Studies Pg. 300).”</p> |

|                           |   |   |   |  |
|---------------------------|---|---|---|--|
|                           | reform physical crusts that may help stabilize the soil surface if the soils are undisturbed following storm events.  | soils with high wind erosion potentials than the no action alternative. No spring grazing has the potential for vegetative cover and soil stability to improve at a quicker rate than the proposed action or the no action alternative which would help to stabilize soils and reduce erosion.  |   |  |
| <b>Biotic Soil Crusts</b> |   |   |   |  |
|                           | This alternative is less impacting to biotic soil crusts than the no action alternative. With a pasture rotation system there should be a decrease in soil compaction and an increase in vegetative cover and soil stability, improving overall soil health conditions as well as biotic soil crust conditions. | This alternative is less impacting to biotic soil crusts within the dust blowout areas than the proposed action or the no action alternative. With no spring grazing there is potential for a decrease in soil compaction and an increase in vegetative cover and soil stability, improving overall soil health conditions as well as biotic soil crust conditions. | The EA provides no evidence that 60% utilization every other year in the Spring will result in improved biological soil crust conditions. The EA provides no evidence of the current state of biological soil crust elements (e.g., light cyanobacteria, dark cyanobacteria, lichens, mosses). This violates CEQ regulation 1502.24 | Most of the soils on the Monument Wash Allotment do not support high amounts of Biotic Soil Crust.<br><br>Additional analysis was added and analysis was clarified in sections 4.2.1.3 and 4.2.2.3.<br><br>Developing an Allotment Management Plan (AMP) with a grazing system that rests at least 50% of the allotment every spring is considered a Best Management Practice (BMP) for grazing on saline and other sensitive soils. |

#### 5.4 List of Preparers

**Table 5-3: List of Preparers**

| <b>Name</b> | <b>Title</b>                | <b>Responsible for the Following Section(s) of this</b> |
|-------------|-----------------------------|---|
| Kim Allison | Range Management Specialist | Livestock, vegetation, soils, maps and team leader      |

|               |                    |  |
|---------------|--------------------|--|
| Pamela Riddle | Wildlife Biologist | Wildlife (Migratory Birds, Sensitive Species, Fish and Wildlife Excluding USFW Designated Species) |
|---------------|--------------------|--|

## 6.0 REFERENCES

### 6.1 References Cited

Autenrieth R.E, D.E. Brown, J. Cancino, R.M. Lee, R.A. Ockenfels, B.W. O’Gara, T.M. Pojar, and J.D. Yoakum. 2006. Pronghorn manangement: 2006 biological and management principles and practices designed to sustain pronghorn populations from Canada to Mexico. 21st Pronghorn Workshop and North Dakota Game and Fish Department Bismarck, North Dakota.

Cypher BL, Scrivner JH (1992) Coyote control to protect endangered San Joaquin kit foxes at the Naval Petroleum Reserves, California. Proceedings of the Vertebrate Pest Conference 15: 42–47.

Dennis B, Otten MRM (2000) Joint effects of density dependence and rainfall on abundance of San Joaquin kit fox. J Wildl Manag 64: 388–400.

Encinias, Manny and Smallidge, Sam. 2010. Developing a Grazing management system for Arid Climates. Circular 649, New Mexico State University Cooperative Extension Service.

Hall, Lucas K, Randy T. Larsen, Robert N. Knight, Kevin D. Bunnell, and Brock R. McMillan (2013). Water Developments and Canids in Two North American Deserts: A Test of the Indirect Effect of Water Hypothesis. PLoS One. 2013; 8(7): e67800. Published online 2013 July 2. doi: [10.1371/journal.pone.0067800](https://doi.org/10.1371/journal.pone.0067800)

Heady, Harold F. and Child, Dennis R. 1994. *Rangeland Ecology and Management*.

Howery, Larry D., Sprinkle, James E., and Bowns, James E. 2000. A summary of Livestock Grazing management systems Used on Rangeland in the Western United States and Canada. The University of Arizona Cooperative Extension.

Klute, D. S., L. W. Ayers, M. T. Green, W. H. Howe, S. L. Jones, J. A. Shaffer, S. R. Sheffield, and T. S. Zimmerman. 2003. Status Assessment and Conservation Plan for the Western Burrowing Owl in the United States. U.S. Department of Interior, Fish and Wildlife Service, Biological Technical Publication FWS/BTP-R6001-2003, Washington, D.C.

McGinty, Ellie, Baldwin, Ben, and Banner, Roger. 2009. A Review of Livestock Grazing and Range Management in Utah. State of Utah, Governor’s Public Lands Policy Coordination Office, page 14.

Ontario Ministry of Agriculture and Food. 2000. *Publication 19, Pasture Production*. Chapter 4.

Parrish, J.R., F.P. Howe, R. E. Norvell. 2002. Utah Partners in Flight Avian Conservation Strategy Version 2.0. Utah Partners in Flight Program, Utah Division of Wildlife Resources, 1594 West North Temple, Salt Lake City, UT 84116

Romin, L. A., and Muck, J.A. 2002. Utah Field Office Guidelines for Raptor Protection From Human and Land Use Disturbances. U.S. Department of the Interior, U.S. Fish and Wildlife Service, Utah Field Office, Salt Lake City, Utah.

Roebuck, C.M. 1982. Comparative food habits and range use of pronghorn and cattle in the Texas Panhandle. Thesis, Texas Technical University, Lubbock, Texas, USA.

Seglund, A.E., A.E. Ernst, M. Grenier, B. Luce, A. Puchniak and P. Schnurr. 2004. White-tailed Prairie Dog Conservation Assessment.

Simpson NS, Stewart KM, Bleich VC (2011) What have we learned about water developments for wildlife? Not enough! Calif Fish Game 97: 190–209.

Utah Division of Wildlife Resources (UDWR), 2015. Utah Conservation Data Center UDWR, assessed July 2015. <http://dwrcdc.nr.utah.gov/ucdc/>  
Utah Division of Wildlife Resources (UDWR). 2007. Proposed Utah species of concern list, State of Utah Department of Natural Resources.

USDI Bureau of Land Management 2008, Moab Field Office Resource Area Management Plan

U.S. Fish and Wildlife Service (USFWS). 2008 Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia 85 pp.

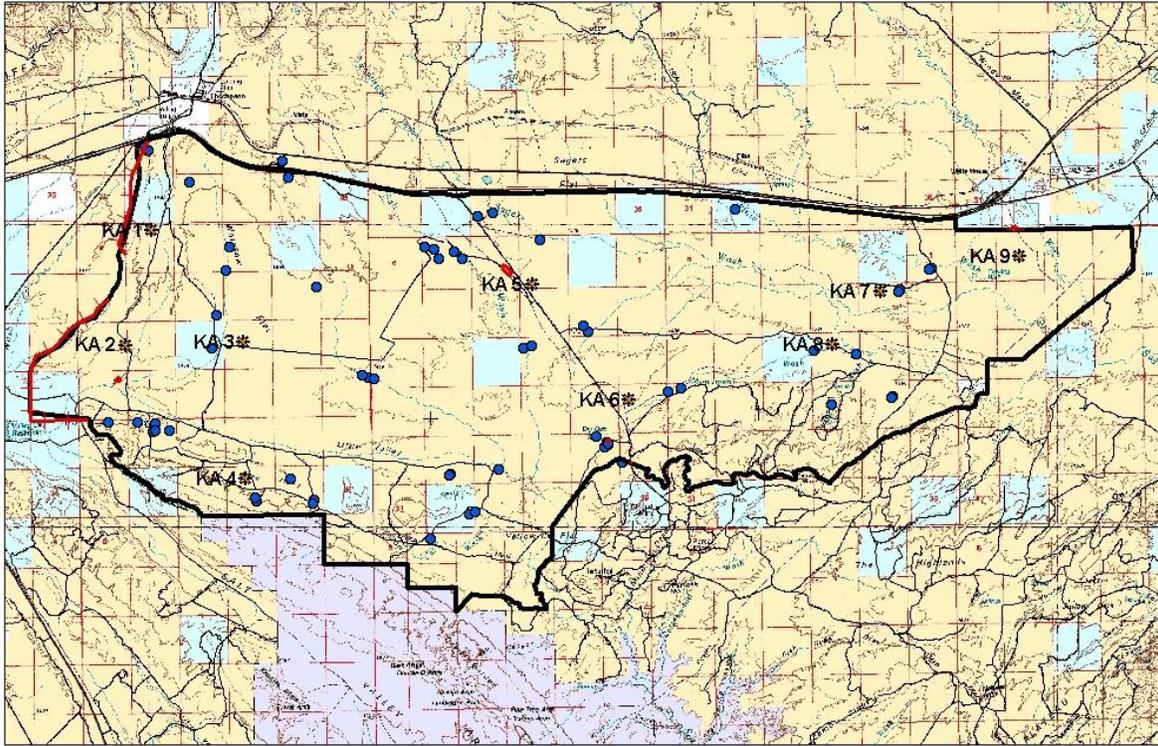
**BLM Documents (Available for review at the Moab Field Office):**

**Utah's Standards for Rangeland Health and Guidelines for Grazing Management  
Moab Field Office Resource Management Plan October 2008  
The livestock permittees individual allotment grazing case file  
Monument Wash Allotment monitoring files  
NRCS Ecological Site Descriptions**

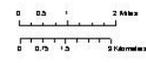
**APPENDIX A**  
**MAPS**

**Map 1: Monument Wash Allotment**  
 Moab Field Office, Canyon Country District

June 13, 2014



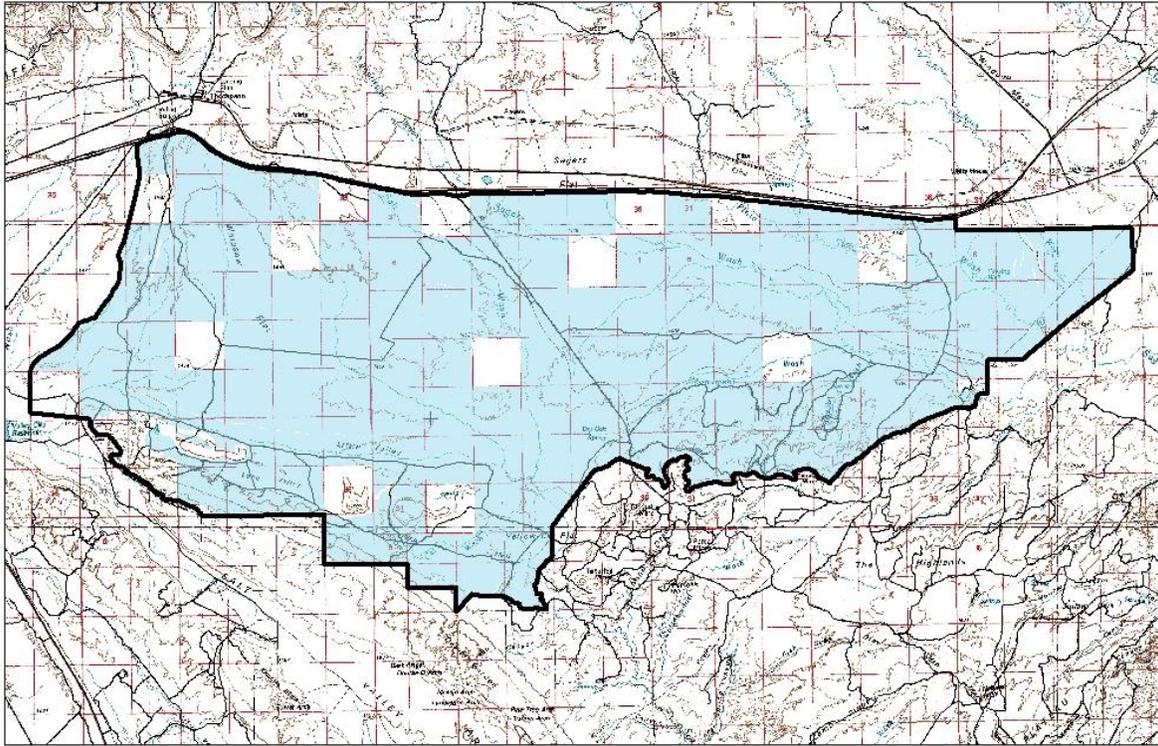
- Allotment Boundary
- Rip Area
- Water Right Point
- Fenced or Contd.
- Bureau of Land Management (BLM)
- Public Lands (BLM/USFS)
- Private
- State
- USFS Wilderness Area



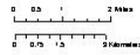
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data. No individual can appropriate land without a claim.

Map 2: Monument Wash Allotment Sensitive Soils  
Moab Field Office, Canyon Country District

June 13, 2014



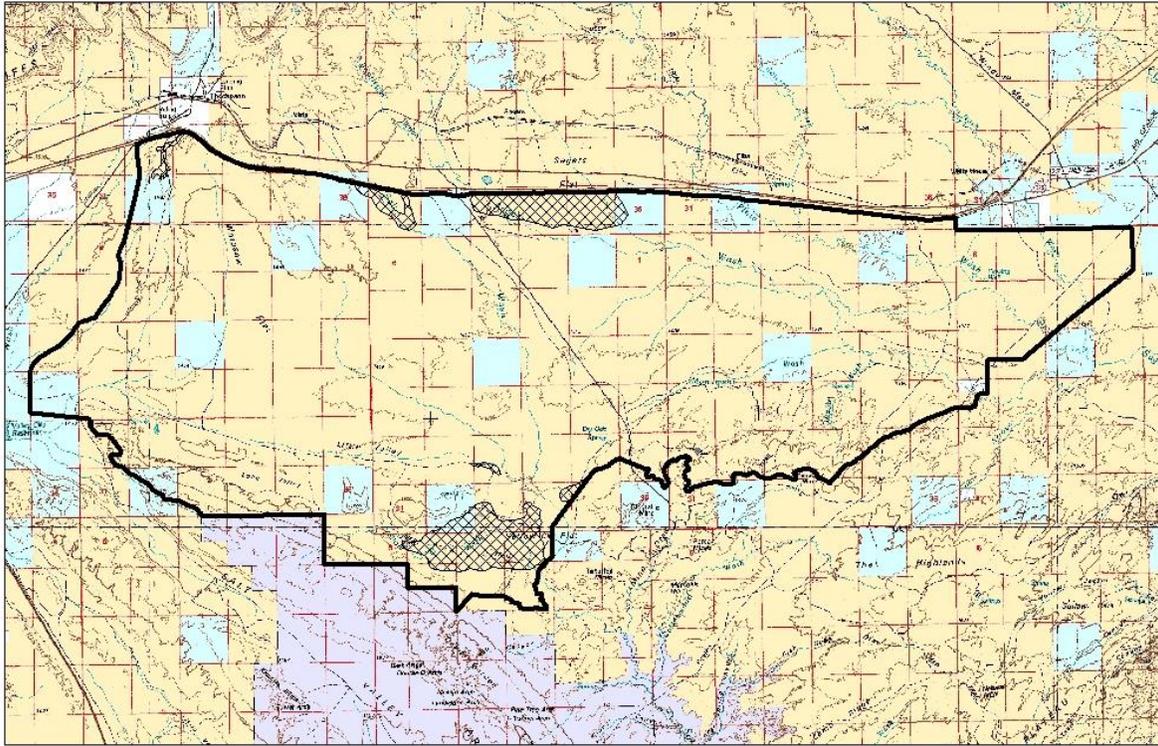
-  Allotment Boundary
-  Sensitive Soils



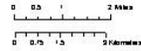
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data. We do not intend use for purposes not intended by BLM.

**Map 3: Monument Wash Allotment Dust Blowout Areas**  
 Moab Field Office, Canyon Country District

June 13, 2014



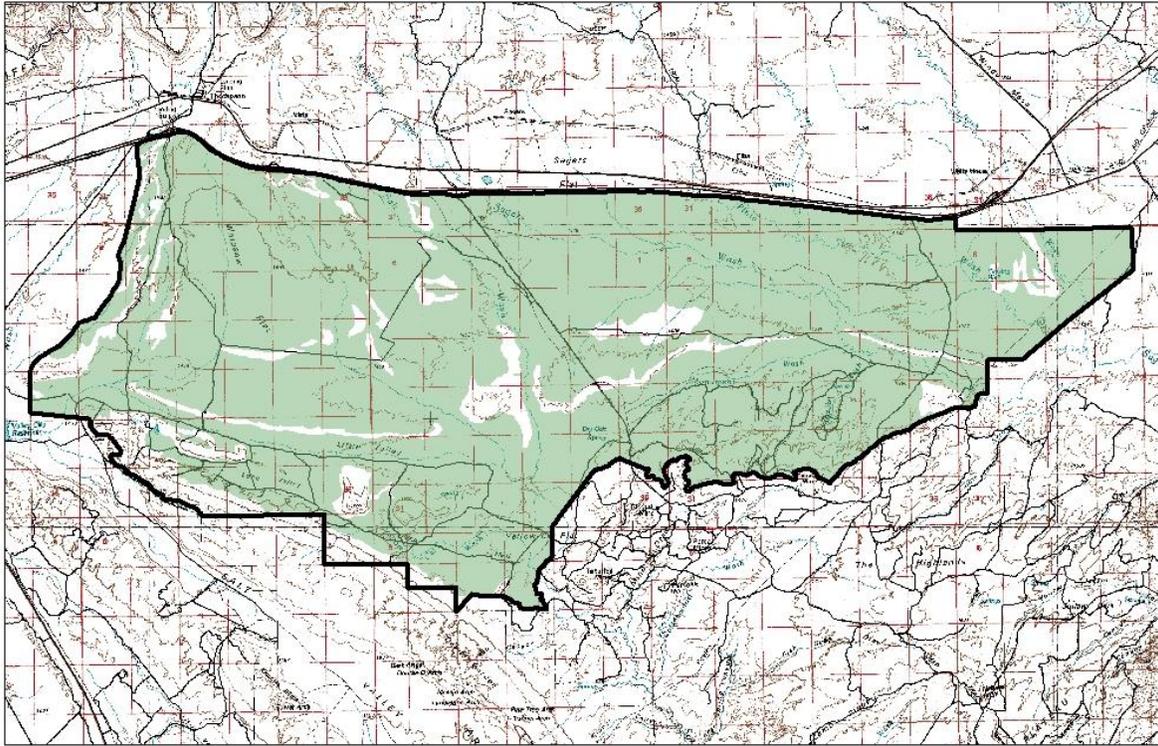
-  Allotment Boundary
-  Dust Blowout Areas
-  Bureau of Land Management (BLM)
-  National Park Service (NPS)
-  Private
-  Wet
-  USFS Wilderness Area



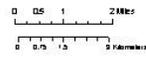
Information used by the Bureau of Land Management is not necessarily complete or representative of the area. We do not warrant use or approval of this information.

Map 4: Monument Wash Allotment Drought Intolerant Soils  
Moab Field Office, Canyon Country District

June 13, 2014



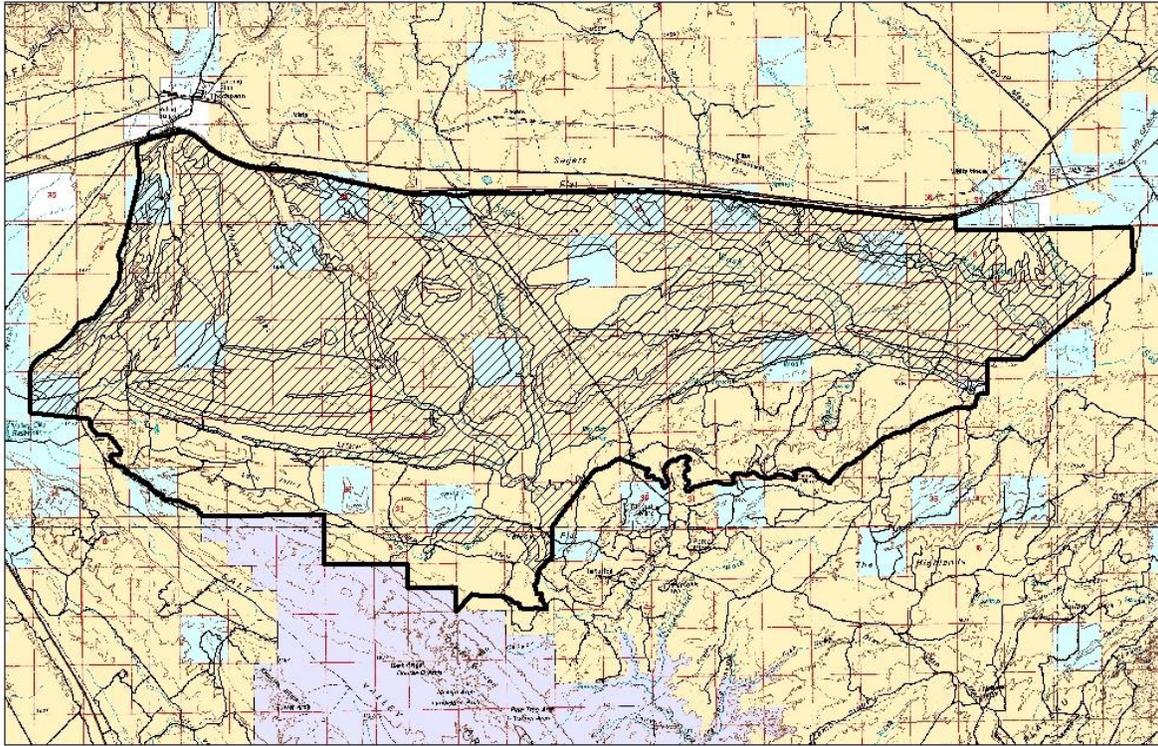
-  Allotment Boundary
-  Drought Intolerant Soils



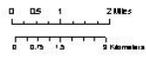
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data. No individual can be held responsible for the use of these data.

**Map 5: Monument Wash Allotment Moderately Saline Soils**  
 Moab Field Office, Canyon Country District

June 13, 2014



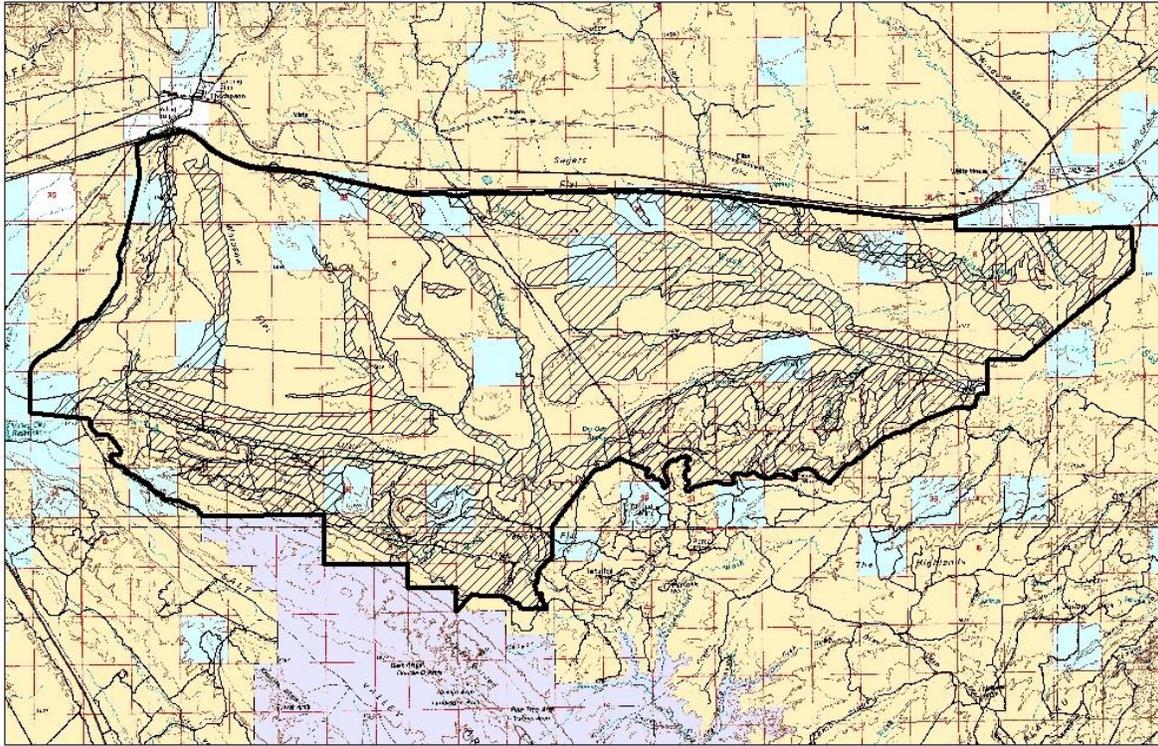
- |                                 |                    |
|---------------------------------|--------------------|
| Monument Wash Allotment         | Private            |
| Bureau of Land Management (BLM) | State              |
| National Park Service (NPS)     | USFS Williams Fork |



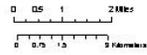
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use outside of this allotment.

**Map 6: Monument Wash Allotment Soils Susceptible to High Wind Erosion**  
 Moab Field Office, Canyon Country District

June 13, 2014



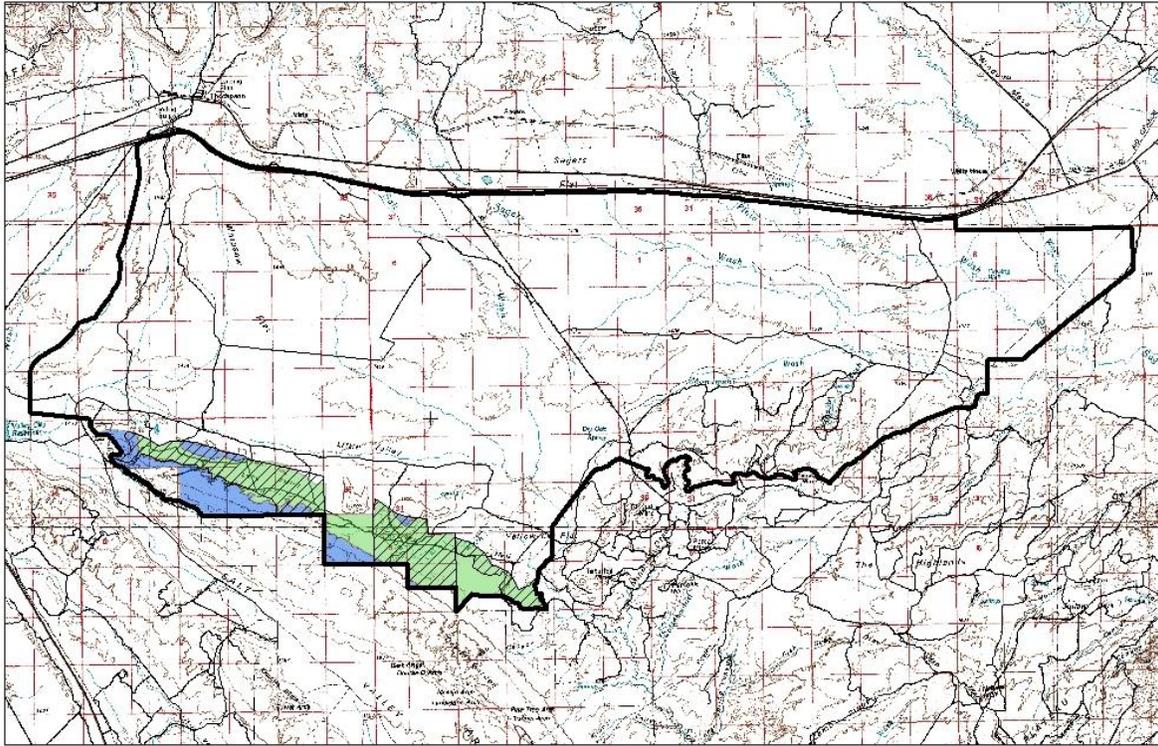
-  Allotment Boundary
-  Divide
-  Soils Susceptible to Wind Erosion
-  Bureau of Land Management (BLM)
-  State
-  National Park Service (NPS)
-  USFS Wilderness Area



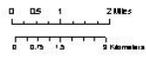
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data. No individual can be held liable for their use.

Map 7: Monument Wash Allotment Sensitive Plant Surveys  
Moab Field Office, Canyon Country District

June 13, 2014



-  Allotment Boundary
-  Jones Cyclodemia Survey Area
-  Highest - 38%
-  Medium Low - 34%



Information used by the Bureau of Land Management is not intended to constitute an offer of insurance. We do not intend to be approved for insurance.

**APPENDIX B**  
**INTERDISCIPLINARY TEAM ANALYSIS RECORD CHECKLIST**

## INTERDISCIPLINARY TEAM CHECKLIST

**Project Title:** Monument Wash Allotment Ten Year Grazing Permit Renewal

**NEPA Log Number:** DOI-BLM-UT-Y010-2016-0078-EA

**Grazing Authorization Number:** 4306376

**Project Leader:** Kim Allison

**DETERMINATION OF STAFF:** (Choose one of the following abbreviated options for the left column)

NP = not present in the area impacted by the proposed or alternative actions

NI = present, but not affected to a degree that detailed analysis is required

PI = present with potential for relevant impact that need to be analyzed in detail in the EA

NC = (DNAs only) actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section D of the DNA form. The Rationale column may include NI and NP discussions.

The following elements are not present in the Moab Field Office and have been removed from the checklist:  
Farmlands (Prime or Unique), Wild Horses and Burros.

| Determination | Resource  | Rationale for Determination*  | Specialist                   | Date    |
|---------------|---|---|------------------------------|---------|
| NP            | Air Quality<br>Greenhouse Gas<br>Emissions                  | The State of Utah National ambient Air Quality Standards Areas of Non-attainment and Maintenance shows Grand County as an attainment or unclassifiable area. It is unlikely that any potential emissions from the proposed action will cause or contribute to the State of Utah National Ambient Air Quality Standards being exceeded or cause or contribute to any localized air quality issues. Therefore, Air Quality and Greenhouse Gas Emissions will not be discussed further in this EA.   | David Pals<br><i>DP</i>      | 3/2/16  |
| NI            | Floodplains   | Most floodplains in the Monument Wash Allotment are dry washes and can transport large flood events several times a year. Vegetation in these washes is mainly tamarisk and scattered cottonwood trees. Steep floodplain banks and gullies are common in the saline soil areas. There are no impacts from grazing to these dry wash floodplains.  | Mark Grover<br><i>MG for</i> | 3/2/16  |
| PI            | Soils   | Grazing can impact soils especially in the spring season. There are sensitive soils within this allotment including moderately saline soils, soils with high wind erosion ratings, and soils that can be adversely affected by drought. The allotment contains at least one known blowout area. Biological soil crusts are found within portions of the allotment in association with the pinyon juniper and near rock outcrops. Soils will be analyzed in the EA.  | Kim Allison<br><i>KA</i>     | 6/13/16 |
| NP            | Water<br>Resources/Quality<br>(drinking/surface/gro<br>und) | The allotment is located 10-15 miles upstream from the Colorado River. There is water quality data available for the Colorado River, measured both upstream and downstream of the allotment. The State of Utah considers the Colorado River to be partly meeting state standards, based on exceedances of the selenium standard. These same exceedances are measured on the Colorado River upstream at the Colorado- Utah stateline. The high levels of selenium are coming from upstream in Colorado and do not increase as the river travels through this portion of Utah. We can therefore conclude that this allotment is not contributing to the Colorado Rivers water quality problems. | David Pals<br><i>DP</i>      | 3/2/16  |
| NI            | Wetlands/Riparian<br>Zones                                  | The riparian habitat in the Monument Wash Allotment consists of small springs. There is one developed spring on the allotment (Dry Oak Spring), which was functioning at risk when Rangeland Health Assessments began in 2010. A fence was constructed in 2010-11 to fence off the riparian habitat and source. In 2016 the spring was assessed and found to be in proper functioning condition. Wetlands/riparian zones are  | Kim Allison<br><i>KA</i>     | 3/2/16  |

| Determination | Resource                                | Rationale for Determination*   | Specialist                 | Date   |
|---------------|---|--|----------------------------|--------|
|               |   | not currently affected to a degree that detailed analysis is required.   |                            |        |
| NP            | Areas of Critical Environmental Concern | No ACECs have been established within the allotment under the current Moab RMP.  | Katie Stevens<br>JT for KS | 3/2/16 |
| NI            | Recreation                              | Recreational uses include hunting (small and big game species), hiking, and ATV use. Recreational uses are low in comparison to activities closer to Moab. With the proposed action and alternatives, the season of use is during the fall, winter and spring months. Most of the recreation use occurs during the hunting season in the fall months. There are no known impacts to recreation from livestock use. There are no known impacts to recreation from livestock use with the current AUMs and season of use.  | Katie Stevens<br>JT for KS | 3/2/16 |
| NP            | Wild and Scenic Rivers                  | No Wild & Scenic River exist within the allotment  | Katie Stevens<br>JT for KS | 3/2/16 |
| NI            | Visual Resources                        | The area South of Interstate 70 has a Visual Resource Management (VRM) Class III rating. The VRM Class III rating allows contrasts to the basic visual elements to be evident, but subordinate to the existing landscape. The management goal is to partially retain the existing character of the landscape, while allowing moderate changes. The impacts from the proposed Action would be allowable in VRM Class III areas. The proposed actions would not result in substantial impacts to visual resources in this area, either singularly or cumulatively.   | Katie Stevens<br>JT for KS | 3/2/16 |
| NP            | BLM Natural Areas                       | There are no BLM Natural Areas within the allotment, as defined in the 2008 Moab RMP.  | Bill Stevens<br>JT for KS  | 3/2/16 |
| I             | Socio-Economics                         | <p>Livestock grazing is an important part of the local custom, culture, and economy of Grand County and is supported in the County's Master Plan.</p> <p>The agriculture industry has declined dramatically in the last three decades. In 1970, total net income from farming and ranching in Grand County was \$901,000. By 1985, that number had dropped to \$88,000. In 2000 this number has dropped to -\$830,000. Negative income means that expenses out weighted revenue for farming and ranching operations. Most agricultural income (approximately 80%) is from cash receipts from livestock and crops, while the remaining 20% is from government payments. Employment based on farming and agricultural services accounts for only 2.6% of people working in Grand County in 2000 and this percentage has decreased since 1970 when it was 3.6%.</p> <p>The composition of livestock and crops has also shifted in the last decade. In 1970, 73% of gross farm income was from livestock, while 95% was from crops. By 2000, 47% of gross income was from livestock and 32% from crops.</p> <p>Permit fees associated with AUMs generate revenue for the U.S. Treasury, of which 12.5 % is returned to the local State of Utah Grazing Advisory Board. This money is then disbursed to local permittees (a direct economic benefit), for use in range improvements and maintenance projects. An additional 25% of permit fees is returned to the BLM field office from which it was collected to be used in on-the-ground range improvements.</p> <p>Reduction in ranching-based income could make it more difficult for families to earn a living on ranching alone. Family members may have to get second jobs or work off the farm to bring in additional income. However, none of the alternatives analyzed in this EA proposes any changes that would likely cause any more than minimal changes to the local economy. Consequently, there would be no social or economic</p> | Bill Stevens<br>JT for BS  | 3/2/16 |

| Determination | Resource   | Rationale for Determination*  | Specialist               | Date    |
|---------------|--|---|--------------------------|---------|
|               |  | impacts to the livestock operators who graze these allotments, or to the local communities. This issue is therefore not addressed further in this EA.   |                          |         |
| NP            | Wilderness/WSA                                     | There are no Wilderness/WSA located in the Monument Wash Allotment.   | Bill Stevens<br>① for BS | 3/2/16  |
| NP            | Lands with Wilderness Characteristics              | There are no Lands with Wilderness Characteristics in the allotment.  | Bill Stevens<br>① for BS | 3/2/16  |
| NI            | Cultural Resources                                 | The BLM followed IM UT 2010-026 and 36 CFR 800 to determine if permitting cattle on the allotment would impact cultural resources. As per the IM, BLM monitored sites on the allotments and performed inventories at locations where livestock tend to congregate. The BLM identified 15 sites eligible to the National Register of Historic Places in congregation areas, but grazing was not affecting the integrity of the 13 sites. Two of the historic properties were affected by livestock grazing. The BLM improved a fence at one site and will construct a fence at the other site prevent livestock access from the sites. The BLM, therefore modified the undertaking to prevent adverse effects and made a finding of <b>No Adverse Effect</b> . Details of these findings are discussed in the cultural Resource Inventory Report U-15-BL-0211. BLM will include the report in the FONSI/Final EA. The BLM sent letters to the Utah SHPO with BLM's determinations of eligibility and effect in accordance with 36CFR800 on 05/16/2015 and 06/17/2016. The Utah SHPO concurred with BLM's determinations on 06/29/2016. The BLM also sent consultation letter to the Hopi, Southern Ute, Ute Mountain Ute, Northern Ute, Zuni, Jemez, and Navajo tribes on 4/21/2016 to determine if livestock grazing might impact cultural resources not identified during fieldwork. The Hopi requested further information which the BLM sent on 06/17/2016. Consultation with Hopi is ongoing. | Jared Lundell            | 3/2/16  |
| NI            | Native American Religious Concerns                 | BLM sent letters to the Hopi, Southern Ute, Ute Mountain Ute, Northern Ute, Zuni, Jemez, and Navajo tribes on 4/21/2016. The Hopi requested further information which the BLM sent on 06/17/2016. Consultation with Hopi is ongoing.  | Jared Lundell            | 6/14/16 |
| NI            | Environmental Justice                              | The proposed action and alternatives would not result in disproportionately high and adverse human health or environmental effects to minority or low income populations  | Bill Stevens<br>① for BS | 3/2/16  |
| NP            | Wastes (hazardous or solid)                        | Livestock grazing at the proposed levels would not require nor produce hazardous or solid wastes as defined by the Resource Conservation and Recovery Act (RCRA) or the Comprehensive Environmental Response Compensation and Liability Act (CERCLA).   | David Pals<br>DP         | 3/2/16  |
| NP            | Threatened, Endangered or Candidate Animal Species | <u>MSO</u><br>No suitable Mexican Spotted Owl (MSO) habitat is within this allotment. The 1997 Willey-Spotskey MSO habitat model depicts isolated pixels of breeding habitat the 1999 Willey-Spotskey MSO habitat model depicts no breeding habitat, therefore there is no need to complete occupancy surveys.<br><u>SWFL</u><br>This allotment does not offer any suitable breeding or migratory habitat for SWFLs. All washes here are typically arid wash bottoms and drainages with little or no vegetation. Some areas have scattered thickets of tamarisk, but density and overstory is not sufficient for SWFL occupancy.<br><u>YBCU</u><br>This allotment does not offer any suitable breeding or migratory habitat for YBCUs. All washes here are typically arid wash bottoms and drainages with little or no vegetation. Some areas have scattered thickets   | Pamela Riddle<br><br>PR  | 3/2/16  |

| Determination                             | Resource               | Rationale for Determination*  | Specialist                                | Date |  |  |  |                    |                   |                 |              |                        |             |         |                  |                        |             |         |                  |                  |                |           |               |        |
|---|------------------------|---|---|------|--|--|--|--------------------|-------------------|-----------------|--------------|------------------------|-------------|---------|------------------|------------------------|-------------|---------|------------------|------------------|----------------|-----------|---------------|--------|
|   |                        | <p>of tamarisk, but cottonwood galleries or broadleaf over story is present.</p> <p>Section 7 consultation will not be needed.</p>  |   |      |  |  |  |                    |                   |                 |              |                        |             |         |                  |                        |             |         |                  |                  |                |           |               |        |
| PI  | Migratory Birds        | <p>The Migratory Bird Treaty Act, as amended, was promulgated for the protection of migratory birds. All raptors observed in Utah are protected by the Migratory Bird Treaty Act and some birds are also protected by the Endangered Species Act (ESA), the Bald and Golden Eagle Protection Act, and/or are included in the Utah Natural Heritage Program Species of Greatest Conservation Need (UDWR, 2005). A draft Memorandum of Understanding between the Forest Service, the BLM and USFWS provides direction for the management of migratory birds to promote their conservation (FWS, 2002e). The direction includes identifying species listed in the FWS Birds of Conservation Concern (BCC) that are likely to be present in the area of a proposed action. The Utah Partners in Flight (UPIF) working group completed a statewide avian conservation strategy identifying "priority species" for conservation due to declining abundance distribution, or vulnerability to various local and/or range-wide risk factors. One application of the strategy and priority list is to give these birds specific consideration when analyzing effects of proposed management actions and to implement recommended conservation measures where appropriate.</p> <p>The UPIF Priority Species List and the Utah Conservation Data Center database were used to identify potential habitat for priority species that could utilize habitat within the project area. Potential habitat and species are listed below.</p> <table border="1" data-bbox="592 989 1117 1178"> <thead> <tr> <th colspan="4" data-bbox="592 989 1117 1020">Utah Partners in Flight Priority Species*</th> </tr> <tr> <th data-bbox="592 1020 695 1062"></th> <th data-bbox="695 1020 829 1062">DWR Habitat Value†</th> <th data-bbox="829 1020 992 1062">Breeding Habitat*</th> <th data-bbox="992 1020 1117 1062">Winter Habitat*</th> </tr> </thead> <tbody> <tr> <td data-bbox="592 1062 695 1104">Sage Sparrow</td> <td data-bbox="695 1062 829 1104">Critical Value Habitat</td> <td data-bbox="829 1062 992 1104">Shrubsteppe</td> <td data-bbox="992 1062 1117 1104">Migrant</td> </tr> <tr> <td data-bbox="592 1104 695 1146">Brewer's Sparrow</td> <td data-bbox="695 1104 829 1146">Critical Value Habitat</td> <td data-bbox="829 1104 992 1146">Shrubsteppe</td> <td data-bbox="992 1104 1117 1146">Migrant</td> </tr> <tr> <td data-bbox="592 1146 695 1178">Ferruginous Hawk</td> <td data-bbox="695 1146 829 1178">Breeding Habitat</td> <td data-bbox="829 1146 992 1178">Pinyon-Juniper</td> <td data-bbox="992 1146 1117 1178">Grassland</td> </tr> </tbody> </table> <p data-bbox="592 1178 1117 1234">*Utah Partners in Flight Avian Conservation Strategy Version 2.0.</p> | Utah Partners in Flight Priority Species* |      |  |  |  | DWR Habitat Value† | Breeding Habitat* | Winter Habitat* | Sage Sparrow | Critical Value Habitat | Shrubsteppe | Migrant | Brewer's Sparrow | Critical Value Habitat | Shrubsteppe | Migrant | Ferruginous Hawk | Breeding Habitat | Pinyon-Juniper | Grassland | Pamela Riddle | 3/2/16 |
| Utah Partners in Flight Priority Species* |                        |   |   |      |  |  |  |                    |                   |                 |              |                        |             |         |                  |                        |             |         |                  |                  |                |           |               |        |
|   | DWR Habitat Value†     | Breeding Habitat*   | Winter Habitat*                           |      |  |  |  |                    |                   |                 |              |                        |             |         |                  |                        |             |         |                  |                  |                |           |               |        |
| Sage Sparrow                              | Critical Value Habitat | Shrubsteppe   | Migrant                                   |      |  |  |  |                    |                   |                 |              |                        |             |         |                  |                        |             |         |                  |                  |                |           |               |        |
| Brewer's Sparrow                          | Critical Value Habitat | Shrubsteppe   | Migrant                                   |      |  |  |  |                    |                   |                 |              |                        |             |         |                  |                        |             |         |                  |                  |                |           |               |        |
| Ferruginous Hawk                          | Breeding Habitat       | Pinyon-Juniper  | Grassland                                 |      |  |  |  |                    |                   |                 |              |                        |             |         |                  |                        |             |         |                  |                  |                |           |               |        |

| Determination            | Resource  | Rationale for Determination*   | Specialist    | Date            |        |            |                                 |                      |               |                         |                      |                  |                      |                      |                          |                         |                      |         |                        |                      |               |        |
|--------------------------|---|--|---------------|-----------------|--------|------------|---------------------------------|----------------------|---------------|-------------------------|----------------------|------------------|----------------------|----------------------|--------------------------|-------------------------|----------------------|---------|------------------------|----------------------|---------------|--------|
| PI                       | Utah BLM Sensitive Species                          | <p>Ferruginous hawks, burrowing owls, prairie dogs and kit fox are known inhabit this allotment. There are many documented ferruginous hawk nest sites in the northwest portion of the allotment.</p> <p>This allotment also contains both historic and active white-tailed prairie dog colonies and could potentially offer expansion habitat for currently active colonies. Most activity appears to be in the northwest portion of the allotment. The presents of abandon prairie dog colonies indicates there is suitable burrowing owl nesting habitat, and there have been a nests documented in the allotment in the prairie dog colonies. Ferruginous hawks and kit fox are known to utilize this allotment. Short eared owls are rarely documented in this area, though this area has been identified by DWR as wintering habitat for these owls.</p> <p><b>Special Status Species in Utah with potential habitat within Monument Wash Grazing Allotment</b></p> <table border="1"> <thead> <tr> <th>Common Name</th> <th>Scientific Name</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>Bald Eagle</td> <td><i>Haliaeetus leucocephalus</i></td> <td>Utah State Sensitive</td> </tr> <tr> <td>Burrowing Owl</td> <td><i>Athene cucularia</i></td> <td>Utah State Sensitive</td> </tr> <tr> <td>Ferruginous Hawk</td> <td><i>Buteo regalis</i></td> <td>Utah State Sensitive</td> </tr> <tr> <td>White-tailed prairie dog</td> <td><i>Cynomys leucurus</i></td> <td>Utah State Sensitive</td> </tr> <tr> <td>Kit Fox</td> <td><i>Vulpes macrotis</i></td> <td>Utah State Sensitive</td> </tr> </tbody> </table> | Common Name   | Scientific Name | Status | Bald Eagle | <i>Haliaeetus leucocephalus</i> | Utah State Sensitive | Burrowing Owl | <i>Athene cucularia</i> | Utah State Sensitive | Ferruginous Hawk | <i>Buteo regalis</i> | Utah State Sensitive | White-tailed prairie dog | <i>Cynomys leucurus</i> | Utah State Sensitive | Kit Fox | <i>Vulpes macrotis</i> | Utah State Sensitive | Pamela Riddle | 3/2/16 |
| Common Name              | Scientific Name                                     | Status   |               |                 |        |            |                                 |                      |               |                         |                      |                  |                      |                      |                          |                         |                      |         |                        |                      |               |        |
| Bald Eagle               | <i>Haliaeetus leucocephalus</i>                     | Utah State Sensitive   |               |                 |        |            |                                 |                      |               |                         |                      |                  |                      |                      |                          |                         |                      |         |                        |                      |               |        |
| Burrowing Owl            | <i>Athene cucularia</i>                             | Utah State Sensitive   |               |                 |        |            |                                 |                      |               |                         |                      |                  |                      |                      |                          |                         |                      |         |                        |                      |               |        |
| Ferruginous Hawk         | <i>Buteo regalis</i>                                | Utah State Sensitive   |               |                 |        |            |                                 |                      |               |                         |                      |                  |                      |                      |                          |                         |                      |         |                        |                      |               |        |
| White-tailed prairie dog | <i>Cynomys leucurus</i>                             | Utah State Sensitive   |               |                 |        |            |                                 |                      |               |                         |                      |                  |                      |                      |                          |                         |                      |         |                        |                      |               |        |
| Kit Fox                  | <i>Vulpes macrotis</i>                              | Utah State Sensitive   |               |                 |        |            |                                 |                      |               |                         |                      |                  |                      |                      |                          |                         |                      |         |                        |                      |               |        |
| PI                       | Fish and Wildlife Excluding USFW Designated Species | <p>Raptor such as golden eagles, red tail hawks and other raptors may forage and nest in this area. Predator such as cougar, coyotes and fox can also be found here. Animals typically associated with desert shrub and greasewood plant communities are found in this area and may include numerous species of snakes, lizards, small mammals and songbirds. The most commonly observed species include gopher snakes, antelope ground squirrels, cottontail rabbits, blacktail jackrabbit, mourning doves, horned larks, and ravens. The plant communities in the allotment would provide limited nesting habitat for various bird species.</p> <p><b>Pronghorn Antelope Habitat</b></p> <p>This allotment contains high value antelope habitat and one antelope water development. Chapter 16 of the AMS defines issues and conflicts with antelope habitat in this area:</p>   | Pamela Riddle | 3/2/16          |        |            |                                 |                      |               |                         |                      |                  |                      |                      |                          |                         |                      |         |                        |                      |               |        |
| NI                       | Threatened, Endangered or Candidate Plant Species   | <p>There are small amount of Jones' Cycladenia Potential Habitat within the Monument Wash Allotment. There is approximately 1,710 acres of highest potential habitat within the allotment which is inaccessible to cattle. There is no evidence of cattle use within these acres. Due to the inaccessibility to cattle only portion of the area was surveyed (530 acres) and no plants were found.</p> <p>There is approximately 3,870 acres of medium low potential habitat within this allotment which 490 acres are in rough terrain with steep slopes and lots of boulders. These 490 acres are inaccessible to cattle and there is no evidence of cattle using these acres and BLM surveyed 490 acres and no plants were found. Within the 3,870 acres there is 3,380 acres that are accessible to cattle grazing and there are two livestock ponds and one well within these acres. BLM survey (2,330 acres) around the water locations where livestock would make the most use of the vegetation within this potential habitat and no plants were found. Due to</p>   | Dave Williams | 04/06/16        |        |            |                                 |                      |               |                         |                      |                  |                      |                      |                          |                         |                      |         |                        |                      |               |        |

| Determination        | Resource  | Rationale for Determination*  | Specialist                         | Date            |        |                 |   |                      |                  |   |                      |                      |                           |                      |                             |          |
|----------------------|---|---|------------------------------------|-----------------|--------|-----------------|---|----------------------|------------------|---|----------------------|----------------------|---------------------------|----------------------|-----------------------------|----------|
|                      |   | the inaccessible to livestock grazing and the lack of Jones' Cycladenia plants within these acres there would be no impact to habitat or plants. See Monument Wash Grazing Allotment Staff Report for Jones's Cycladenia dated April 2016 for more detail.<br><br>Section 7 consultation will not be needed.  |                                    |                 |        |                 |   |                      |                  |   |                      |                      |                           |                      |                             |          |
| NI                   | Utah BLM Sensitive Species                        | There are three sensitive plant species that could be or are located on the Monument Wash Allotment.<br><br><b>Special Status Species in Utah with potential habitat within Monument Wash Grazing Allotment</b><br><table border="1"> <thead> <tr> <th>Common Name</th> <th>Scientific Name</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>Cisco milkvetch</td> <td><i>Astragalus sabulosus</i> var. <i>sabulosus</i></td> <td>Utah State Sensitive</td> </tr> <tr> <td>Entrada rushpink</td> <td><i>Lygodesmia grandiflora</i> var. <i>entrada</i></td> <td>Utah State Sensitive</td> </tr> <tr> <td>Canyonlands lomatium</td> <td><i>Lomatium latilobum</i></td> <td>Utah State Sensitive</td> </tr> </tbody> </table><br>Cisco milkvetch are documented populations to occur within the western portion of the allotment. Canyonlands Lomatium and Entrada rushpink may occur but there are no known populations of these plants within this allotment. Refer to Table in Appendix B for more information.   | Common Name                        | Scientific Name | Status | Cisco milkvetch | <i>Astragalus sabulosus</i> var. <i>sabulosus</i> | Utah State Sensitive | Entrada rushpink | <i>Lygodesmia grandiflora</i> var. <i>entrada</i> | Utah State Sensitive | Canyonlands lomatium | <i>Lomatium latilobum</i> | Utah State Sensitive | David Williams<br><i>DW</i> | 04/06/16 |
| Common Name          | Scientific Name                                   | Status  |                                    |                 |        |                 |   |                      |                  |   |                      |                      |                           |                      |                             |          |
| Cisco milkvetch      | <i>Astragalus sabulosus</i> var. <i>sabulosus</i> | Utah State Sensitive  |                                    |                 |        |                 |   |                      |                  |   |                      |                      |                           |                      |                             |          |
| Entrada rushpink     | <i>Lygodesmia grandiflora</i> var. <i>entrada</i> | Utah State Sensitive  |                                    |                 |        |                 |   |                      |                  |   |                      |                      |                           |                      |                             |          |
| Canyonlands lomatium | <i>Lomatium latilobum</i>                         | Utah State Sensitive  |                                    |                 |        |                 |   |                      |                  |   |                      |                      |                           |                      |                             |          |
| PI                   | Livestock Grazing                                 | The permittee for the Monument Wash Allotment may be impacted by new proposed terms and conditions.   | Kim Allison<br><i>KA</i>           | 3/2/16          |        |                 |   |                      |                  |   |                      |                      |                           |                      |                             |          |
| NI                   | Rangeland Health Standards                        | The Monument Wash Allotment has been evaluated and found to be meeting all Utah's Rangeland Health Standards.   | Kim Allison<br><i>KA</i>           | 3/2/16          |        |                 |   |                      |                  |   |                      |                      |                           |                      |                             |          |
| PI                   | Invasive Species/Noxious Weeds                    | The proposed action is expected to spread noxious weeds as livestock concentrate around water developments and supplement locations. There are several ponds throughout the allotment with Russian knapweed infestations on them and could spread when the developments are maintained. Will be analyzed in the EA document.  | Jordan Davis<br><i>JD</i>          | 3/2/16          |        |                 |   |                      |                  |   |                      |                      |                           |                      |                             |          |
| PI                   | Vegetation Excluding USFW Designated Species      | There are potential impacts to vegetation from livestock grazing. Will be analyzed in the EA.   | Kim Allison<br><i>KA</i>           | 3/2/16          |        |                 |   |                      |                  |   |                      |                      |                           |                      |                             |          |
| NP                   | Woodland/Forestry                                 | There are no Woodlands or Forest present on the Monument Wash Allotment.  | Kim Allison<br><i>KA</i>           | 3/2/16          |        |                 |   |                      |                  |   |                      |                      |                           |                      |                             |          |
| NI                   | Fuels/Fire Management                             | When the Monument Wash grazing allotment is overlaid with Fire Management Unit (FMU) 12 and the fire history GIS data layer, it shows that there have been 17 fires in the project area. Although fires have started in the area, fires typically only move with a high cheatgrass component. The largest fire within the unit was the 1200 acre Nation Fire in 1985. Fuels in the area, due to soil conditions are generally sparse and unable to sustain fire spread, unless cheatgrass is abundantly present due to higher than average moisture. Fuels in this FMU generally consist of sagebrush, saltbrush, native grasses, Pinyon/Juniper and non-native cheatgrass. Fuels reduction/restoration and Emergency Stabilization and Rehabilitation (ES&R) actions could preclude grazing for periods of time within the grazing allotment consistent with the Moab Resource Management Plan (RMP, 2008 GRA-11 pg. 69). The proposed actions would not result in substantial impacts to fuels/fire resources in this area, either singularly or cumulatively. No further analysis is needed. | Josh Relph<br><i>JR</i><br>*Action | 6/14/16         |        |                 |   |                      |                  |   |                      |                      |                           |                      |                             |          |
| NI                   | Geology / Mineral Resources/Energy Production     | There are uranium prospect and mining claims in the area. Known deposits are in the subsurface and would not be impacted by grazing.  | David Pals<br><i>DP</i>            | 3/2/16          |        |                 |   |                      |                  |   |                      |                      |                           |                      |                             |          |

| Determination | Resource     | Rationale for Determination*   | Specialist                            | Date    |
|---------------|--------------|--|---------------------------------------|---------|
| NI            | Lands/Access | Renewal of the grazing authorization would not affect existing access or rights-of-way within the Monument Wash Allotment.   | Jan Denney <i>JD</i>                  | 6/16/16 |
| NI            | Paleontology | The geologic formations within the Monument Wash Allotment are known to contain vertebrate and invertebrate fossils. However, the fossils are imbedded in bedrock and therefore would not be impacted by livestock grazing. If any improvements or surface disturbing activities were to occur, a paleontological clearance would be required. | <i>Rebecca</i><br>ReBecca Hunt-Foster | 3/22/16 |

**FINAL REVIEW:**

| Reviewer Title            | Signature               | Date     | Comments |
|---------------------------|-------------------------|----------|----------|
| Environmental Coordinator | <i>Belinda Deatrick</i> | 9/7/2016 |          |
| Authorized Officer        | <i>Christina Price</i>  | 9/8/2016 |          |

**Appendix A**



## United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Moab Field Office  
82 East Dogwood  
Moab, UT 84532  
<http://www.blm.gov/ut/st/en/fo/moab.html>



IN REPLY REFER TO:  
8110  
LLUTY01000

CERTIFIED MAIL NO. 7015 1660 0000 2201 6298

Attn. Dr. Christopher Merritt  
Deputy State Historic Preservation Officer  
Utah State Historical Society  
300 S. Rio Grande  
Salt Lake City, Utah 84101-1182

**Re: Updated Determination of No Adverse Effect for the 2015 Monument Wash Renewal Monitor and Update (Case Nos. 15-0620)**

Part I. Project Description

County: Grand  
Project: U-15-BL-0211

Dear Dr. Merritt,

The Bureau of Land Management, Moab Field Office (BLM) continues to seek your concurrence with our determination of **No Adverse Effect** for the renewal of the livestock grazing permit on the Monument Wash Allotment. The Utah State Historic Preservation Office (SHPO) previously concurred with the BLM's determinations of eligibility and effect for the undertaking, under case number 15-0620. The BLM made a No Adverse Effect during previous consultation with the SHPO. The undertaking is not finalized and BLM conducted further consultation in April of 2016 with tribes and consulting parties for the renewal.

During consultation in April of 2016, the Utah Rock Art Research Association (URARA) identified four rock art sites not previously recorded on the allotment. Enclosed for your review is the *2015 Monument Wash Renewal Monitor and Update Addendum* report. The report details the further identification efforts conducted by BLM as a result of this consultation.

The BLM identified all four sites in the vicinity noted by the local URARA members. One site (42GR5332) is a multicomponent lithic scatter, historic inscription, and petroglyph panel. The three other sites (42GR5333-42GR5335) are prehistoric petroglyph panels.

Part II. Eligibility and Effect Determinations

The BLM determines that all four sites (42GR5332-5335) are eligible to the National Register of Historic Places (NRHP). All four sites are eligible under Criterion D. The sites all have the potential to provide important information about prehistoric and historic settlement patterns, trade, ranching, and/or cultural





# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Moab Field Office  
82 East Dogwood  
Moab, UT 84532  
<http://www.blm.gov/ut/st/en/fo/moab.html>



15-0620

IN REPLY REFER TO:  
8110  
LLUTY01000

MAY 06 2015

CERTIFIED MAIL NO. 7014 3490 001 5249 7507

Attn. Dr. Christopher Merritt  
Senior Preservation Specialist  
Utah State Historical Society  
300 S. Rio Grande  
Salt Lake City, Utah 84101-1182

**Re: Determination of No Adverse Effect for the 2015 Monument Wash Renewal Monitor and Update**

Part I. Project Description

County: Grand  
Project: U-15-BL-0211

Dear Dr. Merritt,

Enclosed for your review is the *2015 Monument Wash Renewal Monitor and Update* report. The Bureau of Land Management, Moab Field Office (BLM) seeks your concurrence with our determination of **No Adverse Effect** for the renewal of the livestock grazing permit on the Monument Wash Allotment. The SHPO previously concurred with the BLM's determinations of eligibility for the project report, U13-SQ-0564, under case number 14-0129. William Self and Associates (WSA) investigated archaeological sites on the allotment and impacts from cattle as a part of the permit renewal process and reported their findings in U-13-SQ-0564.

As part of the renewal, a BLM Range Specialist identified 29 range improvements on the allotment which required inventory. The BLM archaeologist also identified three other areas with high site potential to inventory on the allotment. The BLM currently permits 861 cattle on the allotment from November to May.

William Self and Associates performed Class III inventories at the 29 identified cattle congregation areas and the three predicted high site density areas on the allotment. The BLM had WSA complete these efforts to identify any potential adverse effects to historic properties from renewing the permit for grazing cattle on the Monument Wash allotment. During these inventories, WSA located 17 new cultural resource sites, 42GR4913-42GR4914, 42GR4917-42GR4920, and 42GR4923-4930. WSA also updated seven previously recorded sites, 42GR680, 42GR1493, 42GR1756, 42GR1828, 42GR2050, and 42GR2638-2639. The sites are primarily lithic scatters or quarries with a few rockshelters. The other sites are historic roads, structures, or historic sites related to grazing. For U-15-BL-0211, the BLM examined grazing use, reviewed U-13-SQ-0564, and monitored archaeological sites 42GR4906 and 42GR2639.

Stamp: MAY 06 2015

Received  
MAY 11 2015  
USHPO

Part II. Eligibility and Effect Determinations

William Self and Associates recommended 14 of the sites (42GR680, 42GR1493, 42GR1756, 42GR1828, 42GR2050, 42GR2638-2639, 42GR4906-42GR4907, 42GR4919-42GR4920, 42GR4925-42GR4926, and 42GR4928) as eligible to the National Register of Historic Places (NRHP) on the allotment. The BLM agreed with WSA's findings and submitted these determinations to SHPO under case number 14-0129 and SHPO concurred with BLM's determinations of eligibility. In the correspondence SHPO stated concerns about potential adverse effects to 42GR4906. The BLM reexamined and updated 42GR4906 in response to these concerns. The BLM also monitored and updated 42GR2639 for U-15-BL-0211. The BLM still determines that both sites are eligible to the NRHP under Criterion D.

The BLM found no adverse effects from grazing to the aspects of integrity which make either 42GR4906 or 42GR2639 eligible to the NRHP. The BLM also reexamined U-13SQ-0564 to determine if WSA identified any other adverse effects at sites on the Monument Wash Allotment. William Self and Associates noted potential adverse effects or susceptibility to adverse effects at 42GR680, 42GR2050, 42GR4925, 42GR4928, and 42GR4937. After reviewing the report, BLM determined that the five sites were either not impacted by cattle or the aspects of integrity which make the sites eligible were not being adversely affected by cattle. The BLM also repaired the fencing at 42GR680 to prevent adverse effects from cattle congregating in the rockshelter on the site.

Based on the lack of adverse effects caused by grazing at the known and located historic properties, professional judgment of the type and number of historic properties, and professional judgment of livestock distribution in the allotment, the BLM makes a determination of **No Adverse Effect** for the renewal of the 10 year permit for the Monument Was Allotment. At this time we ask for your concurrence with our determinations of effect and eligibility.

Should you have any questions regarding this project please contact Moab Field Office archaeologist, M. Jared Lundell, at (435) 259-2137 (mlundell@blm.gov).

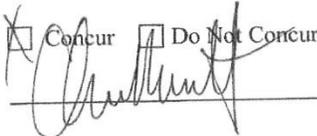
BUREAU OF LAND MANAGEMENT, MOAB FIELD OFFICE.

  
\_\_\_\_\_  
FIELD OFFICE MANAGER

5/5/2015  
\_\_\_\_\_  
DATE

UTAH STATE HISTORIC PRESERVATION OFFICER

Concur  Do Not Concur

  
\_\_\_\_\_  
DATE

5/12/15  
\_\_\_\_\_  
DATE

COMMENTS:  
Enclosure (1) SHPO Coversheet and Inventory Report



## United States Department of the Interior

### BUREAU OF LAND MANAGEMENT

Moab Field Office  
82 East Dogwood  
Moab, UT 84532

<http://www.blm.gov/ut/st/en/fo/moab.html>



In Reply Refer to:  
8110 (LLUTY01200)

APR 21 2016

CERTIFIED MAIL NO. 7014 3490 0001 5249 7088

Dorena Martineau, Cultural Resources Director  
Paiute Indian Tribe of Utah  
440 North Paiute Drive  
Cedar City, UT 84720

**Subject: 2016 Moab Field Office Grazing Allotment Renewals**

Dear Ms. Martineau,

The Bureau of Land Management, Moab Field Office (BLM) is currently processing 10 year grazing permit renewals on the Big Flat-Tenmile, Spring Canyon Bottom, Monument Wash, Sand Flats, Hotel Mesa, and Scharf Mesa allotments. The six allotments are scattered across the central portion of land administered by the Moab Field Office. Three location maps for the allotments are attached.

The BLM will permit 785 cattle on the Big Flat-Tenmile and Horsethief Point allotments from November to May and 89 cattle on the Spring Canyon Bottom allotment from the beginning of January to the end of February. The BLM will permit 861 cattle from November to May on the Monument Wash allotment. On the Sand Flats, Scharf Mesa, and Hotel Mesa allotments the BLM will permit 310 cattle from November to May. The allotment boundaries are the Areas of Potential Effects (APE) for each allotment.

As part of the renewal, a BLM Range Specialist identified congregation areas on each of the allotments. Congregation areas are locations where cattle are highly concentrated and have the potential to cause greater impacts to historic properties. The congregation areas are the APEs for archaeological sites. The range specialists identified 42 congregation areas within the Big Flat-Tenmile and Horsethief Point allotments, and four congregation areas on the Spring Canyon Bottom allotment. The BLM range specialist also identified 54 water haul locations on the Big Flat-Tenmile allotment as potential congregation areas. On the Monument Wash allotment, BLM range personnel identified 29 congregation areas. A BLM range specialist identified 34 congregation areas on the Sand Flats, Scharf and Hotel Mesa allotments.

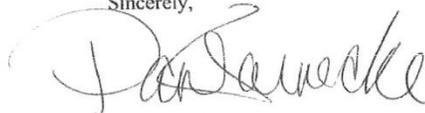
The BLM hired contractors, which meet the Secretary of Interior's Standards for Archaeology and Historic Preservation, to conduct a literature search and on-the-ground inventory. Nineteen of the 54 water haul locations were previously surveyed for other projects on the Big Flat-Tenmile allotment. The contractors conducted an intensive-level pedestrian inventory for the other 105 congregation areas, a total of 2,821 acres. The BLM staff archaeologists also monitored 45 archaeological sites with grazing impacts documented on the site forms.

The archaeological contractors identified 48 previously undocumented archaeological sites. The sites consist of historic cabins, historic roads, historic rock art, prehistoric lithic scatters, prehistoric artifact scatters, prehistoric rock art, and prehistoric lithic quarries. The BLM determined that 32 of the 48 sites are eligible to the National Register of Historic Places (NRHP). The BLM identified grazing impacts at 42GR3653/42GR4560 and 42GR680. The BLM replaced and enlarged fencing at 42GR680 to prevent cattle from accessing the site. The BLM will also construct a new fence at 42GR3653/42GR4560 to prevent cattle from accessing the site. The BLM has modified the undertaking to avoid adverse effects from grazing cattle on the allotments. The BLM, therefore, makes a determination of "No Adverse Effect" (36CFR800.5b) for the renewal of the year grazing permits on the six allotments.

The BLM requests your input on the APE, identification efforts, determinations of effect, and eligibility determinations for the undertaking. The BLM also requests that you review the information in this letter to determine if there are any places of traditional religious and/or cultural importance that may be affected by the proposed undertaking. If you feel there are any places of importance to the tribe that the undertaking may affect, we invite you to participate in the National Historic Preservation Act (NHPA) Section 106 process. In accordance with confidentiality and disclosure stipulations in Section 304 of the NHPA, the BLM will maintain strict confidentiality about certain types of information regarding traditional religious and/or cultural places that the proposed undertaking may affect.

Should you have any questions or concerns about this project, feel free to contact BLM archaeologist, Jared Lundell at 435-259-2137 (mlundell@blm.gov). We would also appreciate any suggestions you might have about other groups or individuals that we should contact regarding this project or ways that we may more effectively consult with your tribe or band. Thank you in advance for any input you may provide in response to this project notification.

Sincerely,

A handwritten signature in black ink, appearing to read "Beth Ransel". The signature is fluid and cursive, with a large initial "B".

Beth Ransel  
Acting Field Manager

Enclosures

**IDENTICAL COPIES OF THIS LETTER SENT TO:**

| Original to:   | CC to:  |
|--|---|
| <p>Mr. Leigh Kuwanwisiwma, Director<br/>                     Hopi Cultural Preservation Office<br/>                     Pueblo of Hopi<br/>                     P.O. Box 123<br/>                     Kykotsmovi, AZ 86039</p>                   |   |
| <p>Ms. Betsy Chapoose, Director<br/>                     Cultural Rights and Protection Department<br/>                     The Ute Indian Tribe<br/>                     PO Box 190<br/>                     Ft. Duchesne, UT 84026</p>         |   |
| <p>Ms. Dorena Martineau, Cultural Resource<br/>                     Manager<br/>                     Paiute Indian Tribe of Utah<br/>                     440 North Paiute Drive<br/>                     Cedar City, UT 84721</p>               |   |
| <p>Mr. Kurt Dongoske, Director and THPO<br/>                     Zuni Heritage and Historic Preservation Office<br/>                     Pueblo of Zuni<br/>                     PO Box 1149<br/>                     Zuni, New Mexico 87327</p> |   |
| <p>Ora Marek-Martinez<br/>                     Historic Preservation Department<br/>                     Navajo Nation<br/>                     PO Box 4950<br/>                     Window Rock, AZ 86515</p>                                   |   |
| <p>Mr. Terry Knight, Sr.<br/>                     NAGPRA Representative/THPO<br/>                     Ute Mountain Ute Tribe<br/>                     P.O. Box 468<br/>                     Towaoc, CO 81334</p>                                 | <p>Lynn Hartman<br/>                     Contractor Administrator<br/>                     Ute Mountain Ute Tribe<br/>                     P.O. Box 468<br/>                     Towaoc, CO 81334</p> |
| <p>Alden B. Naranjo<br/>                     NAGPRA Coordinator<br/>                     Southern Ute Tribe<br/>                     P.O. Box 737<br/>                     Ignacio, CO 81137</p>   | <p>Cassandra Naranjo<br/>                     NAGPRA Coordinator<br/>                     Southern Ute Tribe<br/>                     P.O. Box 737<br/>                     Ignacio, CO 81137</p>     |
| <p>Christopher Toya<br/>                     Cultural Preservation Manager<br/>                     Jemez Pueblo<br/>                     P.O. Box 100<br/>                     Jemez Pueblo, NM 87024</p>                                       |   |



RECEIVED  
MOAB FIELD OFFICE  
2016 MAY -6 PM 12: 32

Herman G. Honanie  
CHAIRMAN  
Alfred Lomahquahu Jr.  
VICE-CHAIRMAN

April 29, 2016

Beth Ransel, Field Manager  
Attention: Jared Lundell, Archaeologist  
Bureau of Land Management, Moab Field Office  
82 East Dogwood  
Moab, Utah 84532

Re: 2016 Grazing Allotment Renewals

Dear Ms. Ransel,

Thank you for your correspondence received April 26, 2016, regarding the Bureau of Land Management processing 10 year grazing permit renewals on the Big Flat-Ten Mile, Spring Canyon Bottom, Monument Wash, Sand Flats, Hotel Mesa and Scharf Mesa allotments on Moab Field Office administered lands. The Hopi Tribe claims cultural affiliation to earlier identifiable cultural groups on the BLM Moab Field Office. The Hopi Cultural Preservation Office supports the identification and avoidance of our ancestral sites and we consider the prehistoric archaeological sites of our ancestors to be "footprints" and Traditional Cultural Properties. Therefore, we appreciate the BLM's continuing solicitation of our input and your efforts to address our concerns.

The Hopi Cultural Preservation Office understands the BLM conducted a literature search and cultural resources survey of congregation and water haul locations for the areas of potential effect that identified historic and prehistoric 48 sites, 32 of which are recommended as National Register eligible including prehistoric lithic scatters, rock art, and lithic quarries.

Therefore, to enable us to determine if a finding of "no adverse effect" is appropriate for this undertaking, please provide us with a copy of the cultural resources report, including documentation of the rock art, for review and comment. If you have any questions or need additional information, please contact Terry Morgart at the Hopi Cultural Preservation Office at 928-734-3619 or [tmorgart@hopi.nsn.us](mailto:tmorgart@hopi.nsn.us). Thank you again for your consideration.

Respectfully,



Leigh J. Kuwanwisiwma, Director  
Hopi Cultural Preservation Office

cc: Utah State Historic Preservation Office

For the allotment renewal Section 106 process, BLM is primarily relying on the data provided in U13SQ0564 and additional inspections of 42GR4906 and 42GR2639.

**Class I Literature Search for U-15-BL-0211**

BLM archaeologist, Jared Lundell, completed a literature search at the Moab Field Office in March of 2015. The literature search included a review of the Moab Field Office local cultural resources geodatabase, site files, and Utah cultural resource or CURES geodatabase. Report U13SQ0564 provides summary tables of projects and sites within the Monument Wash allotment that intersect with survey areas the contractor, William Self Associates (WSA), inventoried for the project. The BLM will attach an overview map of the Monument Wash allotment with the survey polygons and sites located or updated for U13SQ0564.

**Historical Documents**

WSA reviewed historical documents covering inventoried areas for U13SQ0564. The historical documents revealed a number of historic roads and ponds that are still in use today. WSA recorded a number of these as sites in the report U13SQ0564.

**Consultation with Rangeland Specialists**

Moab BLM Archaeologists met with Moab BLM rangeland specialists to identify potential grazing congregation areas on the Monument Wash allotment. Congregation areas are locations where cattle are highly concentrated and have the potential to cause greater impacts to historic properties. Such areas are generally located around water sources or other range improvements. The BLM range specialists identified 29 potential congregation areas located on the Monument Wash allotment.

---

**Description of Examination Procedures:**

**Procedures for U-15-BL-0211b**

WSA inventoried the congregation areas and three additional areas (1229 acres) with high potential for archaeological sites in the summer of 2013 on the Monument Wash Allotment to determine if any cultural resources were being adversely affected by livestock on the allotment. WSA's findings are reported in U13SQ0564. During the current project BLM monitored 42GR4906 and 42GR2639 to determine if cattle were adversely affecting the archaeological sites.

**Description of Findings**

WSA located 17 new sites (42GR4913-42GR4914, 42GR4917-42GR4920, 42GR4923-4930) and updated seven previously recorded sites (42GR680, 42GR1493, 42GR1756, 42GR1828, 42GR2050, 42GR2638-2639) in the Monument Wash allotment. WSA recommended 14 of the sites (42GR680, 42GR1493, 42GR1756, 42GR1828, 42GR2050, 42GR2638-2639, 42GR4906-42GR4907, 42GR4919-42GR4920, 42GR4925-42GR4926, and 42GR4928) as eligible to the NRHP. The BLM agreed to these recommendations and submitted the determinations to the SHPO under case number, 14-0129. WSA recommended that BLM restrict cattle from six sites which are 42GR680, 42GR2050, 42GR4906, 42GR4925, 42GR4928, and 42GR4937 to prevent adverse effects to the sites. The BLM repaired and enlarged the fenced in area at 42GR680 to prevent cattle from congregating in the rockshelter. At 42GR4937 and 42GR2050 WSA recommends fencing or keeping fencing in place, but states in the report site summaries that cattle impacts at the sites are minimal and that cattle are not adversely affecting the aspects of

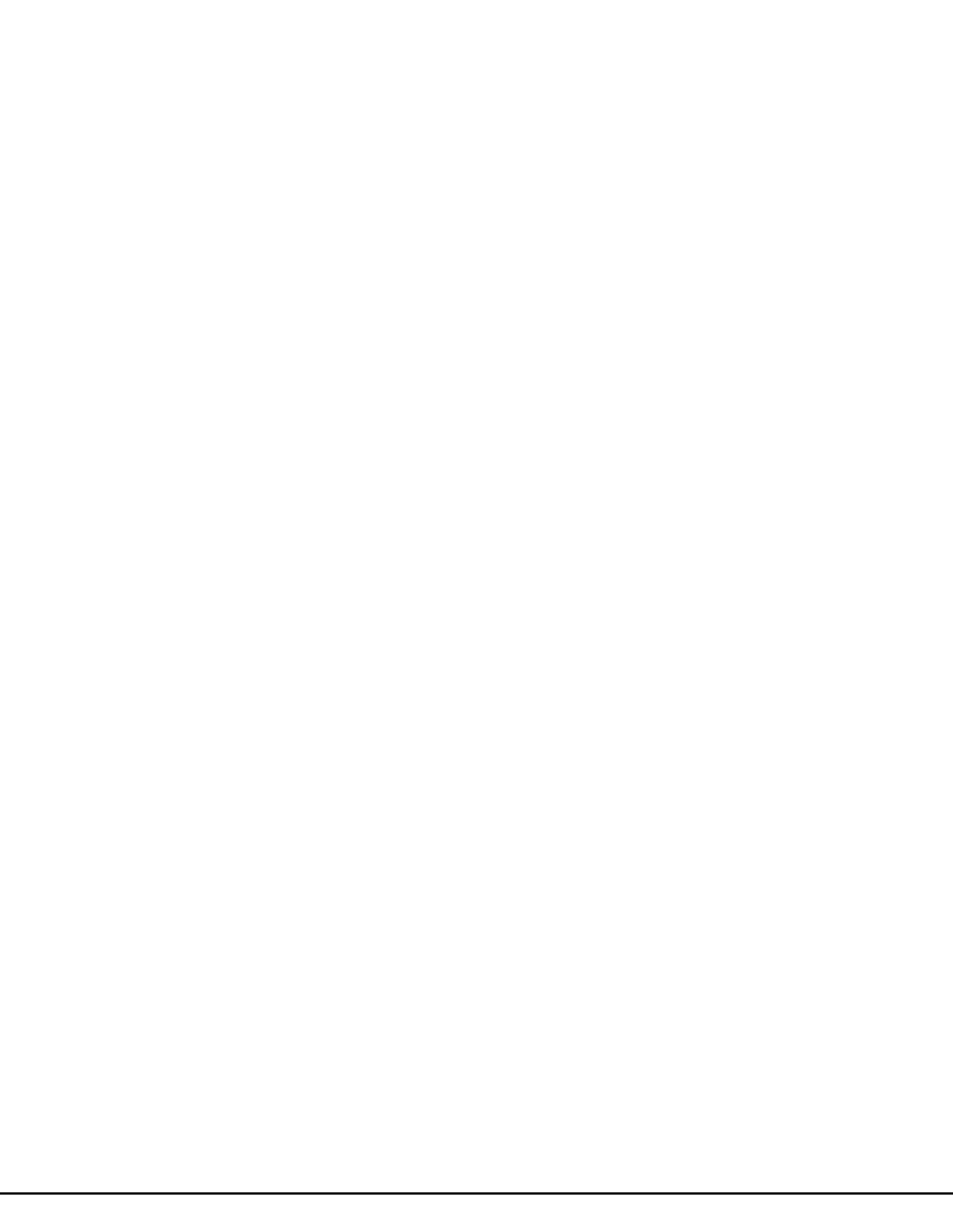
**APPENDIX C**  
**External Scoping Comments and Responses:**

Initial scoping closed on February 15, 2016. Scoping comments were received from three parties, The State of Utah, Office of the Governor, Western Watersheds Project, and Marc Thomas.

The State of Utah, Office of the Governor: See Section 2.5 alternatives considered, but Eliminated from Further Analysis: 1) if the allotments are in good condition the BLM should look to see if the allotments can sustain an increase in numbers. 2) Conduct analysis for common use on these allotments. Studies have shown that the combination of sheep and cattle grazing on the same allotment can improve range conditions compared to all sheep; the BLM must consider whether the allotments could be better managed through common use.

Western Watersheds Project; The comments from Western Watersheds Project were addressed to the BLM Vernal Field Office dated November 3, 2007 and were for the Winter Ridge Allotment Management Plan (AMP) group of allotments, not the Sand Flats, Scharf Mesa and Hotel Mesa Allotments and therefore are outside the scope of this document and will not be considered.

Marc Thomas: Requested five benchmarks of sustainable grazing and restoration be incorporated into the EA. The proposed action and alternatives incorporate the pertinent sections and action required from the Moab RMP 2008, the Endangered Species Act (ESA) of 1973 as amended, Section 106 of the National Historic Preservation Act of 1966, as amended, Standards of Quality for Waters of the State, R317-2-6, Utah Administrative Code, December 1997, Fundamentals of Rangeland Health (43 CFR 4180) and Utah's Standards for Rangeland Health and Guidelines for Grazing Management, and the BLM Utah Riparian Management Policy (Instruction Memorandum No. UT 2005-091), which address benchmarks 1 through 4. Benchmark 5 is not supported by the Moab RMP 2008, and 43CFR part 4100 Grazing Administration, does not contain regulatory authority to allow an accountability benchmark. Additionally the proposed action and alternatives include terms and conditions which incorporate the Moab RMP 2008 grazing utilization management decision, which requires livestock to be removed when utilization thresholds are met.



**Appendix D:  
Wildlife Friendly Fencing Guidelines**

Information in the Moab BLM Wildlife Friendly Fencing Guidelines has been taken from A Landowner's Guide to Wildlife Friendly Fences, funded and developed by the Montana Fish, Wildlife and Parks – Wildlife Resources Program in Helena, Montana. (Paige 2008).

Illustrations by: E.R Jenne Illustration, Missoula, MT. [edjenne@earthlink.net](mailto:edjenne@earthlink.net).

Photos by: Christine Paige, Ravenworks Ecology, Stevensville, MT. [chrispaige@gmail.com](mailto:chrispaige@gmail.com).

### **Wildlife Friendly Fencing Guidelines**

The Moab BLM recommends the following measures to be taken in areas where Wildlife Friendly Fences are recommended. These fences should be low enough for adult animals to jump, high enough for animals to crawl under, and minimize the chance of tangling.

A top wire or rail preferably no more than 40" above the ground, and absolutely no more than 42";

At least 12" between the top two wires;

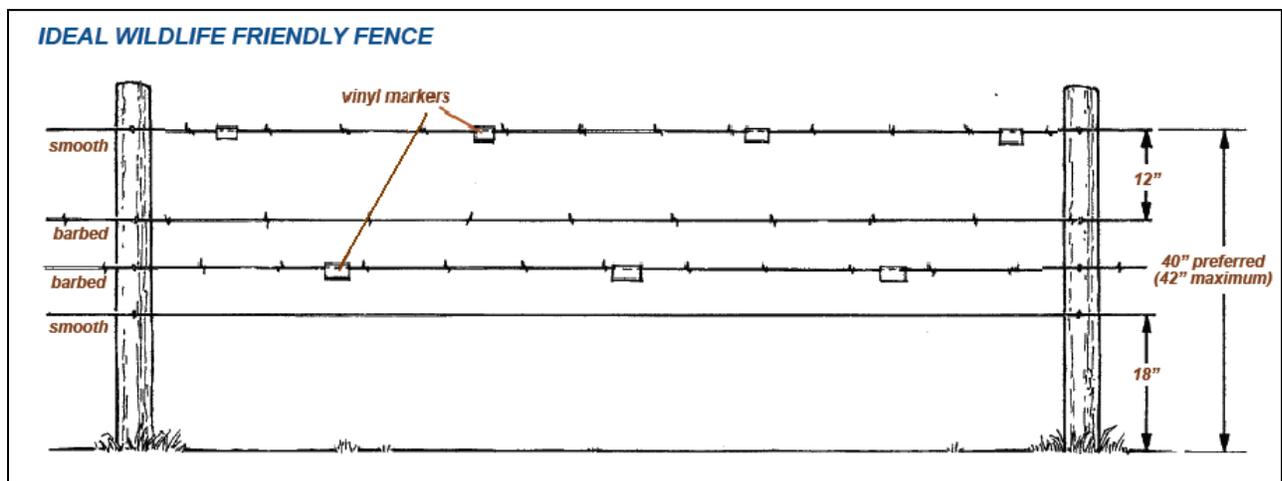
At least 18" between the bottom wire or rail and the ground;

**Smooth wire on bottom.**

**No vertical stays.** If vertical stays are necessary they should **not be** attached to the bottom wire;

Posts at 16.5-foot intervals;

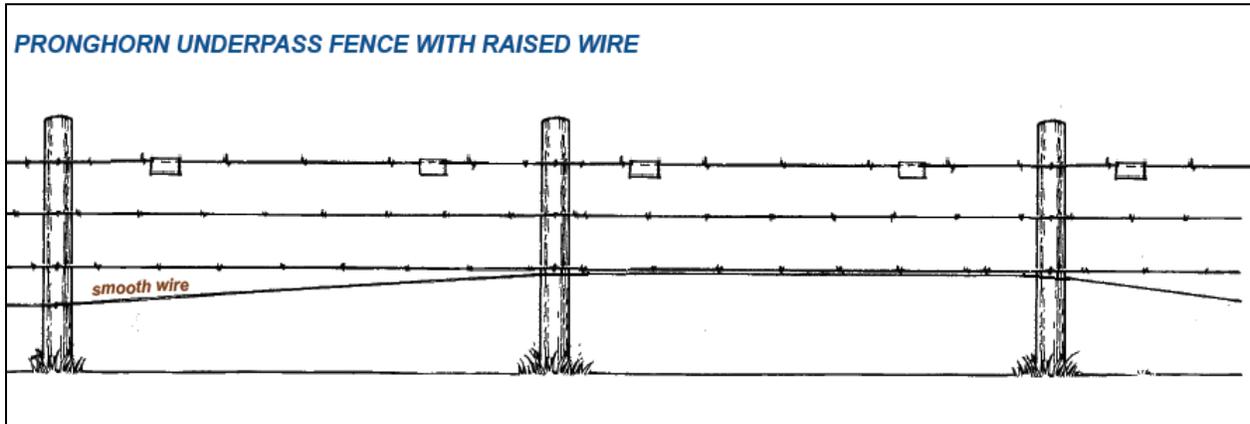
Gates, lay-downs fences, underpasses, goat bar or other passages where wildlife concentrates and cross;



### ***Pronghorn Underpass Fence with Raised Wire***

Pronghorn prefer to crawl under fences. They will often run for miles looking for fence openings or spots to crawl under a fence, and have been known to die of starvation when blocked by a fence they see as impassable. Pronghorn "underpass" can be created by raising the bottom strand in selected fence sections. In selected sections, raise the bottom smooth wire on two posts

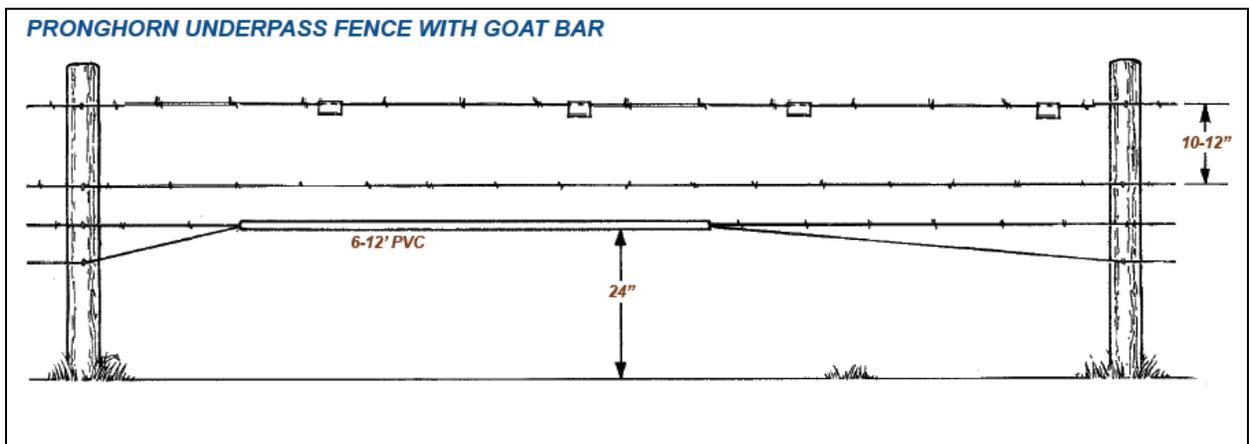
to the height of the third wire, securing in place with a staple lock. The smooth wire can be dropped again if needed.



### ***Pronghorn Underpass Fence with Goat Bar***

PVC underpass or "goat bar" can be created by simply gathering the bottom two wires in a PVC pipe to make a higher clearing for pronghorn of any age to crawl under while the fence remains effective for controlling horses and cattle. This design has been used extensively in pronghorn habitat.

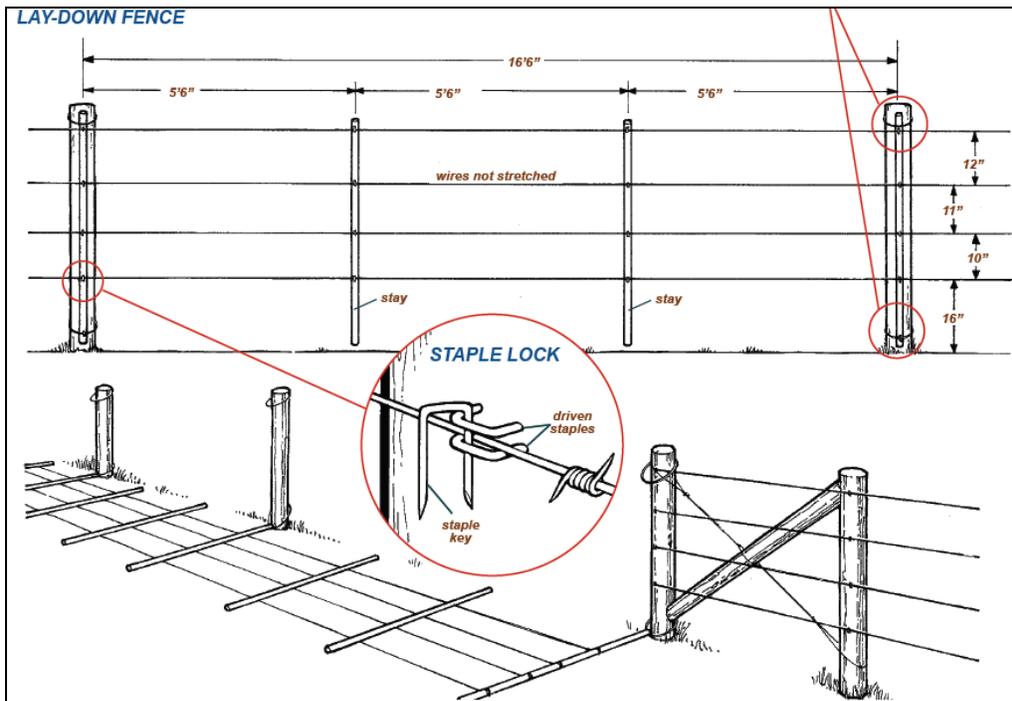
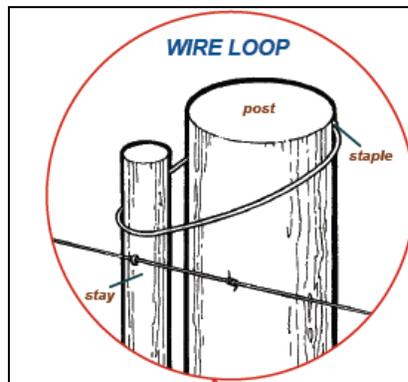
Space fence wires heights at 18–24–30–40"; use smooth wire on the bottom. Cut several 6' to 12' lengths of PVC pipe. With a table saw, cut a 1/4" slot the length of each PVC pipe. Note that a 1/4" cut can be made by matching up two 1/8" wide blades and using a wood guide. Grip the bottom two fence wires together, and feed the PVC pipe onto the wire from one end of the pipe. If the pipe gets hung up on a barb at the fore-end, work barb into end of pipe and continue. Once the pipe has been adequately started, grip the pipe near the fore-end and begin pulling down the length of the wire. Space these underpasses intermittently along the fence and especially in fence corners where pronghorn may be directed by the run of fence.



**Lay-Down/Pull-back Fence:**

A lay-down fence is a standard 3-wire or 4-wire fence that can be laid on the ground as a unit to allow ungulates to pass through during migration or seasonal use. They can be constructed from a combination of smooth wire or barbed-wire. Fence posts can be wooden or steel. Posts should be spaced at 16.5' intervals. Pull back fences are similar in construction, but are pulled back to the side rather than laid down

For barbed- or smooth-wire fence, one to two stays are needed between fence posts, plus a stay lined up with each fence post. Wire loops, secured at the top and bottom of the fence posts, support the fence stays. Be sure the fence stays do not touch the ground. The lay-down section can then be dropped by flipping up the top loop and lifting the stays out of the bottom loop.



**Appendix E**  
**Evaluation of Utah's Standards for Rangeland Health and Guidelines for Grazing**  
**Management**

## RANGELAND HEALTH EVALUATION

**Site/Area:** Monument Wash Allotment

**Acres:** 79,289

### **Compliance with Rangeland Health Standards:**

Rangeland health assessments were conducted on the allotment in 2008. The 17 Indicators of Rangeland Health were used to evaluate the health of the allotment. The indicators are primarily qualitative with several measures or techniques that are quantitative. This evaluation focuses on individual indicators and later combines several indicators to help in assessing the soils, hydrology, and vegetation. Trend data including density and photo plots has been collected in the allotment for more than twenty years. Riparian assessments were conducted using proper functioning condition methodology.

Assessment sites were selected using soil map units (SMU). Each SMU includes a complex of several different ecological sites. These sites are different in vegetation composition, soil type, and texture. Within several of the ecological sites the Bureau of Land Management (BLM) has established monitoring sites. The monitoring sites are called Key areas (KA). KA have had trend data completed for 20+ years and track the changes in vegetation at the sites. This information is used to help determine the amount of disturbance on the sites.

Upland assessments were conducted on SMUs 11, 30, and 40 (refer to the USDA, Soil Survey of Grand County, 1989).

The Monument Wash Allotment is located approximately 18 air miles northeast of Moab, Utah. The allotment is divided into two pastures (West and East), but there are no fences or topographic barriers keeping the livestock in the pastures. The West pasture includes KA 1, 2, 3, and 4. The East pasture includes KA 5, 6, 7, 8, and 9.

The following list shows the acreage in the allotment and the current active federal cattle AUMs within the allotment:

**Table 1: Grazing use authorization**

| Allotment Name and Number | Livestock |        |               | Active Permitted Use (AUMs) | Acres                 | Land Status             |
|---------------------------|-----------|--------|---------------|-----------------------------|-----------------------|-------------------------|
|                           | Number    | Kind   | Season of Use |                             |                       |                         |
| Monument Wash 05392       | 861       | Cattle | 11/16 to 5/15 | 4713                        | 70,462<br>8,736<br>91 | BLM<br>State<br>Private |

The table below summarizes the evaluation data and ratings for the Rangeland Health Standards.

| Assessment Site                    | Standards    |   |    |  |    |   |    |                 |    |   | Rating By Pasture |    |               |   |
|------------------------------------|--------------|---|----|--|----|---|----|-----------------|----|---|-------------------|----|---------------|---|
|                                    | Upland Soils |   |    | Riparian and Wetland Areas                   |    |   |    | Desired Species |    |   |                   |    | Water Quality |   |
|                                    | a            | b | C  | a  | b  | c | D  | a               | b* | c   |                   | d* |               | e |
| West 1                             | M            | M | M  | Riparian assessments were conducted in 2008. | M  | M | M  | N/A             | M  | Based on the downstream water quality data for the Colorado River, we can reasonably conclude the Monument Wash Allotment is meeting Utah Rangeland Health Standard #4. | Met               |    |               |   |
| West 2                             | M            | M | M  |  | BM | M | BM | N/A             | BM |   |                   |    |               |   |
| West 3                             | NM           | M | NM |  | NM | M | NM | N/A             | NM |   |                   |    |               |   |
| West 4                             | M            | M | M  |  | M  | M | M  | N/A             | M  |   |                   |    |               |   |
| East 5                             | M            | M | M  |  | BM | M | BM | N/A             | BM |   |                   |    |               |   |
| East 6                             | M            | M | M  |  | BM | M | BM | N/A             | BM |   |                   |    |               |   |
| East 7                             | M            | M | M  |  | M  | M | M  | N/A             | M  |   |                   |    |               |   |
| East 8                             | M            | M | M  |  | BM | M | BM | N/A             | BM |   |                   |    |               |   |
| East 9                             | M            | M | M  |  | M  | M | M  | N/A             | M  |   |                   |    |               |   |
| <b>Overall Rating of Standards</b> | Met          |   |    | Met  |    |   |    | Borderline Met  |    |   |                   |    | Met           |   |

M=Met  
 NM=Not Met  
 BM=Borderline Met

\* Desired Species (b), and (d), are specific to wildlife species and the data was obtained from the wildlife staff report

**Standard 1 Upland Soils: Upland soils exhibit permeability and infiltration rates that sustain or improve site productivity, considering the soil type, climate, and landform:**

Indicators of Rangeland Health and monitoring data were used to evaluate this standard:

*Indicators of Rangeland Health:*

- 1) Rills
- 2) Water flow patterns
- 3) Pedestals and/or teracettes
- 4) Bare ground
- 5) Gullies.
- 6) Wind-scoured blowouts and depositional areas.
- 7) Litter movement
- 8) Soil surface resistance to erosion.
- 10) Plant community composition and distribution relative to infiltration and runoff
- 11) Compaction layer
- 12) Functional/structural groups
- 14) Litter amount.
- 16) Invasive/noxious weeds

**a) Sufficient cover and litter to protect the soil surface from excessive water and wind erosion, promote infiltration, detain surface flow, and retard soil moisture loss by evaporation. (Indicators Used: 1, 2, 4, 6, 7, 8, 10, and 14)**

**Indicator 1: As documented in the Indicators of Rangeland Health data sheets:**

The amount of rills matched what was expected for the site at all Key areas in the West and East Pastures.

**Indicator 2: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Water flow patterns matched what was expected at the site for Key areas 1, 2, and 3. Key area 4 showed slightly too moderately more flow patterns than what was expected at the site.

*East Pasture:*

Water flow patterns matched what was expected at the site for Key areas 5, 6, 7, and 8. Key area 9 showed slightly too moderately more flow patterns than what was expected at the site.

**Indicator 4: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Bare ground matched what was expected for the site at Key areas 2, 3, and 4. Bare ground was slightly too moderately more than what was expected for the site at Key area 1.

*East Pasture:*

Bare ground matched what was expected for the site at Key area 9. Bare ground was slightly too moderately more than what was expected for the site at Key areas 5, 6, 7, and 8.

**Indicator 6: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

There were no wind scoured blowouts or depositional areas in Key areas 1, 2 3, and 4.

*East Pasture:*

Wind scoured blowouts and depositional areas were scattered throughout the site at Key area 5, giving it a moderate rating. Wind scoured blowouts were infrequent and few at Key areas 7 and 8, a slight to moderate rating for the sites. Key areas 6 and 9 matched what was expected for the site.

**Indicator 7: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Litter movement matched what was expected at the site for Key area 1. Key areas 2 and 4 were given a slight to moderate rating due to small size litter classes being displaced and due to a reduced amount of perennial vegetation to catch the litter. Key Area 3 was given a rating of moderate to extreme due to there being no perennial vegetation which would catch the litter.

*East Pasture:*

Key areas 5, 6, 7, 8, and 9 all were given a rating of slight to moderate due to a reduced amount of perennial vegetation which would catch the litter. Only small litter sizes are moving.

**Indicator 8: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Key areas 1, 2, and 3 soil surface resistance to erosion match what is expected for the site. Key area 4 was rated slightly to moderately lower than what was expected for the site.

*East Pasture:*

Key areas 5, 6, 7, 8, and 9 soil surface resistance to erosion match what is expected for the site.

**Indicator 10: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Key area 1 has moderately increased runoff from the site due to a reduced amount of perennial shrubs and the episodic population increases of cheatgrass decreasing water infiltration. Key areas 2 and 4 have slightly to moderately more runoff due to reduced perennial shrubs and decreased infiltration due to episodic population increases of cheatgrass. Key area 3 has extremely more runoff due to the loss of all perennial vegetation and decreased infiltration due to the presence of non-native invasive halogeton, cheatgrass, and Russian thistle dominating the site. Key area 3 is an old sheep bedding ground.

*East Pasture:*

Key area 5, 6, and 8 have moderately increased runoff from the site due to a reduced amount of perennial shrubs and the episodic population increases of cheatgrass decreasing water infiltration. Key area 7 has slightly to moderately more runoff due to reduced perennial shrubs and decreased infiltration due to episodic population increases of cheatgrass. Key area 9 matches what is expected for the site.

**Indicator 14: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Key areas 1, 2, and 4 have moderately more litter than what is expected due to higher than expected mortality of shrubs, as well as the episodic increases of cheatgrass some years. Key area 3 has extremely more litter than what is expected due to dominance of non-native cheatgrass, halogeton, and Russian thistle.

*East Pasture:*

Key area 5, 6, and 9 have slightly too moderately more litter than what is expected due to some reduction of native perennial vegetation and the presence of non-native cheatgrass. Key area 7 matches what is expected for the site. Key area 8 has moderately more litter than what is expected due to higher than expected mortality of Perennial vegetation, as well as the episodic increases of cheatgrass some years

**b) The absence of indicators of excessive erosion such as rills, soil pedestals, and actively eroding gullies. (Indicators Used: 1, 3, 5, and 11)**

None of the sites showed signs of excessive erosion. There were no rills present at any of the sites. The vegetation was not showing signs of present or past pedestalling. There are no actively eroding gullies present at any site. There are active eroding gullies on the Allotment, but not to the extent that management is needed to assist in the natural rehabilitation of the gullies and none of the gullies active eroding are being further degraded by cattle grazing on the allotment.

**c) The appropriate amount, type, and distribution of vegetation reflecting the presence of (1) the desired plant community (DPC), where identified in a land use plan, conforming to these Standards or (2) where the DPC is not identified, a plant community that equally sustains the desired level of productivity and properly functioning ecological conditions. (Indicators Used: 12 and 16)**

**Indicator 12: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Key areas 1 and 4 were rated slightly too moderately changed from what is expected and Key area 2 was rated moderately changed from what is expected. These changes are due to a decrease in the amount of perennial vegetation and the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 3 was rated extremely changed from what is expected due to non-native cheatgrass, halogeton, and Russian thistle dominating the site.

*East Pasture:*

Key areas 5, 7, and 9 were rated as slightly too moderately changed from what is expected and Key areas 6 and 8 were rated as moderately changed from what is expected. These changes are due to a decrease in the amount of perennial vegetation and the episodic increase of the amount of cheatgrass when precipitation conditions are optimum.

**Indicator 16: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Key areas 1, 2, and 4 were rated as slightly too moderately changed from what is expected due to the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 3 was rated extremely changed from what is expected due to non-native cheatgrass, halogeton, and Russian thistle dominating the site.

*East Pasture:*

Key areas 5, 6, 8, and 9 4 were rated as slightly too moderately changed from what is expected due to the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 7 matches what is expected for the site.

*Trend Data:*

Overall the vegetation on Monument Wash Allotment is static to upward trend. Shadscale is in a downward trend in key area 1. Spiney hopsage is in a downward trend in key area 4. Valley Saltbush and budsage are in a downward trend in key area 5. Key area 7 has no plant species in a downward trend.

**Standard # 2 Riparian and Wetland areas: Riparian and wetland areas are in properly functioning condition. Stream channel morphology and functions are appropriate to soil type, climate and landform.**

The Monument Wash Allotment is located primarily in the Sagers Wash Watershed and the Salt Wash Watershed. The allotment has only a few springs scattered throughout the allotment and only one spring is developed as a water source (Dry Oak Spring).

Proper functioning Condition data was used to complete the evaluation. The spring was evaluated in 2010 and was rated functioning at risk with livestock contributing to the rating. In 2011 the spring source and surrounding riparian habitat was fenced to eliminate livestock access. There is a stock pond outside the fence that is maintained for livestock use. The spring was evaluated again in 2016 and was rated in proper functioning condition.

**a) Stream bank vegetation consisting of, or showing a trend toward, species with root masses capable of withstanding high stream flow events. Vegetative cover adequate to protect stream banks and dissipate stream flow energy associated with high-water flows,**

**protect against accelerated erosion, capture sediment, and provide for groundwater recharge.**

According to the PFC data sheet from 6/7/2016, the vegetation at Dry Oak Spring is adequate cover to protect shoreline/soil surface and dissipate energy during high wind and wave events or overland flows. Vegetation is comprised of those plants or plant communities that have root masses capable of withstanding wind events, wave flow events, or overland flows.

**b) Vegetation reflecting: Desired Plant Community (DPC), maintenance of riparian and wetland soil moisture characteristics, diverse age structure and composition, high vigor, large woody debris when site potential allows, and providing food, cover, and other habitat needs for dependent animal species.**

Riparian vegetation included sedges, rushes, wild rose, tamarisk, foxtail barley, burdock, and squaw bush, which indicates proper composition of riparian-wetland vegetation. Plants exhibited high vigor. Plants exhibited diverse age-class distribution.

**c) Re-vegetating point bars; lateral stream movement associated with natural sinuosity; channel width, depth, pool frequency and roughness appropriate to landscape position**

This is a lentic site so this is not applicable.

**d) Active floodplain**

The wetland area is saturated at or near the surface or inundated in relatively frequent events. Water level fluctuation is not excessive. The wetlands are widening. Natural surface or subsurface flow patterns are not altered by disturbance. Upland watersheds are not contributing to riparian-wetland degradation.

**# 3 Desired Species: Desired species, including native, threatened, endangered, and special-status species, are maintained at a level appropriate for the site and species involved.**

Indicators of Rangeland Health, monitoring data, and report from Wildlife Biologist were used to make determination:

*Indicators of Rangeland Health:*

- 12) Functional/structural groups.
- 13) Plant mortality and decadence.
- 15) Annual production.
- 16) Invasive/noxious weeds.
- 17) Reproductive capability of perennial plants.

**a) Frequency, diversity, density, age classes, and productivity of desired native species necessary to ensure reproductive capability and survival. (Indicators Used: 12, 13, 15, 16, and 17)**

**Indicator 12: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Key areas 1 and 4 were rated slightly too moderately changed from what is expected and Key area 2 was rated moderately changed from what is expected. These changes are due to a decrease in the amount of perennial vegetation and the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 3 was rated extremely changed from what is expected due to non-native cheatgrass, halogeton, and Russian thistle dominating the site.

*East Pasture:*

Key areas 5, 7, and 9 were rated slightly too moderately changed from what is expected and Key areas 6 and 8 have moderately changed from what is expected. These changes are due to a decrease in the amount of perennial vegetation and the episodic increase of the amount of cheatgrass when precipitation conditions are optimum.

**Indicator 13: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Key areas 1 and 4 were rated as having moderately more litter than what is expected. Key area 2 was rated as having slightly too moderately more litter than expected. These changes are due to a decrease in the amount of perennial vegetation and the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 3 was rated as having extremely more litter than expected due to non-native cheatgrass, halogeton, and Russian thistle dominating the site.

*East Pasture:*

Key areas 5, 6, and 9 were rated as having slightly too moderately more litter than expected. Key Area 8 was rated as having moderately more litter than expected. These changes are due to a decrease in the amount of perennial vegetation and the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 7 matched what was expected for the site.

**Indicator 15: As documented in the Indicators of Rangeland Health data sheets:**

All the key areas with the exception of Key area 3 were rated slightly too moderately less production than expected in 2008. Key area 3 was rated as extremely less production from what is expected due to non-native cheatgrass, halogeton, and Russian thistle dominating the site.

**Indicator 16: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Key areas 1, 2, and 4 were rated slightly too moderately changed from what is expected due to the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 3 was rated as extremely changed from what is expected due to non-native cheatgrass, halogeton, and Russian thistle dominating the site.

*East Pasture:*

Key areas 5, 6, 8, and 9 4 were rated slightly too moderately changed from what is expected due to the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 7 matches what is expected for the site.

**Indicator 17: As documented in the Indicators of Rangeland Health data sheets:**

All the Key areas with the exception of Key area 3 matched what was expected for the site or rated slightly too moderately reduced reproductive capability. Key area 3 was rated extremely changed from what is expected due to non-native cheatgrass, halogeton, and Russian thistle dominating the site.

**b) Habitats connected at a level to enhance species survival.**

The habitats on the allotment are connected at a level to allow for spread of native vegetation and survival of key species from site to site.

**c) Native species re-occupy habitat niches and voids caused by disturbances unless management objectives call for introduction or maintenance of non-native species. .**

**(Indicators Used: 12, 13, 16, and 17)**

**Indicator 12: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Key areas 1 and 4 were rated slightly too moderately changed from what is expected and Key area 2 was rated moderately changed from what is expected. These changes are due to a decrease in the amount of perennial vegetation and the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 3 was rated extremely changed

from what is expected due to non-native cheatgrass, halogeton, and Russian thistle dominating the site.

*East Pasture:*

Key areas 5, 7, and 9 were rated slightly too moderately changed from what is expected and Key areas 6 and 8 have moderately changed from what is expected. These changes are due to a decrease in the amount of perennial vegetation and the episodic increase of the amount of cheatgrass when precipitation conditions are optimum.

**Indicator 13: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Key areas 1 and 4 were rated as having moderately more litter than what is expected. Key area 2 was rated as having slightly too moderately more litter than expected. These changes are due to a decrease in the amount of perennial vegetation and the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 3 was rated as having extremely more litter than expected due to non-native cheatgrass, halogeton, and Russian thistle dominating the site.

*East Pasture:*

Key areas 5, 6, and 9 were rated as having slightly too moderately more litter than expected. Key Area 8 was rated as having moderately more litter than expected. These changes are due to a decrease in the amount of perennial vegetation and the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 7 matched what was expected for the site.

**Indicator 16: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Key areas 1, 2, and 4 were rated slightly too moderately changed from what is expected due to the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 3 was rated as extremely changed from what is expected due to non-native cheatgrass, halogeton, and Russian thistle dominating the site.

*East Pasture:*

Key areas 5, 6, 8, and 9 4 were rated slightly too moderately changed from what is expected due to the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 7 matches what is expected for the site.

**Indicator 17: As documented in the Indicators of Rangeland Health data sheets:**

All the Key areas with the exception of Key area 3 matched what was expected for the site or rated slightly too moderately reduced reproductive capability. Key area 3 was rated extremely changed from what is expected due to non-native cheatgrass, halogeton, and Russian thistle dominating the site.

**d) Habitats for threatened, endangered, and special-status species managed to provide for recovery and move species toward recovery and move species toward de-listing.**

There are no threatened, endangered, and special-status species on the Monument Wash Allotment.

**e) Appropriate amount, type, and distribution of vegetation reflecting the presence of (1) the desired plant community (DPC), where identified in a land use plan, conforming to these Standards or (2) where the DPC is not identified, a plant community that equally sustains the desired level of productivity and properly functioning ecological conditions. . (Indicators Used: 12, 13, 16, and 17)**

**Indicator 12: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Key areas 1 and 4 were rated slightly too moderately changed from what is expected and Key area 2 was rated moderately changed from what is expected. These changes are due to a decrease in the amount of perennial vegetation and the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 3 was rated extremely changed from what is expected due to non-native cheatgrass, halogeton, and Russian thistle dominating the site.

*East Pasture:*

Key areas 5, 7, and 9 were rated slightly too moderately changed from what is expected and Key areas 6 and 8 have moderately changed from what is expected. These changes are due to a decrease in the amount of perennial vegetation and the episodic increase of the amount of cheatgrass when precipitation conditions are optimum.

**Indicator 13: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Key areas 1 and 4 were rated as having moderately more litter than what is expected. Key area 2 was rated as having slightly too moderately more litter than expected. These changes are due to a decrease in the amount of perennial vegetation and the episodic increase of the amount of

cheatgrass when precipitation conditions are optimum. Key area 3 was rated as having extremely more litter than expected due to non-native cheatgrass, halogeton, and Russian thistle dominating the site.

*East Pasture:*

Key areas 5, 6, and 9 were rated as having slightly too moderately more litter than expected. Key Area 8 was rated as having moderately more litter than expected. These changes are due to a decrease in the amount of perennial vegetation and the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 7 matched what was expected for the site.

**Indicator 16: As documented in the Indicators of Rangeland Health data sheets:**

*West Pasture:*

Key areas 1, 2, and 4 were rated slightly too moderately changed from what is expected due to the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 3 was rated as extremely changed from what is expected due to non-native cheatgrass, halogeton, and Russian thistle dominating the site.

*East Pasture:*

Key areas 5, 6, 8, and 9 4 were rated slightly too moderately changed from what is expected due to the episodic increase of the amount of cheatgrass when precipitation conditions are optimum. Key area 7 matches what is expected for the site.

**Indicator 17: As documented in the Indicators of Rangeland Health data sheets:**

All the Key areas with the exception of Key area 3 matched what was expected for the site or rated slightly too moderately reduced reproductive capability. Key area 3 was rated extremely changed from what is expected due to non-native cheatgrass, halogeton, and Russian thistle dominating the site.

*Trend Data:*

Overall the vegetation on Monument Wash Allotment is static to upward trend. Shadescall is in a downward trend in key area 1. Spiney hopsage is in a downward trend in key area 4. Valley Saltbush and budsage are in a downward trend in key area 5. Key area 7 has no plant species in a downward trend.

**# 4 Clean Water: BLM will apply and comply with water quality standards established by the state of Utah (r.317-2) and the federal clean water and safe drinking water acts. activities on BLM lands will fully support the designated beneficial uses described in the**

**Utah water quality standards (r.317-2) for surface and groundwater. (BLM will continue to coordinate monitoring water quality activities with other federal, state, and technical agencies.)**

The Monument Wash Allotment is considered to be in compliance with standard #4. BLM will apply and comply with water quality standards established by the State of Utah and the Federal Clean Water and Safe Drinking Water Acts.

**Appendix A**  
**Monitoring Study Tables**

## Frequency:

### Key area 1

| Species            | Percent Frequency/Year |      |          |      |          |      |          |      | Trend Rating |
|--------------------|------------------------|------|----------|------|----------|------|----------|------|--------------|
|                    | 6x6 in                 |      | 12x12 in |      | 24x12 in |      | 24x24 in |      |              |
|                    | 2010                   | 2013 | 2010     | 2013 | 2010     | 2013 | 2010     | 2013 |              |
| Indian ricegrass   | 1                      | 2    | 4        | 5    | 4        | 6    | 10       | 12   | Static       |
| Jame's galleta     | 14                     | 23   | 26       | 36   | 38       | 46   | 52       | 58   | Up           |
| Shadescale         | 24                     | 16   | 32       | 24   | 41       | 32   | 57       | 46   | Down         |
| Pricklypear cactus | 2                      | 2    | 2        | 2    | 2        | 2    | 2        | 3    | Static       |
| Rabbitbrush        | 0                      | 1    | 0        | 1    | 1        | 2    | 2        | 7    | Up           |
| Winterfat          | 0                      | 0    | 0        | 1    | 0        | 1    | 2        | 2    | Static       |
| Sand dropseed      | 0.5                    | 4.5  | 0.5      | 3    | 0        | 2    | 0        | 1    | Up           |
| Desert globemallow | 0                      | 4    | 0        | 2    | 0        | 2    | 0        | 0    | Up           |

### Key area 4

| Species            | Percent Frequency/Year |      |          |      |          |      |          |      | Trend Rating |
|--------------------|------------------------|------|----------|------|----------|------|----------|------|--------------|
|                    | 6x6 in                 |      | 12x12 in |      | 24x12 in |      | 24x24 in |      |              |
|                    | 2010                   | 2013 | 2010     | 2013 | 2010     | 2013 | 2010     | 2013 |              |
| Indian ricegrass   | 1                      | 2    | 4        | 2    | 4        | 2    | 11       | 10   | Static       |
| Jame's galleta     | 16                     | 20   | 32       | 37   | 44       | 46   | 56       | 56   | Up           |
| Fourwing Saltbush  | 0                      | 0    | 2        | 1    | 3        | 2    | 4        | 4    | Static       |
| Spiney hopsage     | 7                      | 6    | 8        | 8    | 12       | 9    | 16       | 12   | Down         |
| Pricklypear cactus | 2                      | 2    | 7        | 6    | 11       | 10   | 13       | 13   | Static       |
| Sand dropseed      | 2                      | 2    | 8        | 6    | 10       | 7    | 12       | 9    | Static       |
| Desert globemallow | 0                      | 8.5  | 0        | 4.5  | 0        | 2    | 0        | 1    | Up           |

### Key area 5

| Species            | Percent Frequency/Year |      |          |      |          |      |          |      | Trend Rating |
|--------------------|------------------------|------|----------|------|----------|------|----------|------|--------------|
|                    | 6x6 in                 |      | 12x12 in |      | 24x12 in |      | 24x24 in |      |              |
|                    | 2010                   | 2013 | 2010     | 2013 | 2010     | 2013 | 2010     | 2013 |              |
| Jame's galleta     | 18                     | 16   | 30       | 33   | 40       | 39   | 52       | 52   | Up           |
| Mat saltbush       | 16                     | 18   | 22       | 22   | 29       | 28   | 36       | 36   | Static       |
| Valley saltbush    | 11                     | 10   | 20       | 16   | 26       | 22   | 32       | 31   | Down         |
| Budsage            | 3                      | 2    | 6        | 4    | 8        | 7    | 15       | 12   | Down         |
| Desert globemallow | 0                      | 0    | 0        | 2    | 0        | 2    | 0        | 4    | Up           |

**Key area 7 Outside**

| Species            | Percent Frequency/Year |      |          |      |          |      |          |      | Trend Rating |
|--------------------|------------------------|------|----------|------|----------|------|----------|------|--------------|
|                    | 6x6 in                 |      | 12x12 in |      | 24x12 in |      | 24x24 in |      |              |
|                    | 2010                   | 2013 | 2010     | 2013 | 2010     | 2013 | 2010     | 2013 |              |
| Indian ricegrass   | 0                      | 0    | 2        | 0    | 4        | 3    | 6        | 4    | Static       |
| Jame's galleta     | 16                     | 20   | 36       | 37   | 54       | 56   | 68       | 70   | Static       |
| Mat saltbush       | 4                      | 4    | 6        | 5    | 8        | 6    | 11       | 10   | Static       |
| Valley saltbush    | 12                     | 8    | 16       | 16   | 23       | 22   | 33       | 30   | Static       |
| Pricklypear cactus | 1                      | 0    | 2        | 2    | 2        | 2    | 4        | 4    | Static       |
| Winterfat          | 2                      | 1    | 3        | 4    | 6        | 7    | 10       | 13   | Static       |
| Sandberg bluegrass | 0                      | 0    | 0        | 0    | 0        | 0    | 1        | 2    | Static       |
| Budsage            | 2                      | 0    | 3        | 2    | 5        | 2    | 7        | 4    | Static       |
| Horsebrush         | 0                      | 0    | 2        | 2    | 2        | 2    | 2        | 2    | Static       |

**Line Point Intercept:**

**Key area 1**

| Species               | Percent Cover by Year |       |       |
|-----------------------|-----------------------|-------|-------|
|                       | *2008                 | 2010  | 2013  |
| Bare Ground           | 18.00                 | 53.50 | 57.63 |
| Duff                  | 41.00                 | 6.63  | 0.50  |
| Embedded Litter       | 4.00                  | 11.00 | 2.50  |
| Other Litter          | 0.00                  | 0.00  | 13.38 |
| Woody Litter >5mm     | 2.00                  | 2.13  | 1.13  |
| Biological Soil Crust | 6.00                  | 2.50  | 1.00  |
| Rock >5mm             | 14.00                 | 2.75  | 5.00  |
| Indian ricegrass      | 6.00                  | 0.38  | 0.75  |
| Jame's galleta        | 9.00                  | 6.00  | 7.25  |
| Shadescale            | 11.00                 | 14.25 | 6.76  |
| Pricklypear cactus    | 1.00                  | 0.00  | 0.00  |
| Winterfat             | 1.00                  | 0.13  | 0.13  |
| Tansyaster            | 3.00                  | 0.00  | 0.00  |
| Cheatgrass            | 41.00                 | 0.38  | 1.26  |
| Halogeton             | 0.00                  | 0.00  | 0.75  |

**Key area 4**

| Species               | Percent Cover by Year |       |       |
|-----------------------|-----------------------|-------|-------|
|                       | *2008                 | 2010  | 2013  |
| Bare Ground           | 21.00                 | 44.88 | 42.5  |
| Duff                  | 47.00                 |       |       |
| Embedded Litter       | 3.00                  | 21.13 | 1.25  |
| Other Litter          | 6.00                  | 0.13  | 15.25 |
| Woody Litter >5mm     | 1.00                  | 2.25  | 2.63  |
| Biological Soil Crust | 1.00                  | 0.50  | 0.13  |
| Indian ricegrass      | 0.00                  | 1.63  | 1.13  |
| Jame's galleta        | 7.00                  | 7.66  | 9.38  |
| Fourwing saltbush     | 0.00                  | 0.75  | 0.76  |
| Spiney hopsage        | 6.00                  | 2.88  | 3.13  |
| Pricklypear cactus    | 3.00                  | 0.79  | 1.63  |
| Desert globemallow    | 1.00                  | 0.13  | 0     |
| Sand dropseed         | 0.00                  | 1.50  | 1.88  |
| Broom snakeweed       | 4.00                  | 0     | 0.13  |
| Cheatgrass            | 54.00                 | 0     | 12.88 |
| Russian thistle       | 1.00                  | 15.63 | 6.88  |

**Key area 7 Outside**

| Species     | Percent Cover by Year |       |       |
|-------------|-----------------------|-------|-------|
|             | *2008                 | 2010  | 2013  |
| Bare Ground | 45.00                 | 57.00 | 67.63 |

**Key area 5**

| Species     | Percent Cover by Year |       |       |
|-------------|-----------------------|-------|-------|
|             | *2008                 | 2010  | 2013  |
| Bare Ground | 33.00                 | 54.88 | 67.50 |

|                       |       |       |       |
|-----------------------|-------|-------|-------|
| Embedded Litter       | 0.00  | 12.88 | 0.38  |
| Duff                  | 12.00 | *     | *     |
| Other Litter          | 3.00  | 0.00  | 14.88 |
| Woody Litter >5mm     | 1.00  | 1.00  | 0.13  |
| Biological Soil Crust | 19.00 | 7.13  | 0.13  |
| Rock >5mm             | 4.00  | 1.13  | 3.75  |
| Indian ricegrass      | 0.00  | 0.13  | 0.13  |
| Jame's galleta        | 8.00  | 7.01  | 4.01  |
| Mat saltbush          | 3.00  | 1.26  | 1.00  |
| Valley saltbush       |       | 4.88  | 3.25  |
| Pricklypear cactus    | 0.00  | 0.38  | 0.26  |
| Winterfat             | 0.00  | 0.75  | 0.50  |
| Budsage               | 0.00  | 0.38  | 0.25  |
| Grand buchwheat       | 5.00  | 3.00  | 1.63  |
| Desert globemallow    | 0.00  | 0.50  | 0.25  |
| Horsebrush            | 0.00  | 0.25  | 0.38  |
| Annual wheatgrass     | 0.00  | 0.13  | 0.25  |
| Cheatgrass            | 9.00  | 1.13  | 0.13  |
| Halogeton             | 0.00  | 0.38  | 0.00  |

|                       |       |       |      |
|-----------------------|-------|-------|------|
| Duff                  | 13.00 | 0.38  | 0.25 |
| Embedded Litter       | 0.00  | 10.63 | 0.00 |
| Other Litter          | 13.00 | 0.00  | 4.38 |
| Woody Litter >5mm     | 0.00  | 1.25  | 0.63 |
| Biological Soil Crust | 14.00 | 7.51  | 2.88 |
| Rock >5mm             | 10.00 | 0.25  | 0.00 |
| Indian ricegrass      | 0.00  | 0.13  | 0.00 |
| Jame's galleta        | 1.00  | 5.66  | 5.88 |
| Mat Saltbush          | 14.00 | 9.38  | 7.88 |
| Valley Saltbush       |       | 6.25  | 6.74 |
| Budsage               | 0.00  | 1.00  | 1.00 |
| Desert globemallow    | 0.00  | 0.75  | 0.13 |
| Cheatgrass            | 21.00 | 0.00  | 1.38 |
| Halogeton             | 0.00  | 0.50  | 0.50 |

**\*\*Key area 2**

| Species               | Percent Cover by Year |       |
|-----------------------|-----------------------|-------|
|                       | *2008                 | 2010  |
| Bare Ground           | 24.00                 | 53.38 |
| Embedded Litter       | 0.00                  | 15.50 |
| Duff                  | 33.00                 | 0.13  |
| Other Litter          | 11.00                 | 0.00  |
| Woody Litter >5mm     | 2.00                  | 0.88  |
| Biological Soil Crust | 6.00                  | 5.13  |
| Rock >5mm             | 6.00                  | 0.00  |
| Indian ricegrass      | 0.00                  | 0.13  |
| Jame's galleta        | 2.00                  | 2.00  |
| Mat saltbush (ATCO4)  | 2.00                  | 1.00  |
| Valley saltbush       | 4.00                  | 4.25  |
| Budsage               | 0.00                  | 0.75  |
| Grand buchwheat       | 2.00                  | 0.75  |
| Desert globemallow    | 0.00                  | 0.13  |
| Halogeton             | 0.00                  | 4.00  |
| Cheatgrass            | 37.00                 | 0.25  |
| Plantain              | 3.00                  | 0.00  |

**\*\*Key area 9**

| Species               | Percent Cover by Year |       |
|-----------------------|-----------------------|-------|
|                       | *2008                 | 2010  |
| Bare Ground           | 11.00                 | 40.00 |
| Embedded Litter       | 0.00                  | 18.75 |
| Duff                  | 57.00                 | 0.63  |
| Other Litter          | 2.00                  | 0.00  |
| Woody Litter >5mm     | 1.00                  | 2.13  |
| Biological Soil Crust | 0.00                  | 0.13  |
| Rock >5mm             | 2.00                  | 6.50  |
| Indian ricegrass      | 0.00                  | 0.38  |
| Jame's galleta        | 7.00                  | 7.13  |
| Shadescale            | 0.00                  | 3.25  |
| Winterfat             | 1.00                  | 2.63  |
| Desert globemallow    | 1.00                  | 2.50  |
| Russian Thistle       | 0.00                  | 0.50  |
| Cheatgrass            | 61.00                 | 2.75  |
| Halogeton             | 8.00                  | 7.63  |

**\*\*Key area 8**

| Species               | Percent Cover by Year |       |
|-----------------------|-----------------------|-------|
|                       | *2008                 | 2010  |
| Bare Ground           | 25.00                 | 43.63 |
| Embedded Litter       | 1.00                  | 24.13 |
| Duff                  | 25.00                 | 0.25  |
| Other Litter          | 19.00                 | 0.00  |
| Woody Litter >5mm     | 0.00                  | 0.75  |
| Biological Soil Crust | 2.00                  | 0.79  |
| Rock >5mm             | 7.00                  | 4.38  |
| Indian ricegrass      | 2.00                  | 0.13  |
| Jame's galleta        | 20.00                 | 8.25  |
| Shadescale            | 5.00                  | 4.00  |
| Sand Dropseed         | 0.00                  | 1.25  |
| Pricklypear cactus    | 1.00                  | 0.13  |
| Winterfat             | 0.00                  | 0.50  |
| Desert globemallow    | 0.00                  | 0.25  |
| Russian Thistle       | 0.00                  | 0.63  |
| Cheatgrass            | 22.00                 | 3.38  |
| Halogeton             | 0.00                  | 4.38  |

**\*\*Key area 6**

| Species           | Percent Cover by Year |       |
|-------------------|-----------------------|-------|
|                   | *2008                 | 2010  |
| Bare Ground       | 39.00                 | 66.25 |
| Embedded Litter   | 0.00                  | 10.38 |
| Duff              | 29.00                 | 0.00  |
| Other Litter      | 9.00                  | 0.00  |
| Woody Litter >5mm | 0.00                  | 1.13  |
| Rock >5mm         | 2.00                  | 2.75  |
| Indian ricegrass  | 2.00                  | 0.13  |
| Jame's galleta    | 3.00                  | 0.25  |
| Mat saltbush      | 5.00                  | 4.25  |
| Valley saltbush   | 9.00                  | 3.63  |
| Annual wheatgrass | 0.00                  | 3.88  |
| Cheatgrass        | 0.00                  | 2.25  |

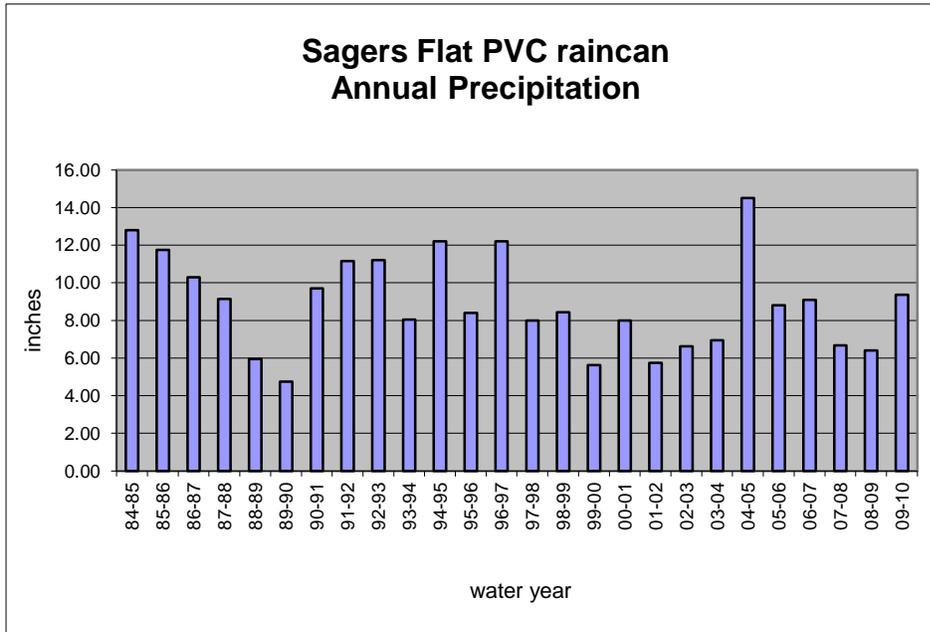
**\*\*Key area 3**

| Species               | Percent Cover by Year |       |
|-----------------------|-----------------------|-------|
|                       | *2008                 | 2010  |
| Bare Ground           | 25.00                 | 44.00 |
| Embedded Litter       | 0.00                  | 8.00  |
| Duff                  | 53.00                 | 4.00  |
| Woody Litter >5mm     | 0.00                  | 0.63  |
| Biological Soil Crust | 11.00                 | 0.13  |
| Rock >5mm             | 0.00                  | 0.13  |
| Plantain              | 1.00                  | 0.00  |
| Cheatgrass            | 40.00                 | 2.00  |
| Halogeton             | 1.00                  | 15.50 |
| Russian Thistle       | 15.00                 | 19.75 |

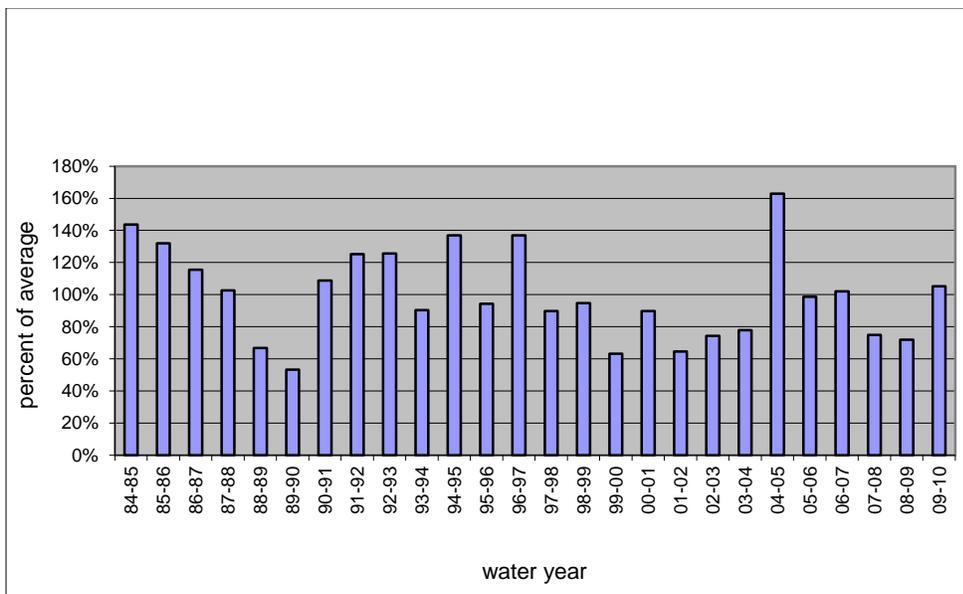
\* The line point intercept data was collected by running two 50 foot transects for a total of 100 cover points. In 2010 and 2013 the line point intercept data was collected using the Draft Utah Monitoring Manual protocol which, collects 800 points of cover data.

\*\* Data at these Key areas was utilized for rangeland health evaluation but not long term trend.

Precipitation:



Average rainfall is 8.9 inches



**Appendix F**  
**Actual Use**

| <b>Year</b> | <b>Actual Use</b> | <b>Percent Preference (5124 AUMs)</b> |
|-------------|-------------------|---------------------------------------|
| 1987-88     | 1628              | 32                                    |
| 1988-89     | 2320              | 45                                    |
| 1989-90     | 3566              | 70                                    |
| 1990-91     | 2449              | 48                                    |
| 1991-92     | 1355              | 26                                    |
| 1992-93     | 2306              | 45                                    |
| 1993-94     | 3275              | 64                                    |
| 1994-95     | 2901              | 57                                    |
| 1995-96     | 3506              | 68                                    |
| 1996-97     | 3260              | 64                                    |
| 1997-98     | 3758              | 73                                    |
| 1998-99     | 4695              | 92                                    |
| 1999-00     | 4466              | 87                                    |
| 2000-01     | 2934              | 57                                    |
| 2001-02     | 2553              | 50                                    |
| 2002-03     | 692               | 14                                    |
| 2003-04     | 1836              | 36                                    |
| 2004-05     | 2432              | 47                                    |
| 2005-06*    | 3506              | 68                                    |
| 2006-07*    | 2798              | 54                                    |
| 2007-08*    | 3482              | 68                                    |
| 2008-09*    | 3777              | 74                                    |
| 2009-10     | 3622              | 71                                    |
| 2010-11     | 5692              | 111                                   |
| 2011-12*    | 1366              | 27                                    |
| 2012-13     | 1087              | 21                                    |
| 2014-15*    | 2083              | 41                                    |