

## **FINDING OF NO SIGNIFICANT IMPACT**

**EA Number:** DOI-BLM-AZ-G020-2012-0003-EA

**Serial/Case File No.** 6259

**BLM Office:** Tucson Field Office

### **Finding of No Significant Impact:**

I have reviewed the environmental assessment (EA), # DOI-BLM-AZ-G020-2012-0003-EA, dated October 17, 2011, prepared for the Mt. Bruce Grazing Lease, and have found through the EA that there are no potentially significant environmental impacts caused by the proposed action. I have determined that the proposed action with the mitigation measures listed below will not have any significant impacts on the human environment and that an EIS is not required. I have determined that the proposed action is in conformance with the Las Cienegas Resource Management Plan approved in Record of Decision dated July 25, 2003.

### **Below are the substantive reasons for finding no significant impact:**

- The proposed action does not conflict with Empire-Cienega ACEC values, cultural resources, wetland and riparian values, wild and scenic river study area values, or promote noxious weeds.
- The proposed action is compatible with recreational and range resource uses within the area.
- The proposed action is consistent with Bureau policies and management goals within the area.

**Attachments:** NEPA#: DOI-BLM-AZ-G020-2012-0003-EA

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Manager \_\_\_\_\_ Date \_\_\_\_\_ Field

DOI-BLM-AZ-G020-2012-0003-EA

# Bureau of Land Management

Tucson Field Office

Environmental Assessment  
For  
Mt. Bruce Grazing Lease, Allotment, No. 6259  
Townships 20 S. Range 18 E.

Date: October 17, 2011

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
ARIZONA  
TUCSON FIELD OFFICE

EA #: DOI-BLM-AZ-G020-2012-0003-EA

Project Name: Mt. Bruce Grazing Lease

BLM Contact Person: Kristen Duarte

Legal Description: The Mt. Bruce allotment, No. 6259, is located 55 miles southeast of Tucson, Arizona, just east of Sonoita, Arizona. A general legal description is Township 20 South and Range 18 East.

## **I. INTRODUCTION**

This environmental document analyzes the proposed action and alternatives for issuance of a new grazing lease for the Mt. Bruce allotment. This National Environmental Policy Act (NEPA) document will incorporate by reference all data and environmental analysis from the final Rangeland Health Allotment evaluation report (2009) with supplemental monitoring performed in 2010 and 2011. This document will analyze the impacts of implementing the Proposed Action and/or alternatives to offer the grazing lease on this allotment and will consider other applicable public laws; regulations and policy, including the Fundamentals of Rangeland Health (see 43 CFR 4180.) Any subsequent management actions, i.e. rangeland improvements, will have a site-specific analysis conducted on them in a separate environmental document(s).

### **A. Background**

The public lands on the Mt. Bruce allotment were acquired in a land exchange with Phelps Dodge in 2005. Prior to the acquisition into federal ownership, the land had been leased for grazing yearlong. The acreage was brought into federal ownership with acknowledgement of the prior grazing use and the land was temporarily leased by BLM at the same rate of cattle for yearlong grazing. The initial temporary authorization expired in September 2009. There is currently no grazing on the BLM lands within the Mt. Bruce allotment.

The Las Cienegas National Conservation Area (LCNCA) and the Sonoita Valley Acquisition Planning District were designated by Congress and signed into law by the President on December 6, 2000, in order to conserve, protect, and enhance the unique and nationally important aquatic, wildlife, vegetative, archaeological, paleontological, scientific, cave, cultural, historical, recreational, educational, scenic, rangeland and riparian resources and values of the public lands within the National Conservation Area (NCA), while allowing livestock grazing and recreation to continue in appropriate areas.

The Mt. Bruce Allotment is included in the LCNCA and the Empire-Cienega Area of Critical Environmental Concern (ACEC) because the approved Las Cienegas Resource Management Plan (RMP) and Record of Decision (ROD) signed July 25, 2003, established that

any parcels that lie within the acquisition planning district become part of the LCNCA upon acquisition. Therefore, the Mt. Bruce allotment is managed according to the Las Cienegas RMP and Empire-Cienega ACEC objectives.

#### B. Purpose and Need

This Environmental Assessment (EA) is being prepared to assess the impacts of grazing on the Mt. Bruce Allotment, No. 6259. Should impacts be encountered, the EA will address modifications to the lease with terms and conditions and mitigating measures that may be needed. Impacts to other resource values within this allotment will also be considered. A grazing lease is needed in order to graze livestock on public lands.

#### C. Conformance with Land Use Planning

The proposal to offer the 10-year lease is in conformance with the Las Cienegas (RMP) approved in July of 2003. The objective of the Tucson rangeland management program is to (1) manage livestock grazing under the principals of multiple-use and sustained-yield and, (2) manage the rangelands in an efficient manner by providing effective management to those allotments where it is needed most to maintain, improve, and monitor the range conditions. The RMP contains general information regarding the impacts of livestock grazing on other resources within the LCNCA.

The Las Cienegas RMP was developed with full implementation of the Statewide Land Use Planning for Implementation of Arizona Standards for Rangeland Health and Guidelines for Grazing Administration 1997. Arizona's Standards and Guides were developed through a collaborative process involving the Arizona Resource Advisory Council and the Bureau of Land Management State Standards and Guides team. The Secretary of the Interior approved the Standards and Guidelines in April 1997. The Decision Record, signed by the BLM Arizona State Director (April 1997) provided for full implementation of the Standards and Guides in all Arizona BLM Land Use Plans.

The BLM's authority to administer livestock grazing on public land comes from the Taylor Grazing Act (TGA) of 1934 and the Federal Land Policy and Management Act (FLPMA) of 1976. Other laws, however, such as NEPA, the Public Rangeland Improvement Act (PRIA) of 1978, the Clean Water Act (CWA), the National Historic Preservation Act, and the Endangered Species Act (ESA) provide additional guidance with which the BLM must comply when administering grazing on public land. These and other similar laws require the BLM to assess the impact of actions it authorizes on the human environment.

## II. THE PROPOSED ACTION INCLUDING ALTERNATIVES

### A. Proposed Action

The Proposed Action is to offer for 10 years the grazing lease for the Mt. Bruce Allotment, No. 6259, under the current terms and conditions. The proposed grazing use for the allotment is: 84 Animal Unit Months (AUMs) on the public land within the allotment with the following Terms and Conditions:

1. If in connection with allotment operations under this authorization, any human remains, funerary objects, sacred objects or objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (P.L. 101-601; 104 Stat. 3048; 25 U.S.C. 3001) are discovered, the lessee shall stop operations in the immediate area of the discovery, protect the remains and objects, and immediately notify the Authorized Officer of the discovery. The lessee shall continue to protect the immediate area of the discovery until notified by the Authorized Officer that operations may resume.
2. A use limit of 30-40% of current year's average annual production is in effect, to be measured on key forage species at permanent vegetation transects. The use limit will ensure the physiological needs of the plants and multiple use objectives are being met. (CFR 43 4130.3-2).
3. Actual use information will be submitted within 15 days of the end of the grazing year in accordance with 43 CFR 4130.3-2(d). Actual use reports will identify the amount of livestock use and period of use for each water source/pasture.

Prior to offering the lease, preparation of this EA is required. It gives consideration to all applicable public laws, regulations and policy, and the Fundamentals of Rangeland Health (see 43 CFR 4180). The BLM will continue with its long-term rangeland monitoring program to ensure healthy resource conditions.

#### **B. Alternative One (No Action)**

The No Action Alternative normally reflects livestock grazing at existing levels under current terms and conditions. However, no permanent grazing lease is currently in place on the Mt. Bruce allotment. Therefore, the No Action Alternative and the No Grazing Alternative are the same. The impacts from this alternative are analyzed as Alternative Two (No Grazing)

#### **C. Alternative Two (No Grazing)**

Under Alternative Two, the grazing lease for this allotment would not be offered. Livestock grazing would not be authorized on public lands within the Mt. Bruce allotment.

#### **D. Alternatives Considered But Eliminated From Further Detailed Study**

##### **1. Lease Reduction Alternative**

As stated in 43 CFR 4110.3, changes in the grazing permit/lease are subject to consultation, cooperation and coordination with permittees/lessees, States having lands or

managing resources in the area, and interested public. Monitoring, field observations, ecological site inventory, or other data must also be available to support a reduction in a lease. Should BLM determine that existing grazing management is not consistent in meeting the Fundamentals of Rangeland Health, appropriate action will be taken as soon as practicable but not later than the start of the next grazing year to ensure conformance with the Fundamentals of Rangeland Health. The authorized officer will make a determination on a case-by-case basis as to what corrective actions are appropriate. In some cases the action taken may not result in the reduction of the permit/lease. A variety of management tools are available to resolve the problem. The management action may include changing season-of-use, modifying the grazing system, properly placing rangeland improvements, salting, temporarily suspending use, reducing livestock numbers or applying some other appropriate action. At present, the Rangeland Health Assessment performed on this allotment concluded that there are no conflicts between livestock grazing and other resources. This alternative is not viable at this time.

## **2. Lease Increase Alternative**

The regulation cited above in 43 CFR 4110.3 applies in this case as well. Also, changes must be supported through monitoring, field observations, ecological site inventory, or other data. Additional forage must become available on a sustained-yield basis. Once available, the BLM would then determine how to allocate the additional forage. Consideration would be given to satisfying suspended use, the needs of other resources such as wildlife, the stewardship efforts that contributed to the increased forage production, and other factors. The available data does not support an increase at this time.

### **III. AFFECTED ENVIRONMENT**

The following critical environmental elements have been considered and are either not present or would not be affected by the alternatives:

Air quality, cultural resources/paleontology, environmental justice, prime and unique farmlands, floodplain, Native American religious concerns, hazardous or solid wastes, wetlands/riparian zones, wild or scenic rivers, wilderness or wilderness character, national energy policy, Migratory Bird Treaty Act, recreation, lands and realty, access/transportation, visual resources, mineral resources or water rights.

#### **A. Grazing Administration**

- 1. Allotment Name and Number:** Mt. Bruce Allotment, No. 6259
- 2. Lessee:** William Schock.
- 3. Grazing Capacity:** 84 AUMs
- 4. Grazing Management:** The allotment supports 84 AUMs, which equates to a 7 cattle year-long (CYL) operation based on current monitoring and Land Health

Assessment data. Within the allotment boundary of Mt. Bruce, there is 69 percent private land and 31 percent Public Lands. Under the previous agreement until 2009, the rancher ran a 25 head of cattle operation. The management of the allotment revolves around 2 pastures, one off-site, thus allowing for a rest rotation system allowing plant reproduction and growth.

**5. Management Category: M for maintain**

Under current BLM guidance, all allotments are to be placed in a “Selective Management Category”. The Selective Management Category process was initiated by BLM in 1982 and was used primarily to establish priorities for investing in range improvements.

The following is a description of the “Maintain (M)” category.

“M” category allotments have no serious resource conflicts and range condition and present management is satisfactory. Under this management BLM management actions are limited to licensing livestock use based on the AUMs available on the public lands, and the individual ranch operator determines the grazing system (if any) to be used. BLM checks these grazing units to insure that the utilization on public lands is not excessive, that range condition and trend are being maintained, and that applicable regulations are being followed. If utilization is found to be excessive or the range trend to be down, BLM will work with the operator to adjust livestock numbers on the total grazing unit.

By applying the established selective management category criteria to the Mt. Bruce allotment, we have assigned the allotment to the Maintain category. The grazing lease, at the proposed level of 84 AUMs, will remain in the Maintain “M” category.

**6. Allotment Information:**

<b>ALLOTMENT INFORMATION</b>			
Land Status	Acres	AUMs <sup>1</sup>	CYL
Public Land	240	84	7
State Land	0	0	0
Private Land	540	216	18
<b>TOTAL</b>	<b>780</b>	<b>300</b>	<b>25</b>

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<sup>1</sup> AUMs (Animal Unit Month)

## B. Vegetation

The allotment falls into the Major Land Resource Area (MLRA) of 41-1AZ Mexican Oak-Pine and Oak Savannah. Ecological sites within this MLRA are; Loamy Upland, Limestone Hills and Limy Upland. This Ecological Site receives 16 to 20 inches of precipitation per year and elevation ranges from 4,950 to 6,000 feet. Ecological Site Guides were last updated in 2005 for this site.

The dominant vegetation is Semi desert grassland community. Vegetative cover is dominated by native grasses. Trees and shrubs present in the current plant community include mesquite (*Prosopis spp.*), desert broom (*Baccharis sarothroides*), littleleaf sumac (*Rhus microphylla*), burroweed (*Isocoma tenuisecta*), sandpaper bush (*Mortonia scabrella*), ocotillo (*Fouquieria splendens*), banana yucca (*Yucca baccata*), common sotol (*Dasyilirion wheeleri*) and beargrass (*Nolina microcarpa*). Half shrubs observed on the site include desert zinnia (*Zinnia acerosa*), fairyduster (*Calliandra eriophylla.*), and yerba de pasmo (*Baccharis pteronioides*). Succulents present include prickly pear (*Opuntia engelmannii*), Palmer's century plant (*Agave palmeri*), staghorn cholla (*Opuntia versicolor*) and pincushion cactus (*Mammillaria microcarpa*). Perennial forbs include spiderling (*Boerhaavia spp.*), bundleflower (*Desmanthus cooleyi*), hog potato (*Hoffmannseggia glauca*), globemallow (*Sphaeralcea spp.*) and bluedicks (*Dichelostemma capitatum*). Native perennial grasses observed include sideoats grama (*Bouteloua curtipendula*), black grama (*Bouteloua eriopoda*), sprucetop grama (*Bouteloua chondrosioides*), hairy grama (*Bouteloua hirsute*), Cane beardgrass (*Bothriochloa barbinodis*), blue grama (*Bouteloua gracilis*), Slim tridens (*Tridens muticus*), vine mesquite (*Panicum obtusum*), fluffgrass (*Tridens pulchellum*), Hall's panic (*Panicum hallii*) and perennial three-awn (*Aristida spp.*). Introduced Lehmann lovegrass (*Eragrostis lehmanniana*) is invading the eastern portion of the allotment.

Grazing management has contributed to healthy plant populations by providing rest periods and making better use of rangelands. Management of the allotment revolves around two pastures, thus allowing for plant reproduction and growth. The current Upland Health Assessment indicates the ecological condition of the allotment is good.

## C. Invasive Weeds

Introduced Lehmann lovegrass (*Eragrostis lehmanniana*) is invading the eastern portion of the allotment. Lehmann lovegrass is an exotic perennial and research has shown that prescribed burning stimulates reproduction and growth, and is not planned to manage this species. Local ranchers have experimented with heavy grazing of this species and observed that it had little effect. Although Lehmann lovegrass is an aggressive species that can dominate rangeland and displace natives, where established it should be recognized as forage for livestock.

Invasive weed identification and management is done in conjunction with allotment monitoring and allotment supervision as part of an ongoing process. Weed-risk considerations to stop introduction and spread of invasive weeds are made part of all permits/leases on BLM land, which include rangeland improvements, supplemental feeding, and grazing.

## D. Soils

Several soil types are found on the allotment. Information gathered on each ecological site is included to compare the sites likeness to the sites potential climax community. The current state of each ecological site is described below along with precipitation, elevation, soil, production and plant communities as described by structural groups. It is important to describe the current plant communities and structural groups when comparing sites to interpret what state a site is transitioning into if at all.

Loamy Upland: The Loamy Uplands ecological site receives about 16 – 20 inches of precipitation yearly. Slopes are gentle and usually between 2 and 10% with deep soils. Elevations range from 4,950 to 5,000 feet. Approximately 13% of the ranch is in a Loamy Upland ecological site. Production on this site that was read with the Natural Resources Conservation Service (NRCS) in 2008 was 1,480 <sup>lbs</sup>/<sub>ac</sub>. Structural groups have not changed from what is described in the ecological site description on this particular site and are as follows: perennial grasses with the highest composition, perennial forbs, shrubs trees, annuals and cacti the lowest. In some areas, Lehmann lovegrass is moderately heavy on the loamy sites and has the potential to gradually take over the sites.

Limestone Hills: Limestone Hills receive between 16 – 20 inches of precipitation yearly. Slopes are generally 15% and greater, soils are shallow with a calcareous. Elevations of this site range between 5,000 and 6,000 feet. Production on this site was 1,068 <sup>lbs</sup>/<sub>ac</sub>. Structural groups are: perennial grasses the highest, perennial forbs, shrubs, trees, cacti and annual forbs with the lowest. Common species currently associated with this site are; slim tridens, threeawn, sideoats grama, tanglehead, ocotillo, guajilla, agave and sotol.

Limy Upland: The Limy Upland sites on this allotment are in the 16 – 20 inch precipitation range. Slopes range from 2 to 15% with fairly shallow soils (<20 inches) and calcareous throughout. Elevations of this site on the ranch range from 4,950 to 5,300 feet. Thirty seven percent of the ranch falls within this site. Production at the time of the inventory in 2008 on this site was high at 1,408 <sup>lbs</sup>/<sub>ac</sub>. Typically this site would produce between 306 and 1,125 <sup>lbs</sup>/<sub>ac</sub>. Structural groups on this site are as follows: perennial grasses with the highest composition, perennial forbs, shrubs, trees, cacti, and annuals as the least. Composition of this site is normal. Lehmann lovegrass was counted on this site although, production and composition is not high. Major perennial species on this site are; guajilla, beargrass, sotol, sideoats grama, black grama, blue grama, wolftail and curly mesquite.

All of the sites read in 2008 are in the Historic Climax Plant Community (HCPC) state with fire/drought and livestock interactions.

Ecological processes including the hydrologic cycle, nutrient cycle, and energy flow should be maintained or improved because of stable soils and vegetation conditions on the allotment. These conditions should also support infiltration and reduce sediment yield. The development of management practices such as grazing management and rangeland/watershed

improvements is an ongoing process that has contributed to maintaining and improving resource conditions and the various components of the Fundamentals of Rangeland Health.

### **E. Wildlife**

The allotment contains a diverse population of wildlife. Wildlife species known to occur in the area are mule deer, pronghorn antelope, coyotes and various reptiles, rodents, raptors, and songbirds. The allotment is open grasslands making it good pronghorn habitat. Pronghorn are occasionally observed on the allotment. Habitat quality is good for the wildlife.

The TGA of 1934 implemented the adjudication of grazing privileges which comply with the Federal Range Code for grazing, 43 CFR 4100. Wildlife was also considered in the process, and historically, AUMs were allocated for both livestock and wildlife.

Typically, the grazing strategy is to allow for an average utilization of 40-50 percent of the key species. This utilization level does not differentiate between use by livestock or wildlife. The remaining vegetation is available for plant health and reproduction, soil protection, and other resources such as wildlife cover.

The Las Cienegas RMP, however, implements a grazing utilization limit of 30-40 percent of current year's growth on key perennial grass species. This assures that the physiological requirements of plant growth, rest, and reproduction are met for the key species to ensure progress towards meeting land health standards and multiple use objectives. Adhering to the conservative and allowable use of 30-40 percent allows abundant forage for both wildlife and livestock. Based on the available data, BLM is providing for wildlife needs by providing forage and maintaining and improving wildlife habitat.

### **F. Threatened and Endangered (T&E) Plants and Animals**

In 2003, the TFO completed its Las Cienegas Resource Management Plan (RMP) and Record of Decision (ROD). A biological evaluation (BE) was completed in April 2002 by a BLM Tucson Field Office Wildlife Biologist in conjunction with the RMP as a requirement of the Endangered Species Act (ESA) which considered the impacts of multiple uses and livestock grazing.

In the BE, the lesser long-nosed bat (*Leptonycteris curasoae*) was identified and is the only T&E species that occurs on the allotment. The lesser long-nosed bat (LLNB) is a medium-sized nectar, pollen, and fruit eating bat that migrates seasonally from Mexico to southern Arizona and southwestern New Mexico. By late September they vacate Arizona and move into Mexico. The LLNB feeds on the fruits of columnar cacti and paniculate agave. The paniculate agaves which are the primary food source for migrating LLNB in late summer and early fall occur within the Mt. Bruce allotment. This species was listed as endangered in 1988 but no critical habitat for this species has been designated to date.

Due to Palmer's Agave (*Agave palmeri*) occurrence on the allotment, the Tucson BLM found it necessary to monitor the agaves on the allotment.

The Mt. Bruce allotment is both contiguous with the NCA and also inside the designated Sonoita Valley Acquisition Planning District (SVAPD). The biological opinion (BO) for the LCNCA RMP (#02-21-02-F-162: Effects of the Proposed Las Cienegas National Conservation Area Resource Management Plan in Pima and Santa Cruz Counties, Arizona) was issued on the assumption that the proposed action will be implemented as specified in the RMP, which allows for this specific land tenure adjustment. Alternative 2 in the draft RMP is the proposed action and is the only action included in this biological opinion. The RMP applies to lands under BLM's jurisdiction and any lands that may be acquired during the 20-year life of the plan.

Any changes to the agency action that causes an effect to the listed species or critical habitat not considered in this biological opinion are cause for re-initiation of consultation (50 CFR §402.16). Re-initiation would be needed if: 1) the amount or extent of incidental take is exceeded; 2) new information reveals effects of the agency action that may adversely affect listed species or critical habitat in a manner or to an extent not considered in this opinion; 3) the agency action is subsequently modified in a way that causes an effect to a listed species or critical habitat that was not considered in this opinion; or 4) a new species is listed or critical habitat designated that may be affected by this action. Lesser long-nosed bat were considered in this biological opinion.

The incidental take statement from the biological opinion states that "The level of take anticipated in the form of harm could be detected either by finding bats taken as a result of grazing, burning, or recreation program, or if the following surrogate condition is met: 1. Flowering agave densities within core-use areas decline below the natural variability of the species (0.2-5.4 flowering plants/ha)."

LCNCA lesser long-nosed bat agave core-use areas were established during the winter of 2010-2011 through ground-truthing and mapping areas containing significant density of agave, and included areas above 4,800' in elevation north of Hwy 82 and above 5,000' in elevation south of Hwy 82. On 08/01/11, three agave transects were completed on Mt. Bruce allotment using the belt transect method (BLM Interpreting and Measuring Indicators of Rangeland Health, Course Number 1730-37).

The mean number of agave was determined to be:  
alive, not bolted, undamaged = 55.55/hectare (ha)  
alive, bolted, undamaged = 19.44/ha  
alive, bolted, damaged = 13.89/ha  
dead, bolted, undamaged = 33.33/ha  
dead, bolted, damaged = 113.89/ha

Even with the higher average number of damaged bolts (113.89/ha), the number of live undamaged bolts (19.44/ha) is still above the range in the incidental take statement of 0.2 - 5.4 flowering plants/ha. The higher average number of damaged bolts is also because the number was from all plants that were dead, which were probably from many years combined. The dead,

bolted, and undamaged plants (33.33/ha) is closer to the number of live, undamaged bolts (19.44/ha).

### **G. Drinking or Ground Water Quality**

There are no perennial streams on the allotment.

Grazing management has contributed to the overall improvement of the watersheds on the allotment. Grazing management of the allotment allows for rest periods that encourage plant growth and development. Current Rangeland Health Assessment indicates that the ecological condition of the allotment is good. Management practices include rest periods, proper grazing use and established permanent monitoring transects to maintain or improve the vegetation resource and provide cover for the watershed.

### **H. Cultural Resources**

“Previous Class I Literature Reviews of the Mt. Bruce Grazing Allotment area have revealed the presence of prehistoric and historic cultural resource sites. Examples of cultural resource site types that could be present include; historic ranch buildings, historic range improvements, historic trails/roads. In addition, prehistoric habitation sites, semi-permanent task specific camps, agricultural water systems and various other prehistoric features could be present”. Section 106 cultural resource survey procedures will be followed in areas where ground disturbance, such as adding new range improvements is proposed.

Also, areas within the Mt. Bruce grazing allotment that previously have been used by indigenous groups to gather vegetative material will be subject for review prior to collection procedures being authorized.

### **I. Wilderness/Visual/Recreation/Areas of Critical Environmental Concern (ACEC)**

This allotment is acquired land and therefore no Wilderness, Wilderness Study Areas (WSA) or areas inventoried for Wilderness Characteristics have been identified.

Visual Resource Management (VRM) Classes I\_\_\_\_\_ II\_\_\_\_\_ III X IV\_\_\_\_\_

VRM Class III includes areas where changes in basic elements caused by management activities may be evident in the characteristic landscape. The changes, however, should remain subordinate to the existing landscape character.

The allotment provides recreation opportunities for hunting.

The Public Lands within the Las Cienegas NCA are designated as an Area of Critical Environmental Concern (ACEC). Therefore, the Mt. Bruce allotment falls within the boundaries of the Empire-Cienega ACEC, as it is acquired land, as stated in the Las Cienegas RMP (pgs. 25-26).

#### **IV. ENVIRONMENTAL CONSEQUENCES**

##### **A. Proposed Action**

###### **1. Grazing Administration**

The Proposed Action would offer the lease for the Mt. Bruce Allotment No. 6259 for 10 years. The lease would be offered for 84 AUMs (7 CYL).

Management practices are continually being applied on the allotment in the form of rest periods, proper grazing use and established permanent monitoring transects to maintain or improve the vegetation resource and provide cover for the watershed as well as maintenance of existing projects. These actions provide positive impacts to the resource conditions. Management of the allotment revolves around 2 pastures, thus allowing for a rest rotation system allowing plant reproduction and growth. The lessee has played an active role in managing the Public Lands in the past. In a cooperative effort with BLM, the NRCS and the lessee, a Coordinated Resource Management Plan (CRMP) has been written and the draft is currently being reviewed. The Public Lands are being maintained and the overall management of the allotment is satisfactory. The allotment will remain in the maintain "M" category.

###### **2. Vegetation**

Vegetation would continue to be grazed and trampled by livestock and wildlife. Heavy grazing and trampling can reduce plant vigor, reproduction and abundance. Moderate grazing, however, should have a positive effect on plant species. Holecheck (1991), Daddy et al. (1988), and Klipple and Costello (1960) mentioned that moderate grazing had a more positive effect on plant community than no grazing.

Based on monitoring data, the impacts to the vegetation are expected to be minimal. At the same time, positive effects can be expected. Grazing management has contributed to healthy plant populations by providing rest periods and making better use of rangelands. The ecological condition of the allotment is good. Ground cover and key species have been maintained.

###### **3. Soils**

Livestock grazing affects watershed hydrologic properties by removing vegetative cover and by trampling. If grazing exceeds the moderate level for periods of years, the results are as follows: (1) increased impact of raindrops on the soil, (2) decreased soil organic matter and soil aggregates, (3) increased surface vesicular crusts, and (4) decreased infiltration rates and

increased soil movement (Dwyer, et al. 1984). Blackburn (1984), however, reports that the available data strongly suggests that hydrologic differences between pastures continuously grazed lightly or moderately are not significant. There appears to be no hydrologic advantage to grazing a watershed lightly rather than moderately. Some studies have failed to show a difference in soil loss, infiltration capacity, or soil bulk density among light, moderate, and ungrazed pastures. Blackburn reports moderate, continuous grazing or specialized grazing systems should reduce sediment losses to a minimum. He also emphasizes several studies that show moderate grazing to be superior to light grazing (Rauzi and Smith 1973), and no grazing to be inferior in terms of infiltration and sediment yield to light grazing or grazing systems (McGinty et al. 1979).

Monitoring data shows that adequate cover is being maintained on the allotment. As a result, it is anticipated that no significant disturbance of the soils will occur. Ecological processes including the hydrologic cycle, nutrient cycle, and energy flow should be maintained or improved because of stable soils and vegetation conditions on the allotment. These conditions should also support infiltration and reduce sediment yield. The development of management practices such as rest rotation and rangeland/watershed improvements is an ongoing process that has contributed to maintaining and improving resource conditions and the various components of the Fundamentals of Rangeland Health.

#### **4. Wildlife**

Livestock grazing has both direct and indirect impacts to the wildlife community in the area. Cattle can compete directly with grazers and browsers, such as pronghorn antelope and mule deer, during early spring when new growth is limited. Cattle can also facilitate vegetation use by these species by removing large coarse material from plants allowing the smaller ungulates to utilize a more nutritious portion of the plant. In heavily impacted areas, primarily near water developments and areas of terrain favorable to cattle movement, heavier rates of use on grass species can cause an increase in the proportion of forbs in the vegetation composition as these annuals invade these sites. This change in the plant community in small areas has a beneficial impact on foraging by species such as pronghorn and mule deer, which prefer these plants to coarser grasses.

Both negative and positive impacts to wildlife species can occur as cattle grazing impacts vegetative cover. Negative impacts to bird and rodent species which depend on grass seeds as a major component of their diet can occur if livestock grazing use does not allow for a percentage of plants to complete their full life cycle. A decrease in vertical structure of grassland vegetation can negatively impact ground nesting birds, small rodents, and reptile species by reducing cover for protection from weather and predators. In addition, ungulate species may be affected by the loss of vertical structure within kidding, fawning and calving areas. Conversely, a reduction in cover in some areas can facilitate foraging by ground dwelling species that are able to more easily move in less dense vegetative stands. A reduction in overhead cover can also favor predator species that hunt by sight and potentially improve their foraging success. Grassland communities can also have accelerated rates of invasion by trees and shrubs if these communities were historically maintained by fire carried by grass biomass. This conversion can have

detrimental impacts to the wildlife species dependent on the grassland community but favorable impacts to wildlife species adapted to shrub and tree environments.

Indirect impacts to wildlife also occur from the grazing process. The negative impact of fences to large ungulate movement is well documented in the scientific literature. Un-maintained fences and fences built without consideration for wildlife can cause both direct and indirect mortalities to wildlife. Fences, if not built to BLM specifications that facilitate free movement of wildlife, may promote habitat fragmentation which may prevent the loss or decreased use of suitable habitat. All new fences on public land are built to BLM specifications that mitigate impacts to wildlife by reducing the threat of entanglement and to facilitate free movement of wildlife. The BLM-TFO, has in the past and will continue in the future, to actively mitigate these impacts by replacing or modifying fences which impede movement. Fencing impacts are mitigated to some degree by design requirements that allow for wildlife to negotiate these barriers after a learning period and by requiring the grazing lessee to maintain fences to BLM specifications. Fences have also been known to hamper low flying bird species, particularly raptors. Previous efforts by the BLM to blend fence developments into the landscape and reduce their visibility may actually have been counter-productive from a wildlife standpoint.

Livestock grazing can also indirectly impact species from the use of water developments in areas which did not historically have perennial water. The greatest impact is in the ability of large wild ungulates to utilize areas which formerly may have been used only on a seasonal basis. This use can also impact the vegetative community as plant species evolve and change with the increase in grazing pressure. The potential increase in large ungulates can have direct beneficial impacts to recreational uses if these species are utilized for wildlife viewing and consumptive uses. Smaller species such as birds and bats may also benefit from the increased availability of water in areas utilized for livestock grazing and from an increase in insects associated with open water. Water developments can also act as direct mortality sources for wildlife. Mortality caused by drowning in livestock water developments can be mitigated by requiring escape ramps to be incorporated into the design on troughs and storage tanks or by addition after construction. Large ungulates also benefit from the use of mineral and salt supplements utilized for cattle management on open rangelands.

All new water developments on public land will be constructed to BLM specifications that require all troughs to have an escape ramp to mitigate impacts to wildlife. By utilizing project design mitigation and timing restrictions, long term negative impact to wildlife species can be avoided

Predatory species can also be impacted by livestock grazing operations both directly and indirectly. The presence of livestock on the range provides an additional food source for large predators such as mountain lions and coyotes. The ability to utilize livestock may maintain large predator numbers at higher than historic levels when natural factors such as drought and wild ungulate population declines may have historically led to predator declines. This, in turn, can lead to increased predation levels on wild prey species preventing recoveries from natural climate fluctuations. If impacts to livestock become severe enough that predator management strategies are implemented, direct negative impacts can result to local predator populations.

Analysis in NEPA documents prepared by the U.S. Department of Agriculture has shown that these impacts are short term; and, long term there is no impact to population viabilities. Suppression of large predators for livestock protection can lead to an increase in smaller predators, which may have been reduced by direct competition and predation from larger predators.

## **5. Threatened and Endangered (T&E) Plants and Animals**

In reviewing the list of possible T&E species received from the United States Fish & Wildlife Services (USFWS) and other records, only the lesser long-nosed bat, an endangered species, falls within the area of the Mt. Bruce allotment. Although no critical habitat has been designated to date, the Palmer's agave does occur within the allotment and this agave is a major food source to the bat. Agave monitoring transects was established and consultation with the USFWS was conducted to ensure the protection of the bat.

After extensive field work, research review and consultation with USFWS, the BLM has concluded that there are many factors that contribute to damage to the flowering stalk of the agave. Livestock use is insignificant and discountable for impacts to the LLNB. The BLM will continue to monitor the agave population on the Mt. Bruce allotment as part of the LCNCA agave monitoring program.

Based on the above, this proposed action is in compliance with the Las Cienegas Biological Opinion (BO).

## **6. Drinking or Ground Water Quality**

There are no Section 303d (of the Clean Water Act) Water Quality Limited Stream Segment associated with the allotment. Based on current information, there are no concerns about water or water quality that should be considered before lease issuance.

The major pollutant from rangeland watersheds is sediment. As shown by Blackburn (1984), moderate continuous grazing or specialized grazing systems should reduce sediment losses to a minimum. Several studies show moderate grazing to be superior to light grazing (Rauzi and Smith 1973) and no grazing to be inferior in terms of infiltration and sediment yield to light grazing or grazing systems (McGinty et al. 1979).

Grazing management has contributed to the overall improvement of the watersheds on the allotment. Continued maintenance of vegetative cover will contribute toward reduction of sediment loss and maintaining or improving water quality. Current Rangeland Health Assessment indicates that the ecological condition of the allotment is good. Past grazing management practices include rest periods, proper grazing use and permanent monitoring transects help maintain or improve the watersheds.

## 7. Cultural Resources

“Compliance with Section 106 of the National Historic Preservation Act on all grazing permit/lease renewals will be carried out consistent with the Arizona Cultural Resources Protocol and the 1980 *Programmatic Memorandum of Agreement between the Bureau of Land Management, and the Advisory Council on Historic Preservation*. Specific procedures for compliance are as follows:

1. A Class I Literature Search as described in AZ BLM Cultural Resource Manual Section 8110 will be completed for each allotment on which a permit or lease is being considered for renewal.
2. The information obtained in the Class I Literature Search will be compared with the livestock grazing information for each allotment to determine whether it is likely that impacts to cultural resources are occurring. Field Office Archaeologist will work directly with range conservationists to identify areas of ground disturbing impacts on the allotment.
3. If there are no known cultural resources in areas that are being heavily impacted by livestock, and the cultural resources specialist determines that the areas hold minimal potential for the presence of cultural resources, then no further inventory work will be completed. However, if impacts are occurring in areas which are likely to contain cultural resources, and there has been no previous field survey, a Class III survey of the areas being impacted will be conducted.
4. Class III surveys for rangeland improvements will be conducted at the time the project plan is prepared. However, in some situations the presence of range improvements is a determinant as to whether grazing by livestock may be authorized, and a Class III survey of potential area of disturbance must then be conducted prior to approving or renewing the grazing permit.
5. When historic properties are identified as being impacted by livestock grazing, and the characteristics which make these properties eligible for the National Historic Register of Places are being compromised, mitigation measures will be outlined in the EA for the allotments involved. Mitigation measures may include, but are not limited to: constructing fences, maintaining or reconstructing existing range improvements, or constructing new range improvements to reduce or eliminate impacts to cultural resources.

### Mitigating Measures

1. Any archaeological or historical artifacts or remains, or vertebrate fossils discovered during operations shall be left intact and undisturbed; all work in the area shall stop immediately and the Field Office Archaeologist shall be contacted. Commencement of operations shall be allowed upon clearance by the Field Manager.
2. An additional cultural resource survey will be required in the event the project location is changed or additional surface disturbing operations are added to the project after

the initial survey. Any such survey would have to be completed prior to commencement of operations.

3. If in connection with operations under this authorization, any human remains, funerary objects, sacred objects or objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (L, 101-601; Stat. 3048; 25 U. S. C. 3001) are discovered, the lessee shall stop operations in the immediate area of the discovery, protect the remains and objects, and immediately notify the Field Office Manager of the discovery. The lessee shall continue to protect the immediate area of the discovery until notified by the Field Office Manager that operations may resume.

## **8. Wilderness/Visual/Recreation/Areas of Critical Environmental Concern (ACEC)**

There would be no impacts to wilderness values as the Proposed Action does not take place within a Wilderness or Wilderness Study Area (WSA). The Proposed Action would not change the existing VRM class of the allotment. Some degradation of scenic quality could occur in areas where livestock are concentrated, such as around watering facilities. Properly placed improvements may help reduce the visual impact. Livestock watering facilities provide beneficial indirect recreation opportunities in the form of viewing wildlife or hunting game animals using these waters.

The land in the Mt. Bruce allotment that was acquired through exchange with Phelps Dodge in 2005 directly supports the objectives of the Empire-Cienega ACEC designation allocated in the Approved Las Cienegas RMP, (see Appendix 6). Livestock grazing, in general, is an allowable use within the objectives of ACEC. In addition, specific management prescriptions of the Empire-Cienega ACEC address implementation of grazing systems consistent with ACEC objectives while protecting watershed function and providing erosion control where needed.

The implementation of the Proposed action and establishment of a rotational grazing system will facilitate the use of moderate grazing levels to improve watershed function as described in IV.A.3 Soils (environmental consequences). Therefore, the Proposed Action will provide beneficial impacts to the maintenance and improvement of the Empire-Cienega ACEC.

## **9. Cumulative Impacts**

Livestock grazing on Federal lands is not the only factor that affects rangeland vegetation. Climate, recreation and wildlife use, management practices on adjoining lands, and the introduction and spread of invasive weeds are also key considerations. The future of rangeland vegetation cannot be predicted by considering changes in livestock grazing management alone. Population growth and demographic changes in the West and in many western rural communities will continue to transform rural economies. Land-use changes, such as increased recreation use and subdivision of privately owned ranch lands, are both a cause and result of trends in agriculture. However, management practices for livestock grazing are being

developed and implemented as BLM works with the lessee and through the process of the Coordinated Resource Management Plan (CRMP). .

When the incremental impacts of grazing are added to other past, present, and reasonable foreseeable future actions, cumulative effects can be determined. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time. Major issues and resources affected by the Proposed Action include: ACEC, T&E species, drinking or ground water quality, invasive and non-native weeds, wildlife and vegetation. During the early part of the 20<sup>th</sup> century, heavy grazing occurred over a large part of the public lands and had a detrimental effect on the issues and resources mentioned above. With emphasis on grazing management, the passage of the TGA, and the benefit of programs from other agencies, however, the slow process of improving the rangelands began. Grazing management has helped to maintain or improve resource conditions on this allotment as indicated by monitoring data. This should have a positive effect on other resources by protecting and stabilizing the soil, reducing sediment yield, and maintaining or improving water quality. Grazing management has also shown to be compatible with wildlife by providing forage for a variety of species. It is anticipated that the present management should continue to maintain or improve these resources into the future. There are no additional reasonable foreseeable future actions at this time.

#### **B. Alternative One (No Action)**

Impacts from this alternative are the same as the No Grazing Alternative.

#### **C. Alternative Two (No Grazing)**

To implement this alternative would require a plan amendment because it would not be in conformance with the EIS and the RMP, which allocates this allotment for livestock grazing. Trespass could become a major problem until fences are constructed to keep livestock off the public lands. Some of the private lands may be sold and sub-divided. The development of an area may cause increased off-road vehicle use damaging the soils and vegetation, dumping of garbage and hazardous waste and in some cases have an adverse effect on wildlife species. Also, by not offering the lease, no funds would be available for use by the BLM for wildlife and rangeland improvements. Existing rangeland improvements would not be maintained, which in the case of watering facilities would no longer have water available for wildlife.

The soils and vegetation should respond from no livestock grazing due to reduced compaction to the soil and the trampling of vegetation. Utilization would be limited to wildlife use. Research has indicated however, that healthier communities result more from moderate grazing than no grazing. Also, certain wildlife species derive benefits from livestock grazing and the lessee's management practices (see Wildlife under Environmental Consequences).

### **1. Mitigating Measures and Conclusion**

Public lands would be monitored to the extent possible with available funds and personnel. Attention will be directed to programs other than livestock grazing and to trespass abatement.

## 2. Cumulative Impacts

In the short term, improvement in the vegetation can be expected. There is a tendency of less fire to occur on grazed lands. In the long term, some vegetation communities may become less diverse and other plants decadent without livestock grazing. Wildlife would graze the public lands without competition from livestock. Available water from troughs and other water facilities, however, would be reduced. Grazing as a management tool would no longer be used.

## VI. CONSULTATION, COORDINATION, AND LIST OF PREPARERS

A current list of T&E species was obtained through informal consultation with the USFWS for the public lands within Santa Cruz County.

This EA is being developed in consultation, coordination and cooperation with William Schock, lessee, and the Natural Conservation Resources Service (NRCS) and the USFWS.

The list of preparers for this document from the Tucson Field Office are shown below.

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## REFERENCES

- Blackburn, W. H. 1984.** Impacts of Grazing Intensity and Specialized Grazing Systems of Watershed Characteristics and Responses. *Developing Strategies for Rangeland Management*. 927-983
- Daddy, F., M. J. Trlica, and C.D. Bonham. 1988.** Vegetation and Soil Water Differences Among Big Sagebrush Communities with Different Grazing Histories. *Southwest Nat.* 33:413-424.
- Desmond, M.J., K.E. Young, B.C. Thompson, R. Valdez, and A. Lafon-Terrazas. 2005.** Habitat associations and conservation of grassland birds in the Chihuahuan desert region: two case studies in Chihuahua. Pages 439-451 *in* J.E. Cartron, G. Ceballos, and R.S. Felger, editors. *Biodiversity, ecosystems and conservation in Northern Mexico*. Oxford University Press, New York, New York.
- Dieni, J.S., W.H. Howe, S.L. Jones, P. Manzano-Fischer, and C.P. Melcher. 2003.** New information on wintering birds of Northwestern Chihuahua. *American Birds* 103:26-31.
- Dwyer, D. D., J. C. Buckhouse and W. S. Huey. 1984.** Impacts of Grazing Intensity and Specialized Grazing Systems on the Use and Value of Rangeland: Summary and Recommendations. *Developing Strategies for Rangeland Management*. 867-884.
- Holecheck, J.L. 1991.** Chihuahuan Desert Rangeland, Livestock Grazing, and Sustainability. *Rangelands*. 13:115-120.
- Klippel, G.E. and D.F. Costello. 1960.** Vegetation and Cattle Responses to Different Intensities of Grazing on Short-Grass Ranges on the Central Great Plains. Technical Bulletin No. 1216. US Department of Agriculture, Washington, DC.
- McGinty, A.W., F.E. Smiens, and L.B. Merrill. 1979.** Influence of Soil, Vegetation, and Grazing Management on Infiltration Rate and Sediment Production of the Edwards Plateau Rangelands. *J. Range Management*. 32:33-37.
- Merola-Zwartjes, M. 2005.** Birds of southwestern grasslands: status, conservation and management. Pages 71-140 *in* D.M. Finch, editor. *Assessment of grassland ecosystem conditions in the southwestern United States: wildlife and fish – vol. 2*. U. S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, General Technical Report RMRS-GTW-135-vol.2. Fort Collins, Colorado. [http://www.fs.fed.us/rm/pubs/rmrs\\_gtr135\\_1/rmrs\\_gtr135\\_1\\_049\\_085.pdf](http://www.fs.fed.us/rm/pubs/rmrs_gtr135_1/rmrs_gtr135_1_049_085.pdf) (10 June 2010)  
National Audubon Society
- Rauzi, F., and F.M. Smith. 1973.** Infiltration Rates: Three Soils with Three Grazing Levels in Northeastern Colorado. *J. Range Management*. 26:126-129.
- U.S. Department of the Interior, Bureau of Land Management. 1994.** Rangeland Reform Draft EIS. Washington, DC.