

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

**Limestone Allotment Lease Renewal
Lease number 4508**

**Environmental Assessment
DOI-BLM-AZ-G020-2013-0025-EA**

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U.S. Department of the Interior
Bureau of Land Management
Tucson Field Office
3201 E. Universal Way
Tucson, AZ 85756
Phone: 520-258-7200
FAX: 520-258-7238



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1 Introduction

This environmental assessment (EA) analyzes the proposed action and alternatives for the grazing lease renewal for the Limestone allotment pursuant to the National Environmental Policy Act (NEPA). This EA will incorporate the data analysis from the Rangeland Health Evaluation (RHE) dated June 2015 and reference monitoring data gathered March 6, 2013 and February 5, 2015.

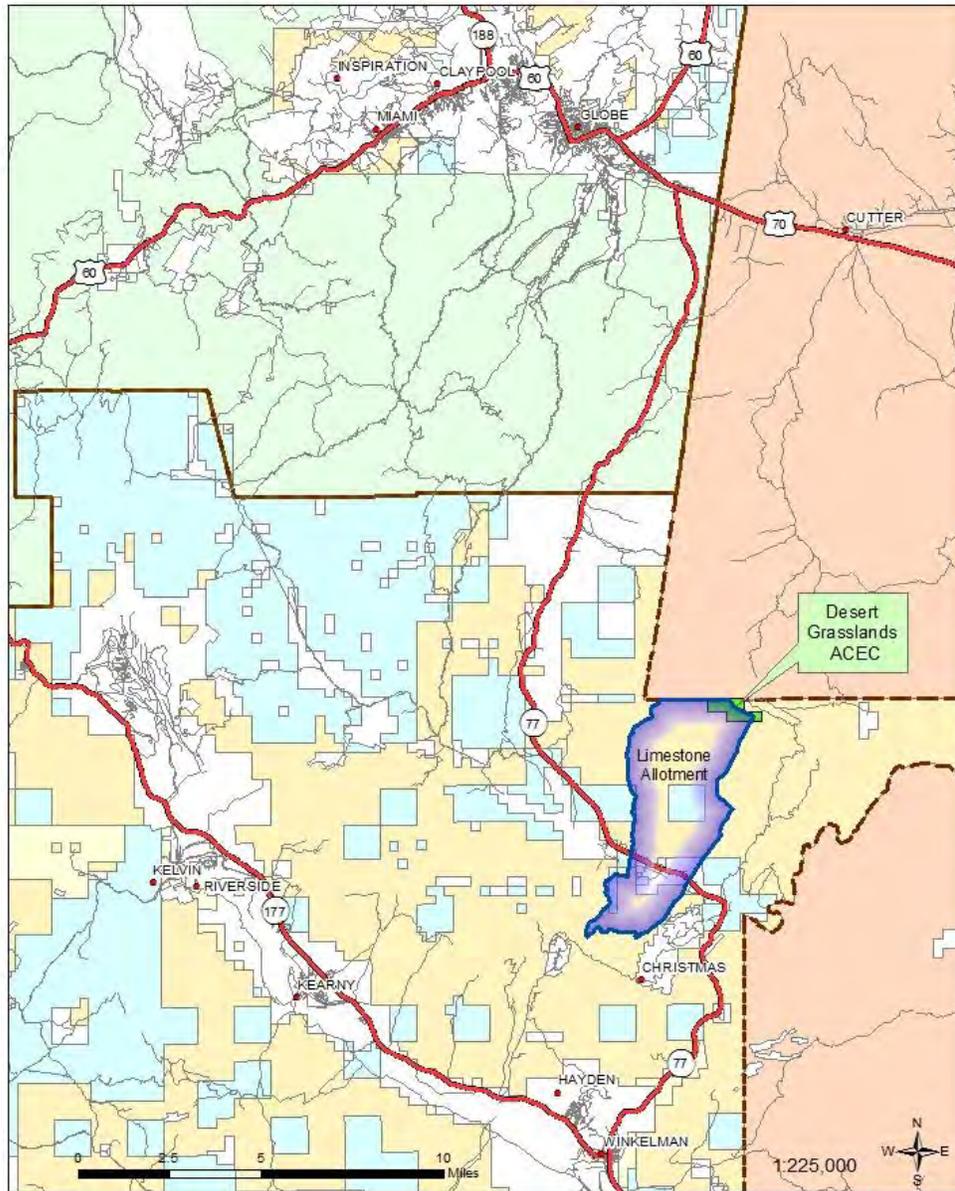
The Bureau of Land Management (BLM) is proposing to fully process the term grazing lease on the Limestone allotment in accordance with all applicable laws, regulations, and policies. Grazing lease No. 4508 expired on February 28, 2014. The BLM proposes to renew the lease pursuant to the following:

- Section 15 of the Taylor Grazing Act of 1934 as amended;
- Consultation, coordination and cooperation with affected individuals, interested publics, states, and Indian Tribes;
- Consultation with the United States Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act; and
- Ensuring that the allotment is achieving or making significant progress toward achievement of land health standards.

The lease was renewed under the rider on the current appropriations bill that funds the federal government's natural resource agencies. This authorization is good until the lease can be fully processed through analysis in this EA, and the supporting RHE.

The Limestone allotment is located on both sides of State Route 77 (SR 77) between Winkelman and Globe in Gila County (Figure 1). The allotment contains 9,130 acres, of which 92 % is public lands (BLM lands). The allotment is currently authorized for grazing permitted use of 719 Animal Unit Months (AUMs) with a suspended permitted use of 123 AUMs. Prior to 1975, the allotment was authorized at 1,124 AUMs. In 1975, the permitted use was reduced to active 700 AUMs. In 1981, it was reduced from 700 AUMs to 577 active AUMs, with a suspended permitted use of 123 AUMs, based on utilization studies. The utilization studies included calculations for State Trust lands within the allotment and were adjusted based on the percentage of BLM lands within the allotment. This reduction was implemented over a five-year period, which went into effect in 1985. In 1986, the lease was increased by 19 active AUMs to 596 active AUM's due to some state trust lands becoming public land, which resulted in a permitted use of 719 AUMs with a Suspended permitted use of 123 AUMs. This adjustment was based on the carrying capacity determined through utilization studies. Utilization studies in 1981 and RHEs in 2013 indicated that rangeland health conditions did not warrant the continuation of the suspended 123 AUMs.

Limestone Allotment and Surrounding Areas



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 Land Status updated as of November 2012
 Map Page No: 7112015

- Bureau of Land Management (BLM)
- Private Lands
- State Lands
- Indian Lands or Reservations
- Bureau of Reclamation (BOR)

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Figure 1 Limestone Allotment Location

The allotment is divided into two pastures by the private lands in the valley bottom of Dripping Springs Wash and SR 77 (Figure 2). Grazing occurs mainly on the pasture on the north side of the allotment as it is the larger pasture, which is on the Mescal Mountains. The pasture on the south side of the allotment is on the steeper hillsides of the Dripping Springs Mountains. The flatter private lands along Dripping Springs Wash were homesteaded in the 1920s and are fenced out of the allotment. The allotment has a boundary fence around the entire allotment. There are highway right-of-way fences along both sides of SR 77. There are three spring developments on BLM land: Mine Spring, Tub Spring, and Seep Spring (Figure 3). Currently, the spring developments are in disrepair, but they could be repaired if needed for livestock operations in the future. Mine Spring has a 100 foot pipe to a single trough. Tub Spring also had a pipe to a single trough. There is one well on State Trust land and an Arizona Game and Fish Department (AGFD) wildlife water catchment #788 on BLM land. The primary sources of water for livestock grazing are the well on State Trust Land and a water source on private land.

There are 18 identified mining shafts and adits in the south pasture on the Dripping Springs Mountains that also provide some water for livestock (Figure 4). This area is covered by many mining claims, with most being held by Freeport-McMoRan mining, which holds the adjacent open pit copper mine at the town of Christmas.

The Desert Grasslands Area of Critical Environmental Concern (ACEC) was established on several parcels through the adoption of the Safford District Resource Management Plan (RMP), one of which is located on the north end of the Limestone allotment (Figure 5). The Mescal Ridge part of the ACEC is about 360 acres in size, with about 240 acres of the ACEC being on the Limestone allotment. The ACEC was established with the following prescriptions:

- Mineral withdrawal (All of Mescal Ridge parcel)
- Closed to off highway vehicles (OHV)
- Acquire state/private lands if available
- No livestock
- Prescribed fire plan

The management prescription for the exclusion of livestock from the Desert Grasslands ACEC affects only BLM lands not currently accessible to livestock, including the parcel on the Limestone allotment. Livestock do not use the area of the ACEC on the Limestone allotment due to the distance to water and the presence of steep, rocky slopes and cliffs. The portion of the Desert Grasslands ACEC that is on the allotment is located on the crest of steep, rocky slopes that are between 50-150% slopes. Cattle do not utilize areas that are on slopes more than 50% and that are more than 600 yards from a water source. The closest water source is 3 miles away from the ACEC. There are no key areas in the ACEC. Utilization studies in 1989 and 1988 indicated there were not any areas utilized by livestock within 2 miles of the ACEC.

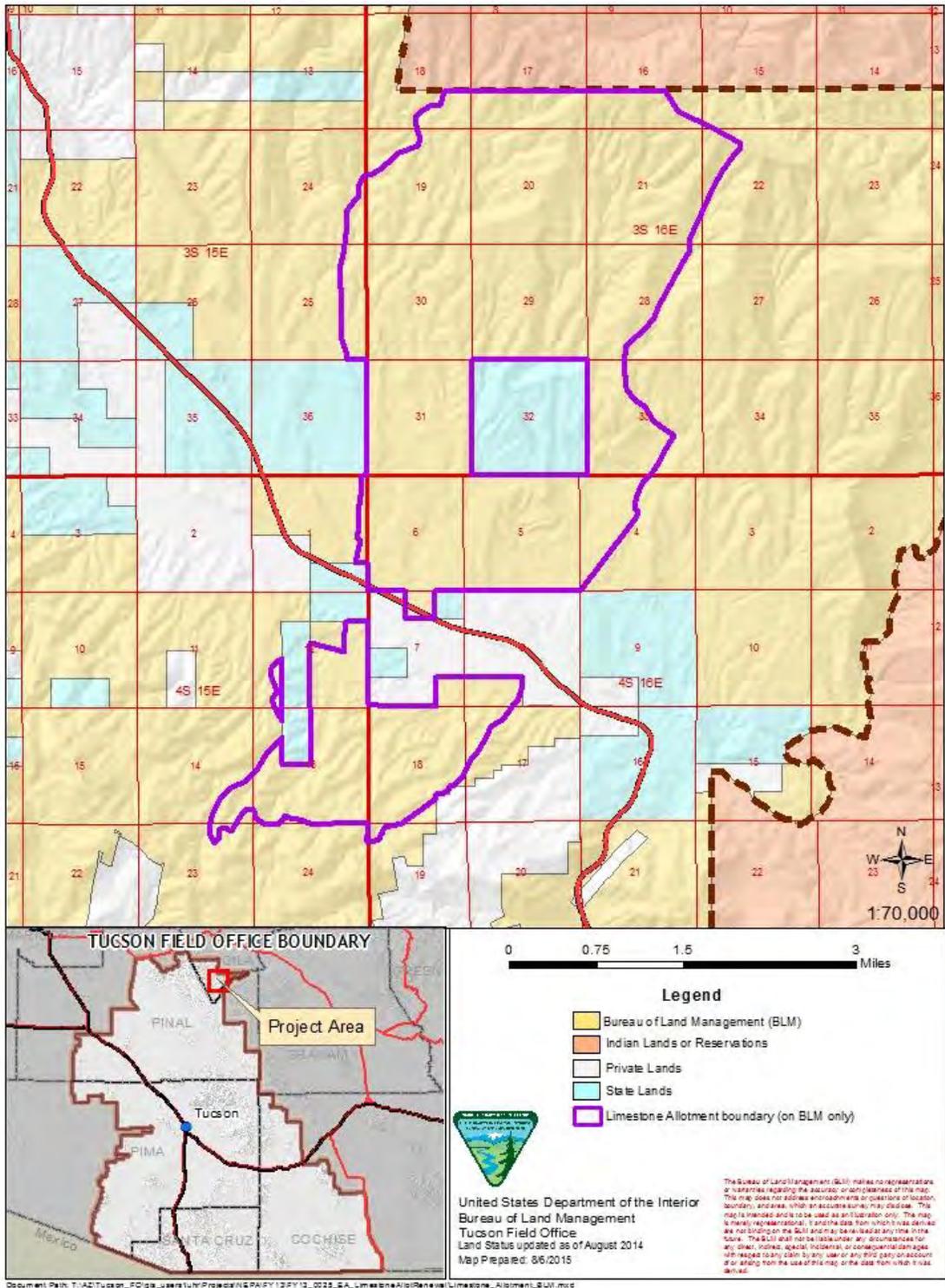


Figure 2 Limestone Allotment

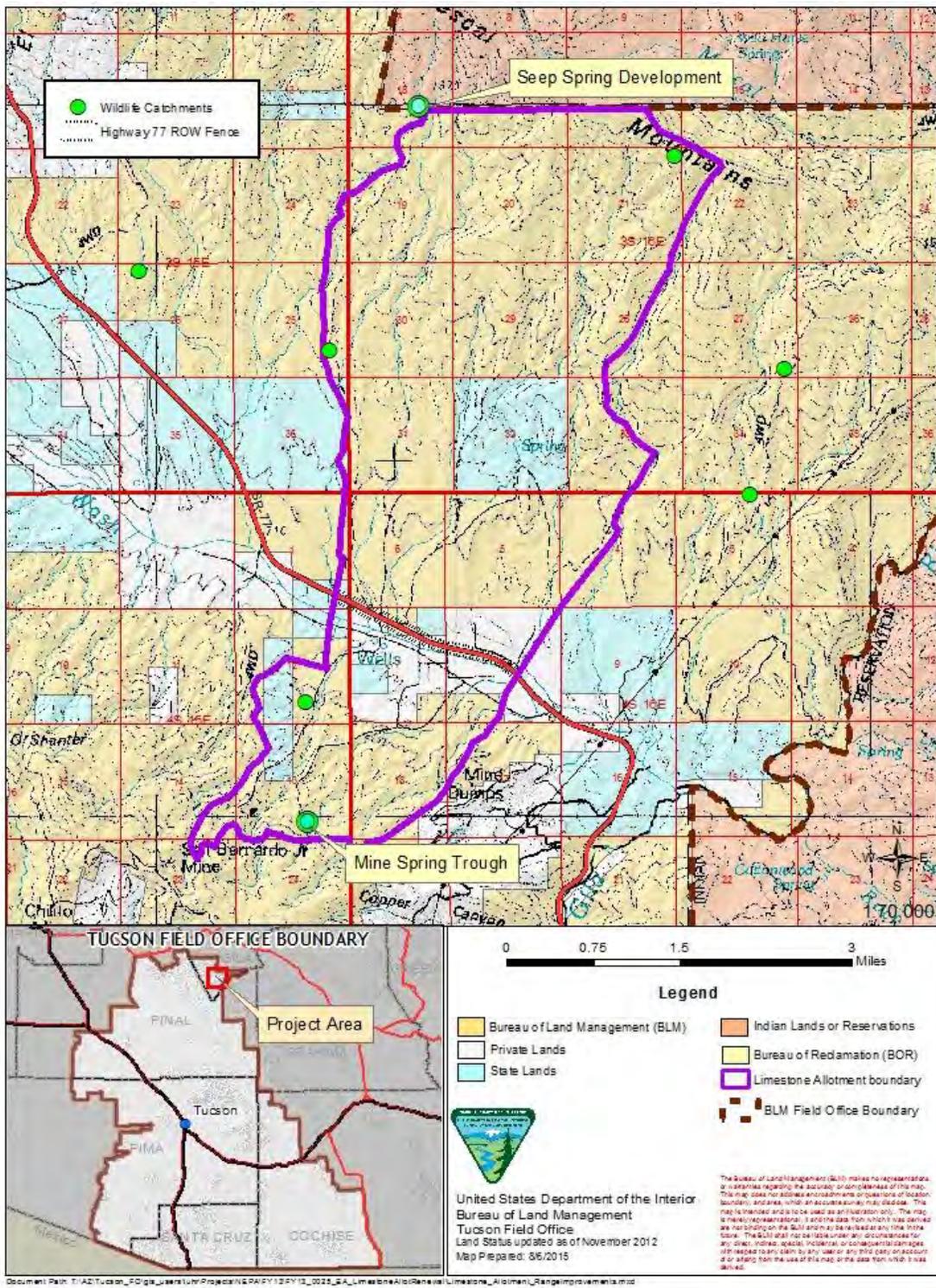


Figure 3 springs and waters on the Limestone allotment

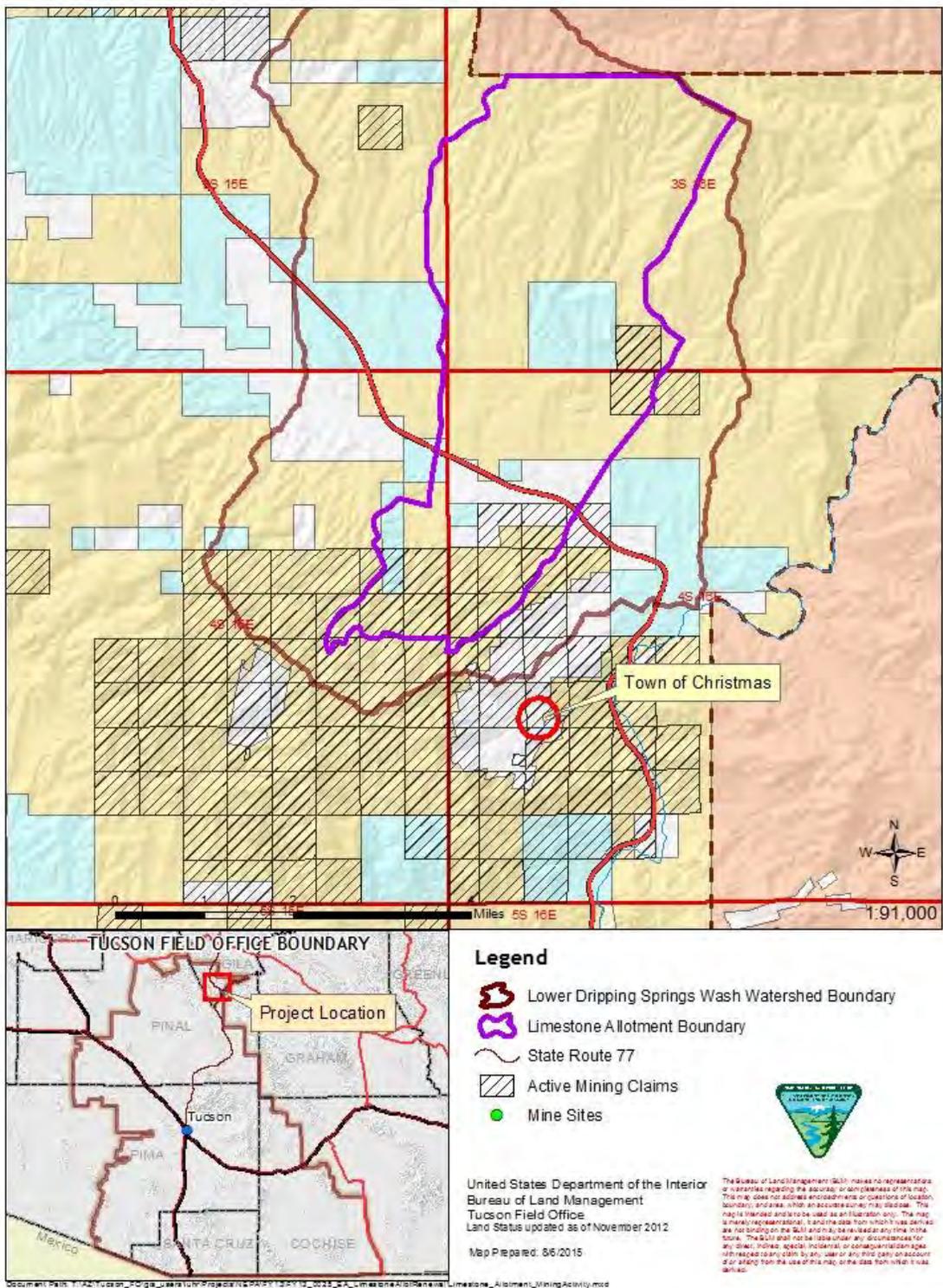


Figure 4 Limestone allotment Mining Activity

Limestone Allotment - ACEC

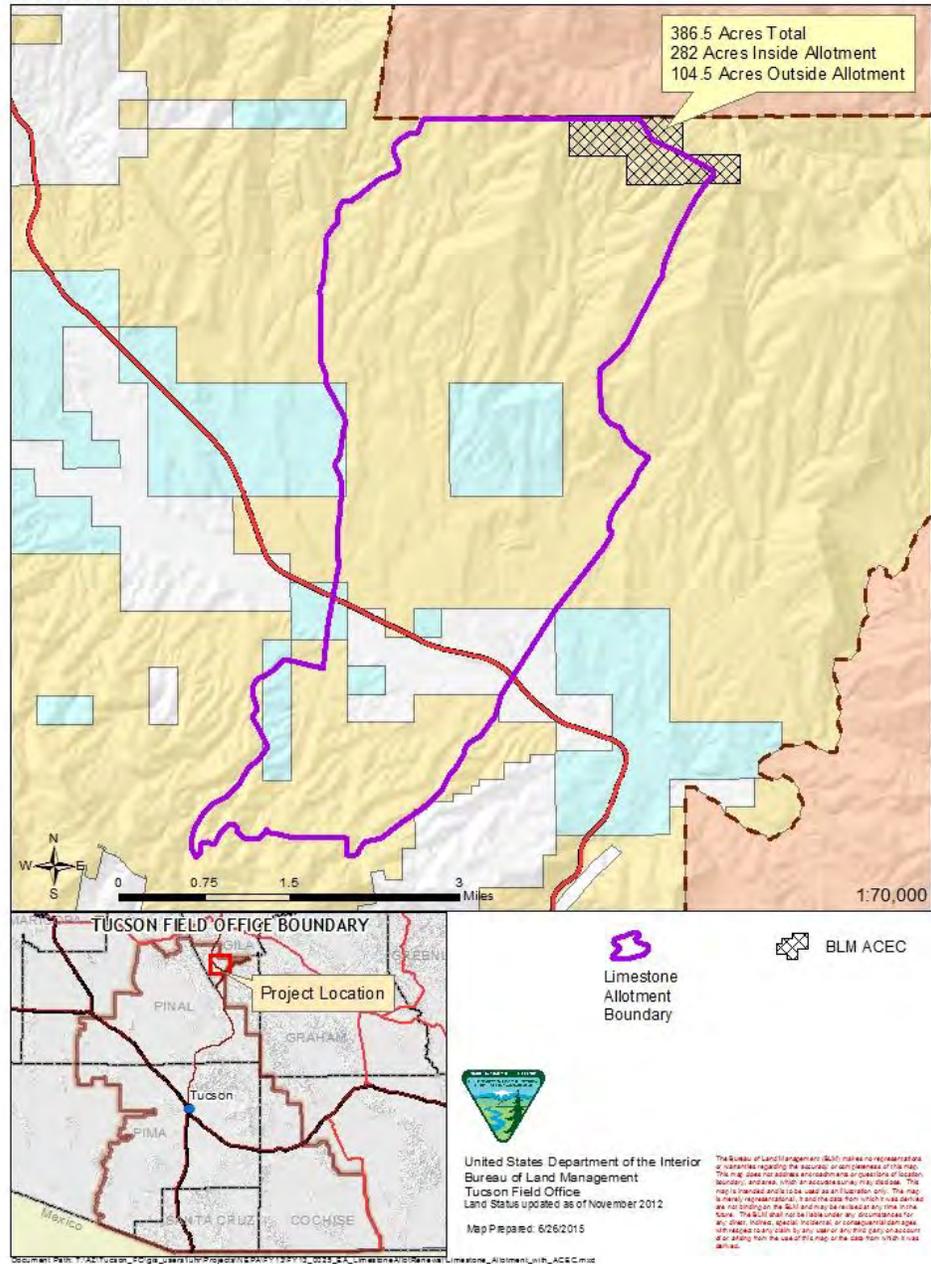


Figure 5 Limestone Allotment with Desert Grasslands ACEC

1.1 Purpose and Need

The purpose of this action is to provide for livestock grazing opportunities on public lands where consistent with meeting management objectives, including the Arizona Standards for Rangeland Health and Guidelines for Livestock Grazing Management (Appendix A).

The need for this action is established by the Taylor Grazing Act of 1934 (TGA), the Federal Land Policy and Management Act of 1976 (FLPMA), and the Upper Gila-San Simon Grazing Impact Statement (1978), from which decisions were carried forward into the Safford District Resource Management Plan (RMP) (1992 and 1994), which require that the BLM respond to applications to fully process and renew leases and permits to graze livestock on public land. Grazing lease No. 4508 expired on February 28, 2014. In detail, the analysis of the actions identified in the applications for grazing permit and lease renewals and the alternative actions are needed because:

- BLM Arizona adopted the Arizona Standards for Rangeland Health and Guidelines for Livestock Grazing Management (S&Gs) into all land use plans in 1997. Land health standards for rangelands are set so that the rangelands should be achieving or making significant progress towards achieving the standards to provide for proper nutrient cycling, hydrologic cycling, and energy flow. Guidelines direct the selection of grazing management practices and, where appropriate, livestock facilities to promote significant progress toward, or the attainment and maintenance of, the standards. The rangeland health evaluation report completed for the Limestone allotment identified that all applicable standards are being met (Appendix B).
- The Safford District RMP identifies resource management objectives and management actions that establish guidance for managing a broad spectrum of land uses and allocations for BLM lands in part of the Tucson Field Office (TFO). The Safford District RMP allocated public lands within the Limestone allotment, as available for domestic livestock grazing. Where consistent with the goals and objectives of the RMP and Land Health Standards, allocation of forage for livestock use and the issuance of grazing permits to qualified applicants are provided for by the TGA and FLPMA.

1.2 Decision to be Made

The Tucson Field Manager is the authorized officer responsible for the decisions regarding management of BLM lands within this allotment. Based on the results of the NEPA analysis, the authorized officer will issue a determination of the significance of the environmental effects and whether an environmental impact statement (EIS) would be required. If the authorized officer determines that it is not necessary to prepare an EIS, the EA and a Finding of No Significant Impact will provide information for the authorized officer to make an informed decision whether to renew, renew with modifications, or not renew the lease and if renewed, which management actions, mitigation measures, and monitoring requirements will be prescribed for the Limestone allotment to ensure management objectives and Arizona Standards for Rangeland Health are achieved and maintained.

1.3 Scoping and Identification of Issues:

Identification of issues for this EA was accomplished by considering the resources that could be affected by the lease renewal. These issues were identified by the interdisciplinary team, leasee(s), and interested publics. The issues identified were:

Issue 1 – *Vegetation*: How would livestock grazing effect the upland vegetation and key forage species on the Limestone allotment?

Issue 2 – *Wildlife*: What are the impacts of livestock grazing on food and cover for wildlife?

Issue 3 – *Threatened and Endangered (T&E) and Special Status Species*: Do range improvements on the allotment attract concentrations of brown-headed cowbirds that can parasitize southwestern willow flycatcher nests along the Gila River?

Issue 4 - *T&E and Special Status Species*: What are the grazing effects on Sonoran desert tortoise?

Issue 5 – *Wilderness Characteristics*: What are the existing or potential impacts of range improvements on wilderness characteristics?

Issue 6 – *Livestock Grazing Program*: What would be the effect of the proposed action and alternatives on the socioeconomics of Gila County?

2 Alternatives

2.1 Management Objectives Common to All Action Alternatives

2.1.1 Arizona Standards for Rangeland Health

All the alternatives were designed to meet or make significant progress toward meeting the standards and following objectives, as described in the Rangeland Health Standards (Note: Standard 2 – Riparian/Wetland, does not apply).

1. Upland soils exhibit infiltration, permeability, and erosion rates that are appropriate to soil type, climate, and landform (ecological site).

3. Productive and diverse upland and riparian-wetland plant communities of native species exist and are maintained.

2.1.2 Desired Plant Community Objectives

The Upper Gila-San Simon Grazing EIS (page A-31) set the following objectives for the Limestone allotment:

1. Support present wildlife populations of 25 deer, 30 javelina, and 120 quail.
2. Over 15 years, increase plant density from 14% to 18% and reduce soil surface factor (SSF) from 31 to 25.
3. Increase forage available to livestock from 30 Cows Year Long (CYLs) to 35 CYLs over 15 years.
4. Key species are Jojoba and Side-oats grama.

Resource Objectives 1, 2, and 3 for the Limestone allotment from the Upper Gila-San Simon Grazing EIS (page A-31) are no longer valid. For objective 1, BLM does not manage wildlife populations, only habitat for wildlife. For objectives 2 and 3, state and transition modeling of vegetative communities demonstrates a natural range of variability and that certain degraded sites do not change easily due to a variety of factors.

For objective 4, key forage species at the range health assessment sites were selected based on ecological site descriptions and species present, and are not on the key areas. These species were Jojoba, Ephedra, and Range Ratany.

Since the above objectives are no longer valid, BLM set Desired Plant Community (DPC) objectives for the Limestone allotment for important biological resources. DPC objectives address the desired resource conditions based on vegetation attributes, such as composition, structure, and cover that are desired within the allotment. These include establishing vegetative characteristics necessary for soil protection, providing forage and habitat for both livestock and wildlife.

Site potentials (soil, climate, topography) establish the natural limits on what can be produced in terms of vegetation and related resource values like forage, wildlife habitat and watershed characteristics. Site potentials are developed from the Natural Resource Conservation Service's (NRCS) ecological site descriptions (ESD), determine the potential for various ecosites. The DPC objectives for the Limestone allotment were derived based on the NRCS's site potential descriptions for each ecological site. A complete explanation of the DPC objectives and development process can be found in the RHE (Appendix B).

The following DPC objectives have been established for the Limestone allotment key areas (Figure 6):

Key Area 1 – Limy Slopes Pz (precipitation zone) 10-13”

- Maintain basal cover at greater than or equal $\geq 5\%$
- Maintain perennial grass cover at greater or equal $\geq 1\%$
- Maintain a palatable shrub composition of $\geq 10\%$
- Maintain vegetative foliar cover of $\geq 15\%$
- Sufficient annual vegetation will remain on site to satisfy other resource concerns such as the Sonoran desert tortoise (Arizona Standards and Guidelines 3-5.4)

Key Area 2 – Limy Upland Deep 10-13”

- Maintain basal cover at greater than or equal $\geq 5\%$
- Maintain perennial grass cover at greater or equal $\geq 1\%$
- Maintain a palatable shrub composition of $\geq 10\%$
- Maintain vegetative foliar cover of $\geq 15\%$
- Sufficient annual vegetation will remain on site to satisfy other resource concerns such as the desert tortoise (Arizona Standards and Guidelines 3-5.4)

Limestone Allotment Monitoring locations

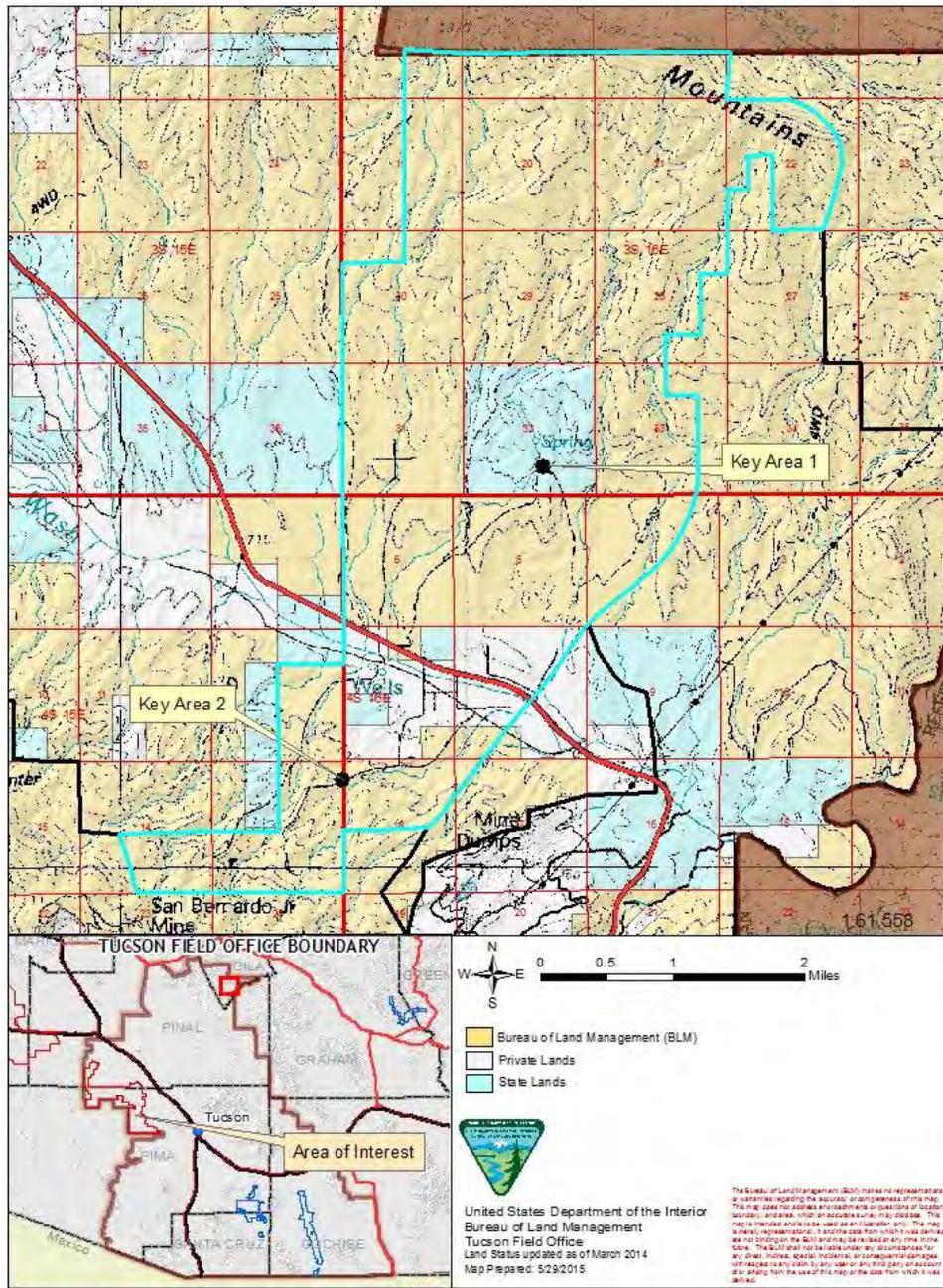


Figure 6 Key Areas for monitoring on the Limestone allotment

2.1.3 Cultural Resource Management Stipulations

For compliance with cultural and paleontological resource laws, the following term and condition will be applied. “Should any archaeological or vertebrate fossils be discovered during implementation of the project, all surface disturbing activities in the area of discovery shall cease. The field office archaeologist will evaluate the discovery and provide recommendations to the Authorized Officer. Surface disturbing activities shall not resume until permission is obtained from the Authorized Officer.”

2.1.4 Wildlife and Special Status Species Objectives and Management Actions

The following objectives and management actions from the Desert Tortoise Habitat Management Rangelwide Plan (1988) and conservation measures from the Gila District Grazing Biological Opinion would be common to all alternatives. These would be applied through monitoring for Arizona Standards for Rangeland Health and Guidelines for Grazing Administration and through Special Status species monitoring efforts.

Sonoran Desert Tortoise (from Desert Tortoise Habitat Management Rangelwide Plan)

- **Management Objective 10.** Ensure that livestock use is consistent with the Category Goals, Objectives, and Management Actions of this Rangelwide Plan. This may include limiting, precluding, or deferring livestock use as documented in site-specific plans.
- **Management Action 10A.** In every grazing allotment which includes tortoise habitat, manage livestock to allow adequate and suitable native forage, space, and cover to be available to tortoises throughout the year.
- **Management Action 10B.** Where site potential permits, manage livestock grazing to increase native perennial grasses, forbs, and shrubs that are required by tortoises.
- **Management Action 10C.** Allow utilization of tortoise forage and cover plants by livestock only to levels which allow for long-term plant vigor and adequate standing vegetation for late summer-fall tortoise use.
- **Management Action 10D.** Allow only those new range improvements for livestock in Category I and II Habitat Areas which will not create conflicts with tortoise populations. Mitigation for such conflicts is permissible to make the net effect of the improvements positive or neutral to desert tortoise populations. Conflicting existing improvements should be eliminated as opportunities arise.

2.1.5 Threatened and Endangered Species Conservation Measures

Southwestern Willow Flycatcher (from Biological Opinion on the Gila District Livestock Grazing Program May, 2012)

- The BLM will implement measures to reduce livestock concentration near flycatcher habitat, monitor cowbird parasitism, and possibly implement livestock management actions to reduce cowbird parasitism (if BLM and FWS determine necessary) to further reduce the effects of livestock management on breeding flycatchers (Southwestern Willow Flycatcher Conservation Measure # 4).

- The BLM will continue to manage BLM lands to meet the standards and guidelines, which will minimize both direct and indirect watershed effects to flycatcher habitat, including critical habitat, and possibly minimize effects to habitat over time.

2.1.6 Adaptive Grazing Management Practices

The BLM promotes the use of adaptive management practices in implementation of activities and projects.

Lessees are sent a letter requesting their proposed stocking levels for the coming billing year annually. They also can request a change in their authorization at any time such as to reduce their numbers due to drought or other factors. All grazing authorizations and changes to them must be approved by the Field Manager. In drought years, BLM sends reminders to the lessees about reducing their herds, and if the drought is extended, BLM can require removal of livestock to protect the rangeland health of the allotment.

2.1.7 Administrative Actions

Presented below are administrative actions that are applicable to the BLM grazing program.

1. Range improvement cooperative agreements need to be made for each improvement under this lease. This ensures the proper maintenance and ownership of these developments.
2. Any new drinking troughs would be installed with escape ramps that intercept the line of travel along the tank edge (Sherrets 1989).
3. Desired resource conditions on the uplands: Maintain cover and composition of key forage species for wildlife and livestock as described in the evaluation.
4. The BLM in consultation, coordination and cooperation with the lessee, other agencies, and interested publics will continue to implement the following monitoring plan to measure the attainment of resource management objectives:
5. Monitor Key Area cover, frequency, and composition (Interagency Technical Reference, TR 1734-4 1999. Sampling Vegetation Attributes) at least every 10 years, more frequently if staff and funding permit.
 - a. Rationale: It is expected that the proposed level of use would allow for maintenance and recruitment of key forage species; however if monitoring indicates that composition, cover, or frequency of these species is decreasing then use limits, and or the season of use would be adjusted.

6. Actual Use/Utilization data would be collected at least once every three years, along with trend data to determine if changes in management practices are necessary to meet resource condition objectives.
7. 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.

2.1.8 Conditions Common to Alternative 1 and Alternative 3

Presented below are the standard conditions applicable to all grazing leases and renewals.

1. Any changes in grazing use must be applied for prior to the grazing period.
2. Each year billing notices are issued which specify, for the current year, the allotment(s), number and kind of livestock, period(s) of use, animal unit months of use, and the grazing fees due. These billing notices, when paid, become a part of this grazing permit/lease.
3. Grazing fees are due upon issuance of a billing notice and must be paid in full prior to making any grazing use under this grazing permit/lease, unless otherwise provided for in the terms and conditions of this grazing permit/lease.
4. This grazing permit/lease is subject to the terms and conditions of an allotment management plan if such plan has been prepared. If an allotment management plan has not been prepared, it must be incorporated in this permit/lease when completed.
5. No grazing use can be authorized under this grazing permit/lease during any period of delinquency in the payment of amounts due in settlement for unauthorized grazing use.
6. Grazing use authorized under this grazing permit/lessee may be suspended, in whole or in part, for violation by the permittee/lessee of any of the provisions of the rules or regulations now or hereafter approved by the Secretary of the Interior.
7. This grazing permit/lease is subject to cancellation, in whole or in part, at any time because of:
 - a. Noncompliance by the permittee/lessee with rules and regulations now or hereafter approved by the Secretary of the Interior.
 - b. Loss of control by the permittee/lessee of all or a part of the property upon which it is based.
 - c. A transfer of grazing preference by the permittee/lessee to another party.
 - d. A decrease in the lands administered by the Bureau of Land Management within the allotment(s) described herein.
 - e. Repeated willful unauthorized grazing use.
8. This grazing permit/lease is subject to the provisions of executive Order No. 11246 of September 24, 1965, as amended, which sets forth nondiscrimination clauses. A copy of this order may be obtained from the authorized officer.
9. The permittee/lessee must own or control and be responsible for the management of the livestock authorized to graze under this grazing permit/lease.
10. The authorized officer may require counting and/or additional or special marking or tagging of the livestock authorized to graze under this grazing permit/lease.

11. The permittees/lessee's grazing case file is available for public inspection as required by the Freedom of Information Act.
12. Actual Use information, for each use area, will be submitted to the authorized officer within 15 days of completing grazing use as specified on the grazing lease and/or grazing billings in accordance with 43 CFR 4130.3-2(d).
13. In order to improve livestock distribution on the public lands, all salt blocks and/or mineral supplements will not be placed within a 1/4 mile of any riparian area, wet meadow, or watering facility (either permanent or temporary) unless stipulated through a written agreement or decision in accordance with 43 CFR 4130.3-2(c).
14. In Accordance with 43 CFR 4130.8-1(F): Failure to pay grazing bills within 15 days of the due date specified in the bill shall result in a late fee assessment of \$25.00 or 10 percent of the grazing bill, whichever is greater, but not to exceed \$250.00. Payment made later than 15 days after the due date, shall include the appropriate late fee assessment. Failure to make payment within 30 days may be a violation of 43 CFR Sec. 4140.1(b) (1) and shall result in action by the authorized officer under 43 CFR Secs. 4150.1 And 4160.1-2.
15. Grazing in this allotment shall strictly adhere to the Arizona Standards for Rangeland Health and Guidelines for Grazing Administration, the Safford Upland Livestock Utilization and Drought Policies.

2.2 Alternative 1 - Proposed Action to Renew Grazing Lease

The Proposed Action consists of the renewal of the grazing lease for the Limestone allotment for a period of 10 years with the following allotment-specific terms and conditions:

Terms

1. For a term of 10 years for a Permitted Use of 596 AUMs, eliminating the suspended AUMs under the previous grazing lease.

This is a 17% reduction of AUMs from the previous lease.

Conditions

1. Standard conditions (see Section 2.1 above).
2. 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/permittee 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/permittee shall continue to protect the immediate area of the discovery until notified by the Authorized Officer that operations may resume.
3. Maximum allowable use levels will be as follows:
 - 40% of the current year's growth on key forage species (Upper Gila-San Simon

Table 1 Grazing plan

Allotment Number	Allotment Name	Pasture Type	Number of Livestock	Type of Livestock	Year Begin	Year End	% Public Land	Type of Use	AUMs
4508	Limestone	Upland	54	CATTLE	3/1	2/28 (year-long)	92	ACTIVE	596

2.3 Alternative 2 - No Grazing

This alternative was developed to address unresolved conflicts concerning alternative uses of available resources, in this case, alternative uses of forage (40 CFR 1501.2(c)). Under the No Grazing alternative, the BLM would not authorize grazing on the Limestone allotment for a ten-year term and all Animal Unit Months (AUMs) for active preference would not be available for livestock grazing on public lands (i.e., livestock grazing would be deferred for the ten-year lease period).

2.4 Alternative 3 - Limited Period of Use

The limited period of use alternative would change the permitted grazing period of use from yearlong to six months during winter. Period of use would be changed from 596 AUMs yearlong to 594 AUMs in the winter months from September 1- March 1. Lease terms and conditions, management common to all alternatives, adaptive management practices, and administrative actions would all apply to this alternative. The lease would be renewed with the following allotment-specific terms and conditions:

Terms

1. For a term of 10 years for a Permitted Use of 594 AUMs (no suspended AUMs) September 1 through March 1.

Conditions

1. Standard conditions (see Section 2.1 above).
2. 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/permittee 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/permittee shall continue to protect the immediate area of the discovery until notified by the Authorized Officer that operations may resume.

3. Maximum allowable use levels will be as follows:
 - 40% of the current year’s growth on key forage species (Upper Gila-San Simon Grazing Environmental Impact Statement UG-EIS p. 1-9, GM36)

Table 2 grazing plan limited to winter months

Allotment Number	Allotment Name	Pasture	Number of Livestock	Kind	Begin	End	% Public Land	Type of Use	AUMs
4508	Limestone	Upland	99	CATTLE	9/1	3/1	92	ACTIVE	594

2.5 Alternative 4 – No Action

The no action alternative for livestock grazing permit renewals is defined as “continuing to graze under current terms and conditions” by IM-2000–022, Change 1 (reauthorized by IM-2010–063). The no action alternative for the Limestone allotment would be the continued authorization of 596 AUMs yearlong. An additional 123 AUMs would continue to be in suspension as a result of a 1981 decision, for a total of 719 permitted AUMs. Management common to all alternatives, adaptive management practices, and administrative actions would all apply to this alternative.

Terms

1. For a term of 10 years for a Permitted Use of 719 AUMs (123 suspended AUMs).

Conditions

1. Grazing permit or lease terms and conditions and the fees charged for grazing use are established in accordance with the provisions of the grazing regulations now or hereafter approved by the Secretary of the Interior.
2. They are subject to cancellation, in whole or in part, at any time because of:
 - a. Noncompliance by the permittee/lessee with rules and regulations.
 - b. Loss of control by the permittee/lessee of all or a part of the property upon which it is based.
 - c. A transfer of grazing preference by the permittee/lessee to another party.
 - d. A decrease in the lands administered by the Bureau of Land Management within the allotment(s) described.
 - e. Loss of qualifications to hold a permit or lease.
3. They are subject to the terms and conditions of allotment management plans if such plans have been prepared. Allotment management plans MUST be incorporated in permits or

- leases when completed.
4. Those holding permits or leases MUST own or control and be responsible for the management of livestock authorized to graze.
 5. The authorized officer may require counting and/or additional or special marking or tagging of the livestock authorized to graze.
 6. The permittees/lessee's grazing case file is available for public inspection as required by the Freedom of Information Act.
 7. Grazing permits or leases are subject to the nondiscrimination clauses set forth in Executive Order 11246 of September 24, 1964, as amended. A copy of this order may be obtained from the authorized officer.
 8. Livestock grazing use that is different from that authorized by a permit or lease MUST be applied for prior to the grazing period and MUST be filed with and approved by the authorized officer before grazing use can be made.
 9. Billing notices are issued which specify fees due. Billing notices, when paid, become part of the grazing permit or lease. Grazing use cannot be authorized during any period of delinquency in the payment of amounts dues, including settlement for unauthorized use.
 10. Grazing fee payments are due on the date specified on the billing notice and MUST be paid in full within 15 days of the due date, except as otherwise provided in the grazing permit or lease. If payment is not made within that time frame, a late fee (the greater of \$25 or 10 percent of the amount owed but not more than \$250) will be assessed.
 11. No Member of, or Delegate to, Congress or Resident Commissioner, after his/her election of appointment, or either before or after he/she has qualified, and during his/her continuance in office, and no officer, agent, or employee of the Department of the Interior, other than members of Advisory committees appointed in accordance with the Federal Advisory Committee Act (5 U.S.C. App. 1) and Sections 309 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.) shall be admitted to any share or part in a permit or lease, or derive any benefit to arise therefrom; and the provision of Section 3741 Revised Statute (41 U.S.C. 22), 18 U.S.C. Sections 431-433, and 43 CFR Part 7, enter into and form a part of a grazing permit or lease, so far as the same may be applicable.

Table 3 Grazing Plan: Continuing to Graze per Current Terms and Conditions

Allotment Number	Allotment Name	Number of Livestock	Kind	Begin	End	% Public Land	Type of Use	AUMs
4508	Limestone	54	CATTLE	3/1	2/28	92	ACTIVE	596
4508	Limestone	11	CATTLE	3/1	2/28	92	SUSPENDED	123

2.6 Alternatives Considered but Eliminated From Detailed Analysis

An alternative that consisted of increasing the stocking rate on the Limestone allotment was not pursued for detailed analysis in this EA.

2.6.1 Rationale for elimination:

Increase in the stocking rate on this allotment would not be justifiable. The terrain, vegetation and lack of reliable water sources for the livestock would not allow for an increase in use. An increase in AUMs would exceed carrying capacity and have negative effects on the vegetation resources and soils.

3 Conformance

3.1 Land Use Plan Conformance

The Proposed Action is in conformance with the Safford District RMP and Record of Decision. Decisions (1992 and 1994) from the Upper Gila-San Simon Grazing Environmental Impact Statement (UG-EIS) (BLM 1978) were carried forward into the Safford RMP. Management direction pertaining to grazing for this allotment can be found in the UG-EIS (BLM 1978), Appendix C, p. A-31. All other discipline management objectives pertaining to this allotment can be found in the Safford District RMP.

Rangeland management decisions in the UG-EIS that pertain to the Proposed Action include:

Land Use Allocation

- Intensive management of grazing on 1,040,329 acres of public lands. UG-EIS Table 1-2, p. 1-7
- Custodial management of grazing on 38,161 acres of public lands. UG-EIS Table 1-2, p. 1-7
- Ephemeral management of grazing on 250,155 acres of public lands. UG-EIS Table 1-2, p. 1-7
- Deferment of grazing on 14,050 acres of public lands. UG-EIS Table 1-2, p. 1-7
- Unallocated for grazing: 4,014 acres of public lands. UG-EIS Table 1-2, p. 1-7

Objectives

- The general objective of the UG-EIS is to permit livestock to use the harvestable surplus of palatable vegetation—a renewable resource—and thereby produce a usable food product. The proposed livestock management program is based on the multiple use management concept, which provides for the demands of various resource uses and minimizes the conflicts among those uses or activities. Although the various uses of the rangeland

resources can be compatible, competition among uses requires constraints and mitigating measures to realize multiple-use resource management goals. The Specific objectives for each grazing unit are shown in appendix C. UG-EIS p. 1-6

- With stocking rates in balance with the proposed grazing capacities, utilization of key forage species in the key areas would average about 40 percent over a period of years. At a given stocking rate during years of high forage production (e.g. above normal rainfall) utilization in the use pasture might be as low as 20 percent. During years of low forage production utilization could be as high as 60 percent. UG-EIS p. 1-9

Management Actions

- Cultural resource stipulations will be included in all grazing leases and permits. UG-EIS p. 4-2

Rangeland management decisions in the Safford District RMP that pertain to the Proposed Action include:

Management Actions

- Upland vegetation on public lands within the Safford District RMP Planning Area will be managed for watershed protection, livestock use, reduction of non-point source pollution, Threatened and Endangered species protection, priority wildlife habitat, firewood and other incidental human uses. Best management practices and vegetation manipulation will be used to achieve desired plant community management objectives. Safford District RMP p. 24 & 45
- Ecological Site Inventories will be combined with the desired plant community concept to develop management objectives for activity plans as they are written or revised. Safford District RMP p. 45
- Public lands will be managed to preserve and enhance the occurrences of special status species and to achieve the eventual delisting of threatened and endangered species. Safford District RMP p. 45

3.2 Relationships to Statutes, Regulations, or Other Plans

The BLM rangeland management program is managed under the provisions of the Taylor Grazing Act of 1934 as amended, the Federal Land Policy and Management Act of 1976 as amended, the Public Rangelands Improvement Act of 1978, and the National Environmental Policy Act (NEPA) of 1969. These laws, along with the grazing regulations under 43 CFR 4100 and associated BLM Manual and policies, authorize and govern administration of livestock grazing on public lands.

In addition, the actions considered under this EA are designed to be consistent with all Federal, State, and local laws, regulations, and policies deemed relevant to the proposed action and alternatives, including the following:

- Arizona Water Quality Standards, Revised Statute Title 49, Chapter II
- Clean Water Act of 1972, as amended
- Clean Air Act of 1970, as amended
- Endangered Species Act of 1973, as amended
- Section 106 of the National Historic Preservation Act of 1966, as amended
- Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001-3013; 104 Stat. 3048-3058)
- Migratory Bird Treaty Act of 1917, and Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds

4 Affected Environment and Environmental Impacts

This section describes the baseline condition (i.e., affected environment) and expected impacts of the project alternatives. Resources that have been identified by the BLM TFO interdisciplinary team as present and potentially affected are discussed further below (Table 4). Those resources that are not affected (as identified by the BLM interdisciplinary team), and will not be discussed in detail include: Air Quality, Areas of Critical Environmental Concern, Environmental Justice, Prime and Unique Farmland, Floodplains, Native American Religious Concerns, Hazardous or Solid Waste, Water Quality - Drinking or Ground, Wetlands/ Riparian Zones, Wild and Scenic Rivers, Wilderness Areas, Invasive and Non Native Weeds, National Energy Policy, Recreation, Lands/ Realty, Mineral Resources, and Water Rights.

Table 4 Resources Present and Potentially Affected on the Limestone Allotment

Resource Concerns/Issue	Geographic Analysis Area	Justification
Vegetation	Dripping Springs Wash Watershed	This project would potentially affect plant habitat across the watershed in which vegetation is a component of both forage and cover.
Wildlife	Dripping Springs Wash Watershed	This project would potentially affect wildlife habitat across the watershed.
T&E: Southwestern Willow Flycatcher	Gila District	Willow flycatcher habitat within the Gila District (evaluated in the Gila District Grazing Biological Opinion)
Access & Transportation	TFO Mescal Mountain Travel Management Area (TMA), and that portion of the Dripping Springs	The Mescal Mountain TMA is 42,989 acres bounded by the Gila River, State SR 77 and the San Carlos Apache reservation. The Dripping Springs

	Mountains TMA that covers the Limestone allotment	TMA is bounded by SR 77 and 277 and the Tonto National Forest boundary on the north.
Cultural Resources	Limestone allotment	Area of direct impact.
Livestock Grazing Program	Limestone allotment	Area of direct impact.
Wilderness Characteristics	Proposed Wilderness Study Area WSA AZ-4-1B	A citizen's proposal for an area with potential wilderness characteristics was received by the BLM TFO during public scoping for proposed revision of the TFO RMP in 2006.

4.1 Vegetation

4.1.1 Affected Environment

This section responds to Issue 1 – *Vegetation*: How would livestock grazing effect the upland vegetation and key forage species on the Limestone allotment?

The analysis area for vegetation is the Dripping Springs Wash watershed (Figure 7) which is 25,000 acres. The Dripping Springs Wash is characterized by ponderosa pine, Arizona interior chaparral, and Sonoran desert grassland vegetation communities running from the top of the Pinal Mountains to the confluence of Dripping Spring Wash with the Gila River.

The Limestone allotment is located in the middle elevation of the Sonoran Basin and Range province in southeastern Arizona.

The NRCS characterizes land resource regions by particular patterns of soils, climate, water resources and land uses. These large regions are then grouped into Major Land Resource Areas (MLRAs). MLRAs are then broken down further into ecological sites, which are associated units of soil and vegetation with quantifiable characteristics. The BLM portion of the Limestone allotment is located in MLRA 40-1. Ecological sites within this MLRA and present on the Limestone allotment are Limestone Hills (2,990.4 acres), Sandy Wash (196.6 acres), Volcanic Hills (449.7 acres), Limy Slopes (888.2 acres), Limy/Gypsum Upland (1,960.1 acres), Limy/Clay Loam Upland (524.8 acres), Gypsum Upland (38.3 acres), all in the 12-16" precipitation zone (Pz) and Limestone Hills (919 acres), in the 16-20" precipitation zone (Pz) ecological sites (Figure 8). These Ecological sites range from 1,900 to 3,400 feet in elevation. Ecological site guides were last updated in April 2008 for these sites.

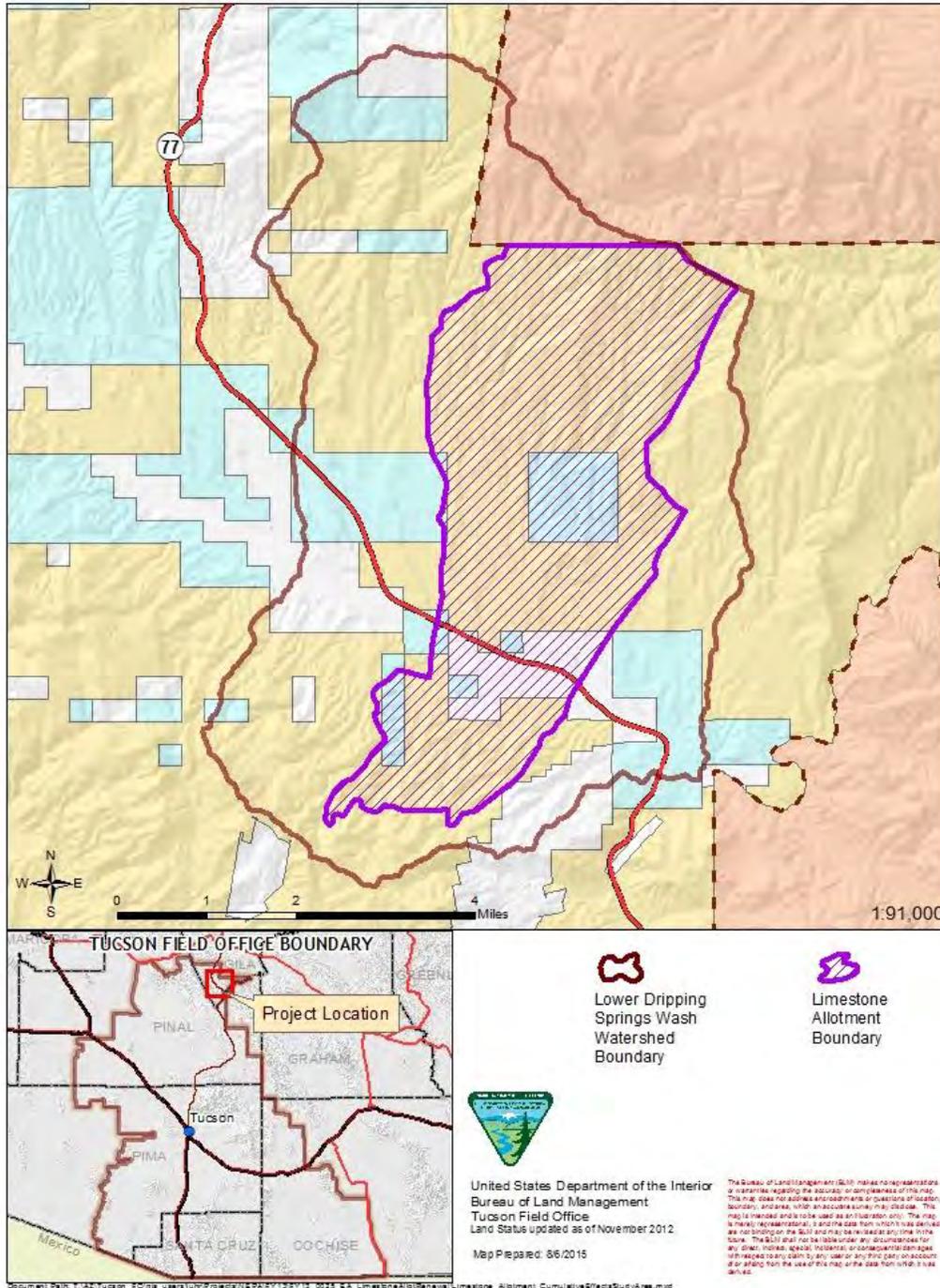


Figure 7 Dripping Springs Wash watershed

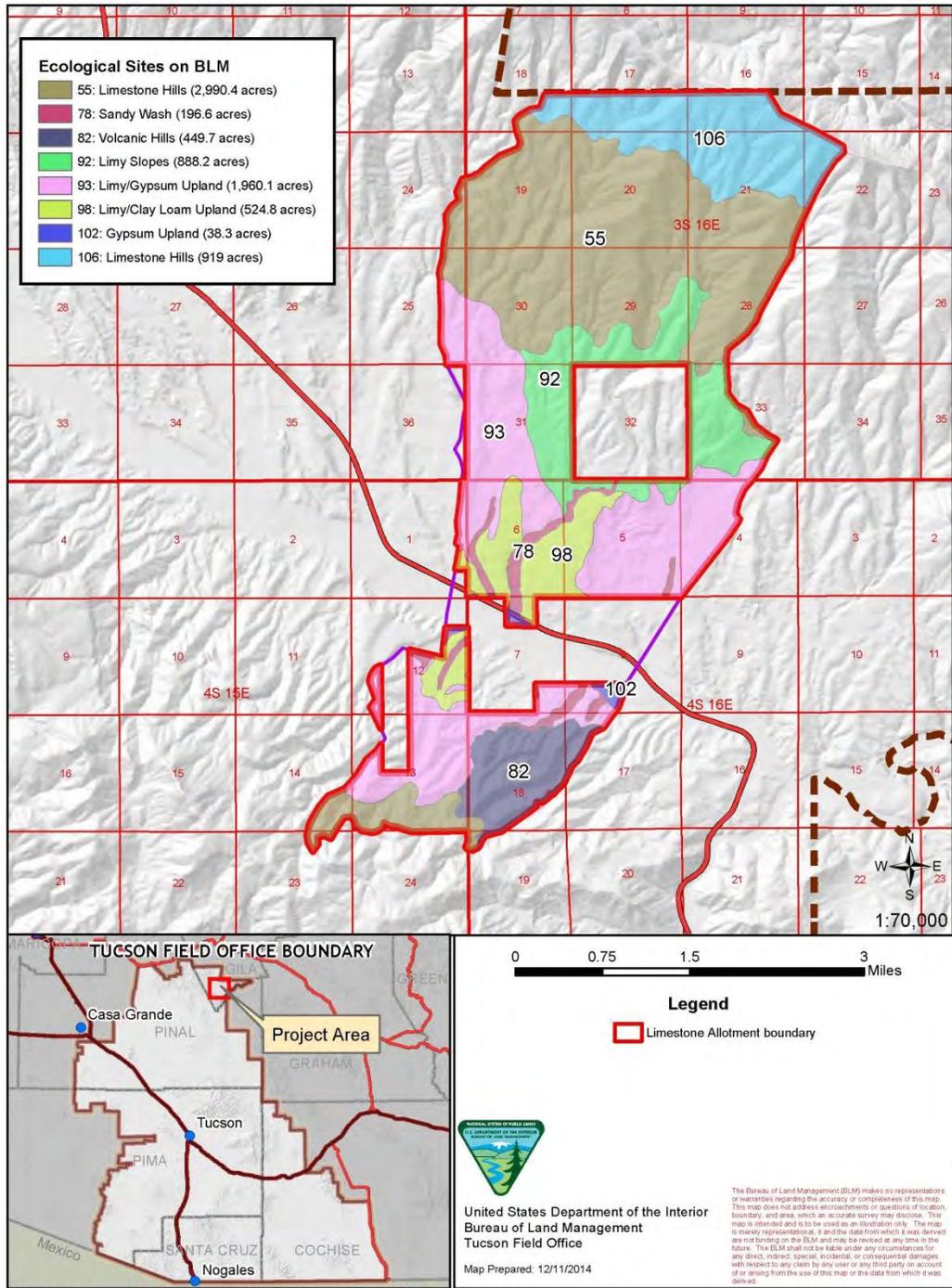


Figure 8 Ecological Sites present on the Limestone Allotment

The plant communities found on an ecological site are naturally variable. Existing communities are the result of the combination of historical and recent uses and natural events. Composition and production will vary with yearly conditions, location, aspect, and natural variability of the soils. The historical native plant community represents the natural potential plant communities found on relatively undisturbed sites.

Dryland vegetative productivity has been found to be shaped less by recent grazing history (unless very heavy) than by longer-term grazing history coupled with seasonal and interannual rainfall variation (e.g., Hiernaux and Turner 1996; Penning de Vries and Djitéye 1982; Turner 1999). In sum, if one ignores the strong influence of rainfall variation in dryland systems, one is likely to over-estimate the relative importance of competition in affecting livestock or wildlife. Many conservation and development policies often fail to recognize the seasonal variability in rainfall, which strongly affects forage growth (Butt 2010a). This variability also strongly influences the resource access strategies of domestic livestock (Butt 2010b).

The potential plant community for the region including all three ecological sites on the allotment is an open stand of desert trees with an understory of low shrubs, cacti and perennial grasses and forbs. The aspect is shrubby. With continuous, heavy grazing, perennial grass species are removed from the plant community and half-shrubs like Triangle bursage and Snakeweed can increase to dominate the understory. Mesquite tends to be shrubby on this site due to the thin surfaces over clayey horizons. Palo Verde and Ironwood reach moderate size on the site. With thin soil surfaces, this site can be a very ineffective user of intense summer rainfall if the herbaceous cover has been depleted. A 5 to 10% tree canopy is important on the site to keep diversity in the plant community. The potential of the site to produce grass is reduced as tree cover exceeds these amounts. Triangle bursage understories are long lived, persistent, and will not easily be replaced by perennial grass. In severe drought, the cover of perennial grasses and herbs as well as the half-shrubs bursage and burroweed can be greatly reduced in the plant community. Recovery can result in return of perennial grasses and herbs if good summer rains follow drought. Recovery can result in return of the half shrubs if good cool season rains follow the drought. Prickly pear can increase under heavy grazing pressure. Jumping cholla can increase due to poor grazing management or such increases can be episodic due to climate. Cholla stand lifespans range from 50-70 years without reproduction.

The lower elevations of the allotment are currently characterized by the historically heavily grazed vegetation community described above. The higher elevations of the allotment contain the perennial grasses and forbs component with a more open grassland aspect. This site has a cycle of dominance by Saguaro, alternating with large shrubs and trees that act as nurse plants for the giant cacti. This cycle takes approximately 300 years and starts from exceptionally wet years (El Nino) where Saguaro establishes in large numbers.

The dominant trees and shrubs on the allotment are Whitethorn acacia (*Acacia constricta*), Ocotillo (*Fouquieria splendens*), and Foothill Palo Verde (*Parkinsonia microphylla*). Other trees present in the current allotment plant community include Canotia, (*Canotia holacantha*),

Ironwood (*Olneya spp.*), and Velvet Mesquite (*Prosopis velutina*). Other Shrubs include, creosote bush (*Larrea tridentate var. tridentate*) with the dominant half shrubs being Triangle bursage (*Ambrosia deltoidea*), White bursage (*Ambrosia dumosa*), White brittlebush (*Encelia farinosa*), Rayless brittlebush (*Encelia frutescens*), Threadleaf snakeweed (*Gutierrezia microcephala*).

The dominant native grasses are Side-oats grama, Slim tridens, Black grama (*Bouteloua eriopoda*), and Bush muhly (*Muhlenbergia porter*). Other native perennial grasses include Purple threeawn (*Aristida purpurea*), Blue threeawn (*Aristida purpurea var. nealleyi*), Red grama (*Bouteloua trifida*), and Fluffgrass (*Dasyochloa pulchella*).

Table 5 Vegetation Present on Limestone allotment (Figure 9)

Vegetation Community	Acres
Apacherian-Chihuahuan Mesquite Upland Scrub	2,641
Apacherian-Chihuahuan Piedmont Semi-Desert Grassland and Steppe	51
Chihuahuan Creosote bush, Mixed Desert and Thorn Scrub	28
Colorado Plateau Mixed Bedrock Canyon and Tableland	2
Madrean Pine-Oak Forest and Woodland	16
Madrean Pinyon-Juniper Woodland	45
Mogollon Chaparral	308
North American Warm Desert Wash	8
Sonora-Mojave Creosote bush-White Bursage Desert Scrub	646
Sonoran Mid-Elevation Desert Scrub	837
Sonoran Palo verde-Mixed Cacti Desert Scrub	4,957
Total Acreage	9,584

Limestone Allotment - Vegetation

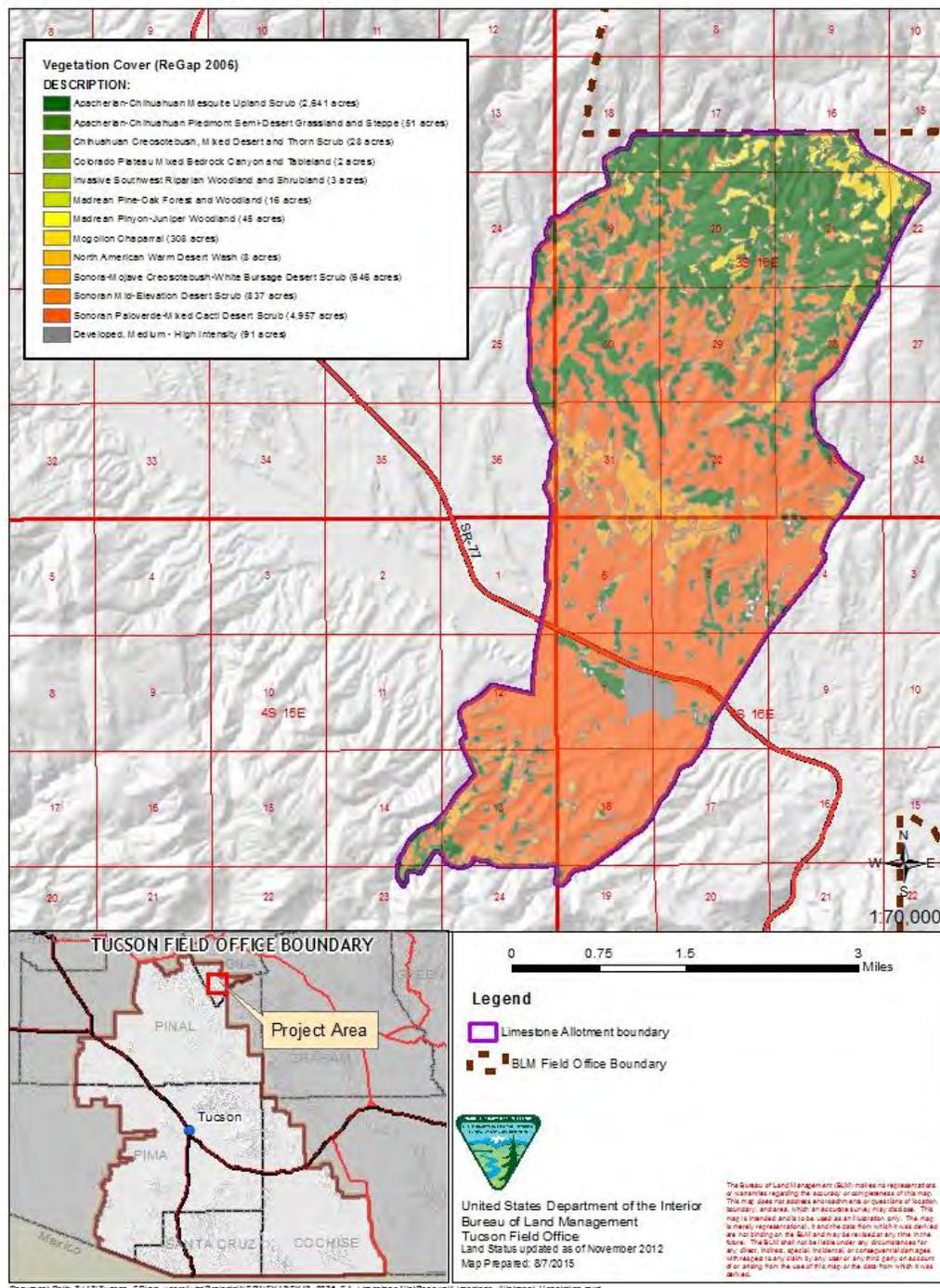


Figure 9 Vegetation in the Limestone allotment

Rangeland Health Evaluations were completed on three ecological sites on the allotment on March 6, 2013.

Findings of Rangeland Health Evaluation

The evaluations’ preponderance of evidence indicated that there was a “none to slight” rating for departure from the ecological site description and ecological reference area for soil/site stability and hydrologic functions. Rills, water-flow patterns, pedestals and/or terracettes, bare ground, gullies, and litter movement were “none to slight” for departure from expected reference conditions. Rocky outcroppings and ground cover contributed to the absence of rills, gullies, and water-flow patterns. Plant community composition and distribution relative to infiltration was also “slight to moderate” for departure from expected reference conditions. Biotic integrity was rated “moderate to slight to moderate” for the three evaluations, because of the loss of plants and production on all sites due to drought conditions on the allotment.

Land health standards 1 and 3 are currently being met for the allotment with its current level of use of 596 active AUMs (and suspended 123 AUMs). There are no riparian areas present on the allotment and therefore standard 2 does not apply. The complete Rangeland Health Evaluation for the Limestone allotment is Appendix B.

A previous assessment for rangeland health was conducted in 2004.

The only comparable ecological sites analyzed in the 2004 and 2013 evaluations were the limy upland sites. The 2013 evaluation shows an overall upward trend for all three rangeland health attributes.

Results from the March 2013 RHE are below.

Table 6 Limey Upland 3/6/2013

Rangeland Health Attribute	Departure From Ecological Site Description				
	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
Soil/Site Stability				2	8
Hydrologic Function				3	7
Biotic Integrity			1	3	5

Per Technical Reference 1734-6, 2005, overall ratings for Soil/Site Stability are an addition of the number of observations for indicators 1-9 and 11. On the Limy Upland site, two soil/site stability indicators were observed to be a slight to moderate departure from the reference condition and eight soil/site stability indicators were observed to a none-to-slight departure from the reference condition.

Overall ratings for Hydrologic Function are an addition of the number of observations for indicators 1-5, 8-11, and 14. Three hydrologic function indicators were observed to be a slight to moderate departure from the reference condition and seven hydrologic function indicators were observed to be none to slight departure from the reference condition.

Overall ratings for Biotic Integrity are an addition of the number of observations for indicators 8-

9, and 11-17. One biotic integrity indicator was observed to be moderate departure from the reference condition, three biotic integrity indicators were observed to be slight to moderate departure from the reference condition, and five indicators were observed to be a none-to-slight departure from the reference condition.

Table 7 Limey Slopes 3/6/2013

Rangeland Health Attribute	Departure From Ecological Site Description				
	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
Soil/Site Stability			1	2	7
Hydrologic Function			2	4	5
Biotic Integrity			2	2	3

Overall ratings for Soil/Site Stability are an addition of the number of observations for indicators 1-9 and 11. On the Limy Slopes site, one soil/site stability indicator was observed to be a moderate departure from the reference condition, two soil/site stability indicators were observed to be a slight to moderate departure from the reference condition, and seven soil/site stability indicators were observed to a none-to-slight departure from the reference condition.

Overall ratings for Hydrologic Function are an addition of the number of observations for indicators 1-5, 8-11, and 14. On the Limy Slopes, two hydrologic function indicators were observed to be a moderate departure from the reference condition, four hydrologic function indicators were observed to be a slight to moderate departure from the reference condition, and five hydrologic function indicators were observed to be none to slight departure from the reference condition.

Overall ratings for Biotic Integrity are an addition of the number of observations for indicators 8-9, and 11-17. On the Limy Slopes, two biotic integrity indicators were observed to be moderate departure from the reference condition, two biotic integrity indicators were observed to be slight to moderate departure from the reference condition, and three indicators were observed to be a none to slight departure from the reference condition.

Table 8 Clay Loam Upland 3/6/2013

Rangeland Health Attribute	Departure From Ecological Site Description				
	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
Soil/Site Stability				3	7
Hydrologic Function				5	5
Biotic Integrity			4	4	1

Overall ratings for Soil/Site Stability are an addition of the number of observations for indicators 1-9 and 11. On the Clay Loam Upland site, three soil/site stability indicators were observed to be a slight to moderate departure from the reference condition, and seven soil/site stability indicators were observed to a none-to-slight departure from the reference condition.

Overall ratings for Hydrologic Function are an addition of the number of observations for

indicators 1-5, 8-11, and 14. On the Clay Loam Upland site, five hydrologic function indicators were observed to be a slight to moderate departure from the reference condition and five hydrologic function indicators were observed to be none to slight departure from the reference condition.

Overall ratings for Biotic Integrity are an addition of the number of observations for indicators 8-9, and 11-17. On the Clay Loam Upland site, four biotic integrity indicators were observed to be moderate departure from the reference condition, four biotic integrity indicators were observed to be slight to moderate departure from the reference condition, and one biotic integrity indicator was observed to be a none-to-slight departure from the reference condition.

Dry Weight Rank monitoring was completed on Key Area 1, which was established in 1977, on 2/5/2015. Key area 2 could not be accessed because of locked gates on private lands leading to the monitoring site.

The results of the Dry Weight Rank monitoring on Key Area 1 were:

Table 9 Results of the Dry Weight Rank monitoring on Key Area 1

% Ground Cover				
Cover classifications	Transect (#hits)			%Freq.
	1	2	total	
Bare Ground	4	7	11	3.67
Gravel (1/4 – 3’)	91	55	146	48.67
Litter	37	66	103	34.33
Rock >3’	13	18	31	10.33
Live Basal Veg.	5	4	9	3.00

The results of the dry weight rank data show approximately 4% bare ground, 49% of the soil surface is covered with gravel, 34% is covered with litter (dead plant material) and 3 % of the monitoring points were on the base of living plants.

Table 10 DPC Key area 1

Desired Plant Community Objectives		
	Desired	Actual
Basal cover	≥ 5%	3%
Perennial Grass Composition	≥1%	5%
Palatable Shrub Composition	≥10 %	18.9%

Foliar cover	≥ 15%	38.0%
Sufficient annual Vegetation		Annual Forbs 92% Annual grasses 50%

4.1.2 Vegetation Environmental Impacts

4.1.2.1 Alternative 1 - Proposed Action

Under the Proposed Action, direct impact to vegetation would occur through livestock grazing.

The proposed renewal of the grazing lease with terms and conditions allows the grazing program to continue on the Limestone allotment in concert with the multiple uses and sustainability mandates of the BLM. Elimination of the suspended use and only authorizing livestock to a level of 40% utilization limits as prescribed in the UG-EIS would allow plants to on average only have 40 percent or less of their leaves and stems removed annually. Most rangeland grasses and forbs can have 40 percent to 50 percent of their leaves and stems removed every year and still remain healthy and productive so that plants can photosynthesize and manufacture energy to produce more leaves, stems, and seeds.

Utilization studies conducted in 1980 and 1989 were used to determine the number of AUMs for the Limestone allotment that would have an average utilization of less than 40% and which would allow upland vegetation to grow, set seed, build up carbohydrate stores, build root systems, become established, and spread unrestricted when weather conditions permit. Recently due to drought, cattle have not been present on the Limestone allotment for at least the last 5 years. Utilization levels have been below 5% for key forage species (see Limestone RHE) which is well below the 40% utilization limit. This utilization was from wildlife. The BLM will monitor utilization levels every five years (if livestock are present on the allotment) to ensure that utilization limits remain below 40%.

4.1.2.2 Alternative 2 - No Grazing

Elimination of grazing would most likely result in utilization levels around 5-10% from wildlife. This would allow upland vegetation to grow, set seed, build up carbohydrate stores, build root systems, become established, and spread unrestricted when weather conditions permit. The BLM would install approximately 6 miles of new fences along BLM lands to keep out livestock from adjacent state and private land. The construction of new fence would require some pruning and removal of vegetation.

4.1.2.3 Alternative 3 - Limit Period of Use

Limited period of use may result in a decrease in areas of higher livestock utilization as the cooler weather allows livestock to travel farther from water and they tend to use slopes and ridges to avoid the cold air that settles into drainages at night. Utilization levels would be higher in the winter from livestock use and around 5-10% in the summer from wildlife use. The average annual utilization would likely be below the 40% utilization limit. The BLM would monitor utilization levels to ensure that utilization levels are below the 40% limit. The shift in utilization

patterns could lead to a subsequent change in vegetative cover, structure, and/or species by allowing forage plants to retain more resources to start the growing season.

4.1.2.4 Alternative 4 - No Action

The continuation of the existing terms and conditions under the current lease would have the same affects as the proposed action because the suspended AUMs would continue to be suspended and therefore the livestock use would be the same as the proposed action.

4.2 Wildlife

4.2.1 Affected Environment

This section responds to Issue 2 – *Wildlife*: What are the impacts of grazing on food and cover for wildlife?

The analysis area for wildlife is the Dripping Springs Wash Valley (from the confluence of Silver Creek with Dripping Springs Wash to the confluence of Dripping Springs Wash with the Gila River). All of the analysis area is currently allocated for use for livestock grazing. Due to steep terrain and distance to water factors, not all of the analysis area is grazed by livestock. Wildlife includes big game and small game species and Bird Species of Conservation Concern.

Big game species possibly present in the allotment include bighorn sheep, mule deer, Coues white-tailed deer, javelina, coyote, and gray fox.

Small game species found in the area include skunk, cottontail rabbit, Gambel's quail, and mourning dove.

Bird Species of Conservation Concern for the area are Brewer's sparrow (wintering species), loggerhead shrike, golden eagle, peregrine falcon, Swainson's hawk, and cactus wren.

The ecological site description states that the site provides excellent habitat for deer and javelina, with natural water areas occurring infrequently as springs or seeps (Tub Spring, Seep Spring and the Mine Spring occur on the allotment). In addition, deer pellet groups were observed at the evaluation site on 3/6/2013, as well as soil disturbance from rooting javelina.

4.2.1.1 Special-Status Species

4.2.1.1.1 Sonoran Desert Tortoise

The allotment contains both Category 2 and 3 desert tortoise habitats (Figure 10) as designated by the BLM in accordance with the BLM's Desert Tortoise Habitat Management Rangeland Plan (1988). There are 6,848 acres of Category 2 and 2,015 acres of Category 3 Sonoran desert tortoise habitat in the Limestone allotment. Sonoran desert tortoises have been observed in the analysis area, and have a breeding season from June to July. Eggs are typically laid in July immediately before or after the first summer rains. The Limey/Gypsum Upland soils (1962 acres) on the Limestone allotment do not have a caliche layer in many areas and thus do not provide suitable denning sites for desert tortoises.

Limestone Allotment - Tortoise Habitat

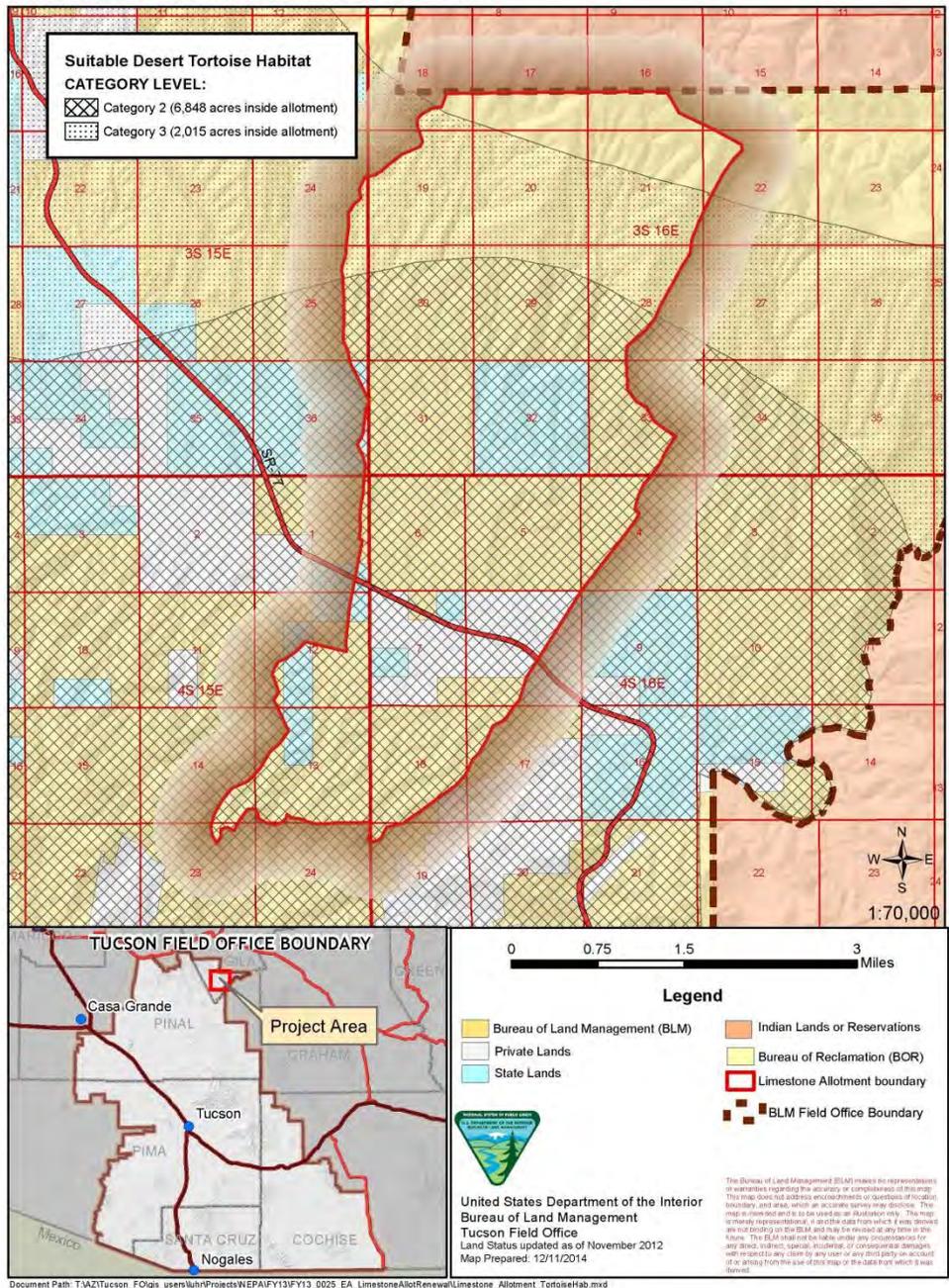


Figure 10 Desert Tortoise Habitat in the Limestone Allotment

Desert tortoises tend to be generalists and are able to eat a variety of vegetation.

Their diet consists of annual forbs (30.1%), perennial forbs (18.3%), grasses (27.4%), woody plants (23.2%), and prickly pear fruit (1.1%). Important forage consumed by Sonoran Desert tortoise includes Filaree, Indian wheat, Covena, and both perennial and annual grasses and forbs (Van Devender, et al. 2002). These forage species are available for Sonoran desert tortoise on the allotment.

Studies have shown that livestock grazing may result in varying effects on plant species richness, composition, and density of the Sonoran desert tortoise forage base. Effects to desert scrub habitat are commensurate with livestock use of these areas and decrease with increasing distance from these livestock water sources (Avery and Neibergs 1997, p. 19; Boarman 2002, p. 34). The density of certain nonnative plant species, such as Schismus (Mediterranean grass), has also been positively correlated to distance to watering sites, while others, such as red brome, are negatively correlated (Brooks et al. 2006, p. 139).

A biological evaluation was completed for this allotment which analyzes the effects on T&E and Candidate species which are also BLM sensitive species.

4.2.2 Wildlife Environmental Impacts

4.2.2.1 Alternative 1 - Proposed Action

Impacts as a result of the Proposed Action would be similar for all wildlife species. Livestock grazing may affect wildlife through competition for water, food, and/or cover (Butt and Turner Pastoralism: 2012). Cattle may compete directly with browsers, such as mule deer, especially in the spring when new growth is limited.

Livestock grazing can change the vertical structure of the vegetation. Bird and rodent species that forage on grass seeds as a large component of their diet may experience negative impacts if livestock grazing does not allow enough plants to complete their life cycle and produce seed. Changes in vertical structure of vegetation can impact ground nesting birds, rodents, and reptile species by reducing cover needed for protection from weather and predators. Deer may be affected through a decrease in recruitment by loss of vertical structure within fawning areas. A reduction in cover may favor predator species that hunt by sight, and potentially improve their hunting success. Utilization limits (40%) established in the UG-EIS were set to allow enough plants to complete their life cycle and produce seed which would mitigate any potential impacts to wildlife.

There would be competition with livestock for water, food, and/or cover on 8,863 acres of existing wildlife habitat, which is 35% of the analysis area.

Heavier use on forage species near water developments (Tub Spring, Seep Spring, and Mine Spring) and areas of terrain favorable to cattle movement may cause an increase in the proportion

of forbs as these annuals invade the site. Deer may prefer these forbs; however, mule deer may shift their habitat use in response to livestock grazing (Loft et al. 1991), and may decline when cattle are introduced (Wallace and Krausman 1987). This utilization may affect the vegetative community as plant species, richness, abundance, and availability changes with grazing pressure.

Fencing within an allotment may affect ungulate movement and even cause direct mortality. Fences, if not built to BLM specifications for wildlife compatible fencing, may promote habitat fragmentation and lead to the loss or decreased use of habitat. Fences have also been known to cause direct mortality to ungulates (Harrington and Conover 2006) and flying birds, particularly raptors (Gillihan 2000). There are only two pastures on the allotment, separated by a state highway and private lands. Fencing on the highway right of way is the responsibility of the Arizona Department of Transportation, which utilizes wildlife-friendly standards.

Livestock grazing may provide an additional food source for large predators, such as mountain lions. The ability to utilize livestock may maintain predator numbers when natural factors, such as drought and natural prey populations, may have led to predator declines, especially since predator control is not used on this allotment.

Wildlife populations may also be impacted from livestock grazing activities through human disturbance associated with access and management of range improvements (e.g., fencing) on the allotment. There is one road on the north part of the allotment (north pasture) used to access the livestock water development on state land. Access to the livestock water would occur at most of two to three times per month. Minimal disturbance to wildlife populations may occur from noise of the vehicle. This disturbance would be minimal due to the limited number of times this road would be accessed by a vehicle.

Wildlife may utilize those areas where provided water exists at the three spring developments under the livestock grazing program. Without the developments to store water, the springs may dry to the point that they do not provide water to wildlife during the driest part of the year. Smaller species, such as birds and bats, may also benefit from increased availability of water and from an increase in insects associated with the water.

4.2.2.1.1 Special Status Species

4.2.2.1.1.1 *Sonoran Desert Tortoise*

Effects from livestock grazing are expected to be attenuated due to the relatively steep slopes and rugged terrain often preferred by Sonoran desert tortoises, but quantitative studies have not been conducted to confirm this assumption (AIDTT 2000, p. 9; Oftedal 2007, p. 26). Because of the generalized differences in habitat usage by livestock (flats, ridge tops, and drainage bottoms) and Sonoran desert tortoises (steep slopes and rocky bajadas), ecological and dietary overlap is uncommon, but does occur to some degree (AGFD 2010, p. 6). Where such overlap is significant,

in particular in periods of drought, the effect of livestock use on Sonoran desert tortoise habitat may be considerable (AGFD 2010, p. 7). Sonoran desert tortoises may also selectively avoid grazed areas. While Sonoran desert tortoises are generally known to use steep rocky slopes and bajadas as their primary habitat areas, they occasionally occur in more flat terrain, such as the Florence Military Reservation, where they are 35 percent less likely to use habitat where livestock grazing occurs (AGFD 2010, p. 7).

Based on the results of a study conducted by Balph and Malecheck (1985, p. 227), cattle avoid stepping on uneven surfaces. Desert tortoises will likely be perceived as an uneven ground surface; therefore, cattle may intentionally avoid stepping on them. Livestock often take the paths of least resistance and are unlikely to venture great distances from water. These behavioral traits of domestic livestock limit, to some degree, the potential effects from livestock grazing in Sonoran desert habitat, as livestock are less likely to travel into rough, steep terrain, instead favoring valley bottoms and water sources (AIDTT 2000, pp. 9, 21).

Juvenile and adult Sonoran desert tortoises were frequently observed by Meyer (1993, pp. 101–102) using salt licks provided for livestock. Frequenting salt licks may benefit desert tortoises (especially hatchlings and small juveniles), but likely increase risk of being trampled by livestock because the salt licks can attract higher concentrations of both livestock and tortoises in actively grazed pastures.

Livestock grazing on the Limestone allotment could potentially affect 8,863 acres of desert tortoise habitat. . This is 35% of the analysis area of the Dripping Springs watershed which is about 25,000 acres. The tortoise habitat is also part of larger area of habitat that covers 293,670 acres in the Middle Gila area and would only be 3% of that bloc of tortoise habitat.

Wildlife mitigation will be applied through the Arizona Standards for Rangeland Health and Guidelines for Grazing Administration and pertinent objectives and conservation measures are listed in the RHE evaluation for the Limestone allotment (Appendix B).

The USFWS in their 12–month finding on the petition to list the Sonoran desert tortoise stated:

In consideration of the literature presented above, we conclude that grazing effects to the Sonoran desert tortoise may occur but are likely limited in severity and scope in Arizona, because habitat shared by livestock and Sonoran desert tortoises is not a significant proportion in most areas in Arizona, and because livestock grazing in Arizona is actively managed by land management agencies.

4.2.2.2 Alternative 2 – No Grazing

The no grazing alternative would eliminate competition between wildlife and livestock for water, food, and cover for the BLM lands within the allotment. Decreased plant utilization by livestock

may result in more or different available plant food sources, a change in prey species, richness, relative abundance, or availability, and/or improved cover for wildlife. Competition for forage, cover, and water between livestock and wildlife would be eliminated. Overall, the no grazing alternative would be expected to have a beneficial effect on wildlife individuals, but it is not likely to have a measurable effect on wildlife populations within the project area.

4.2.2.2.1 Sonoran Desert Tortoise

The no grazing alternative would eliminate competition for forage between desert tortoise and authorized livestock on 8,863 acres in Sonoran tortoise habitat. Overall, the no grazing alternative would be expected to have a beneficial effect on tortoise individuals, but it is not likely to have a measurable effect on the tortoise population within the project area.

4.2.2.3 *Alternative 3 – Limit Period of Use*

Over the entire year, utilization by livestock over the allotment should be the same as under the Proposed Action. There may, however, be both beneficial and negative impacts to different wildlife species.

There would be an increase in utilization pressure on forage species during the six winter months that there would be 99 livestock on the allotment. This impact would be reflected in an expansion of the areas utilized by livestock. There would be six months in the summer without utilization where plants could reproduce without livestock grazing pressure.

The increase in utilization pressure on forage in the winter months would decrease available forage for deer and javelina. Deer breed in December and January and an increased number of livestock in the winter could disrupt breeding activities.

The possibility of livestock trampling or knocking bird nests out of trees would be eliminated. As a result, this alternative could have a beneficial impact on individual birds, but is not likely to have a measurable effect on bird populations within the project area.

A decrease in utilization of vegetation in the summer months may result in increased effectiveness of movement and concealment for wildlife, and changes in species richness, relative abundance, or availability of prey for wildlife.

Limiting period of use may allow less competition between wildlife and livestock for water in the summer months, as more water that is available would be present for wildlife. A condition of the lease would be that waters be kept available for use by wildlife during periods that livestock are not on the allotment.

4.2.2.3.1 Sonoran Desert Tortoise

Under the limited period of use alternative, there would be increased availability of annual forage species in the spring when livestock are not on the allotment and tortoises are coming out of

hibernation. Overall, except for September and October, desert tortoises would be hibernating and away from the risk of cattle trampling during the winter months.

Higher numbers of cattle would be on the allotment during the month of September and October when desert tortoises are hatching and dispersing from the nest. This would increase the risk that desert tortoise hatchlings would be trampled by livestock.

4.2.2.4 Alternative 4 - No Action

The continuation of the existing terms and conditions under the current lease would have the same affects as the Proposed Action. The suspended AUMs would still be suspended but not eliminated from the lease.

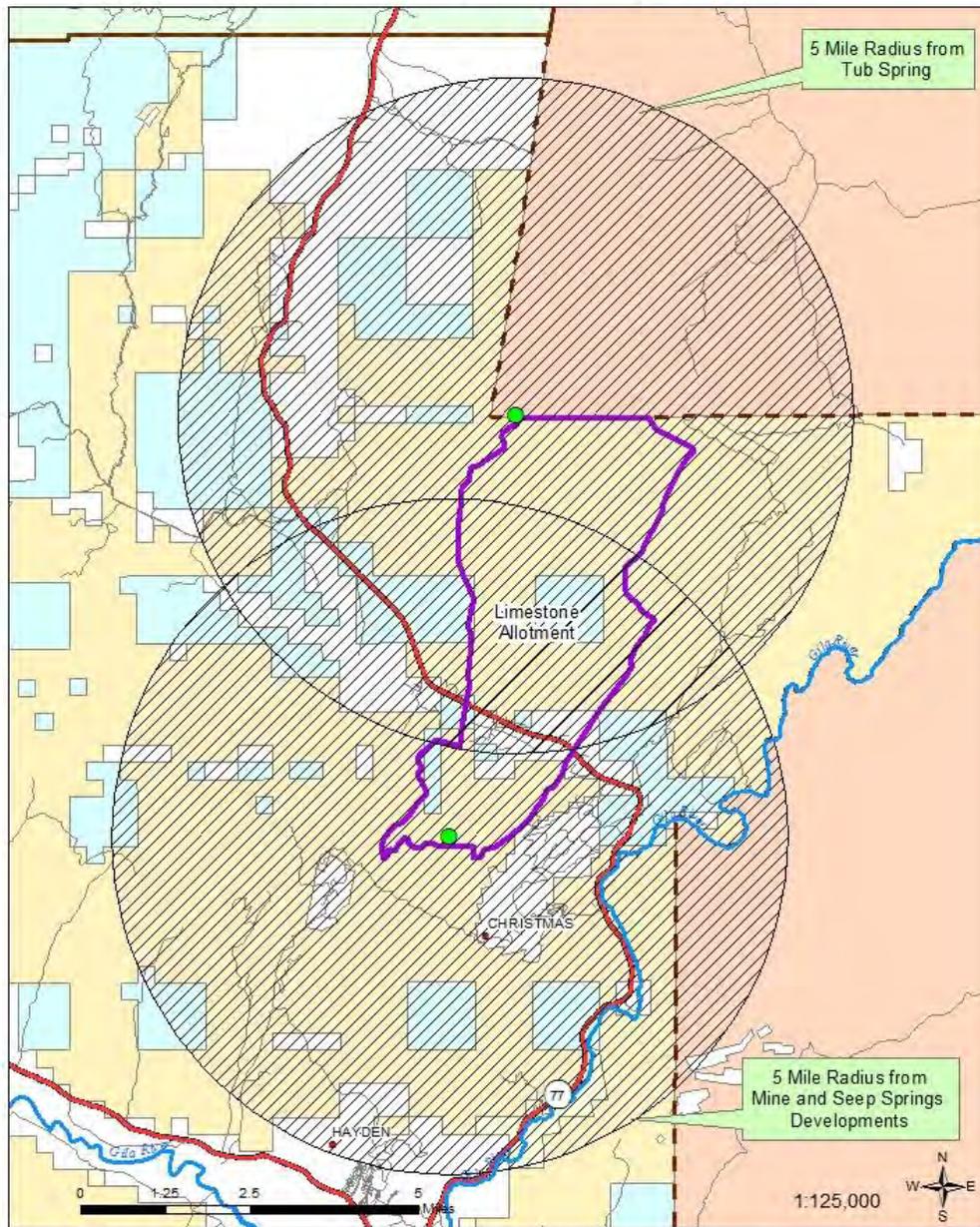
4.3 Threatened and Endangered Species

4.3.1 Affected Environment

The only listed species possibly affected by grazing on this allotment is the Southwestern Willow Flycatcher as parts of the allotment are within 5 miles of occupied flycatcher habitat along the Gila River (Figure 11). Southwestern Willow Flycatcher habitat is characterized as occurring in riparian habitats along rivers, streams, open water, cienegas, marshy seeps, or saturated soil where dense growths of willows (*Salix* sp.), *Baccharis*, arrow weed (*Pluchea* sp.), tamarisk (*Tamarix* sp.) or other plants are present, sometimes with a scattered overstory of cottonwood (*Populus* sp.) (Final 1997 Determination of Critical Habitat for the Southwestern Willow Flycatcher, USFWS 1997). The Gila River, including the portion that flows near this allotment, has been fully surveyed for SWFL. The closest breeding habitat is over 2.5 miles from the allotment. BLM evaluated the area for livestock concentration areas and determined that there were not any livestock concentration areas that would attract cowbirds. The closest livestock facility that may concentrate brown-headed cowbirds is 2.5 miles away from the Gila River where suitable habitat for the flycatcher exists.

Grazing in the Gila District has been consulted on with USFWS and a biological opinion (BO) was issued in May of 2012.

Limestone Allotment Springs w/5 Mile Buffer




United States Department of the Interior
Bureau of Land Management
 Tucs on Field Office
 Land Status updated as of November 2012
 Map Prepared: 3/6/2015

	Bureau of Land Management (BLM)		Limestone Allotment Boundary
	Private Lands		
	State Lands		
	Indian Lands or Reservations		

The Bureau of Land Management (BLM) makes no representation or warranty regarding the accuracy or completeness of the map. The map is used for administrative purposes or for general information only. The map is not intended for use as a legal document. The map is not intended for use as a legal document. The map is not intended for use as a legal document.

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Figure 11 Cowbird Analysis for the Limestone allotment

4.3.2 Environmental Impacts

4.3.2.1 Alternative 1 - Proposed Action

Livestock grazing can affect Southwestern Willow Flycatcher breeding in two ways. The first is from cattle physically knocking down nests which are typically 3 to 8 feet above ground level. The second is from cattle attracting brown headed cowbirds, which feed on insects found in cow feces, and parasitize Southwestern flycatcher's nests.

On the Limestone allotment, there is only one range improvement within two miles of flycatcher habitat, and that is the allotment boundary fence between the Limestone allotment and the Christmas allotment. The boundary fence is a long linear feature that does not concentrate livestock and therefore does not attract cowbirds.

Seep Spring and the Mine Spring developments are about 2.5 miles from the Gila River. Both of the spring developments consist of a small spring development and water trough. Both are on steep slopes with low shrubs. The steep slopes and low shrubs make these spring features not suitable habitat for Southwestern Willow Flycatcher and other riparian obligate bird species. The other livestock concentration areas such as Tub spring on BLM lands within the allotment are not within 5 miles of occupied habitat (Figure 11).

The spring developments may concentrate some livestock but the small amount of available water and steep terrain would limit the number of livestock that could use the spring at one time. The topography of the spring features limits the amount of livestock concentration thereby limiting the amount of cowbird concentration.

Since the spring developments are 2.5 miles away from the Gila River, which is greater than the two mile distance away from breeding habitat for southwestern willow flycatcher, the effect of cowbird nest parasitism is unlikely (USFWS, 2012).

The determination from the BO on the flycatcher is:

After reviewing the current status of southwestern willow flycatcher, the environmental baseline for the action area, the effects of the Gila District grazing program and the cumulative effects, it is the FWS's biological opinion that the grazing program, as proposed, is neither likely to jeopardize the continued existence of the southwestern willow flycatcher, nor likely to destroy or adversely modify critical habitat (USFWS, 2012).

This determination was reached based on conservation measures proposed by the BLM for the grazing program that are pertinent to livestock grazing on the Limestone allotment. One of the conservation measures deals directly with Southwestern Willow flycatchers and it states:

Conservation Measure 4. Cowbird Control: To reduce the likelihood of nest abandonment and loss of flycatcher productivity owing to cowbird parasitism associated with BLM-authorized grazing activities in or near occupied habitats, BLM will implement the following:

a. Investigate, identify, and assess livestock concentration areas on BLM lands in the action areas that are likely foraging areas for cowbirds. This will be done within a 5-mile radius of occupied or un-surveyed suitable southwestern willow flycatcher habitat. The BLM will evaluate ways to reduce any concentration areas found. The BLM will pay special attention to those facilities within two miles of breeding habitat, since this is the range in which alteration of concentration areas are most effective (USFWS, 2012).

4.3.2.2 Alternative 2 - No Grazing

There would be no impacts on Southwestern Willow Flycatcher by livestock grazing. Livestock would not use the spring features.

4.3.2.3 Alternative 3 - Limit Period of Use

Limiting the period of use by livestock in the summer months would not create conditions that would allow concentrations of brown headed cow birds during the nesting season for Southwestern Willow Flycatcher.

4.3.2.4 Alternative 4 - No Action

The continuation of the existing terms and conditions under the current lease would have the same affects as the Proposed Action. The suspended AUMs would still be suspended but not eliminated from the lease.

4.4 Access/Transportation

4.4.1 Affected Environment

A physical access route inventory was completed for BLM public lands and State Trust lands in the area in an interagency route inventory (BLM 2003). The route inventory identified an ingress/egress point from SR 77 into public lands in the Limestone allotment. Ingress/egress points into the allotment were also identified from the Dripping Springs allotment adjacent to the west and the Christmas allotment to the east. Motorized routes were identified within the allotment, as well as several routes that provided access in the past, but are now reclaiming from lack of use. A route evaluation was completed for this area, and potential route designations were identified, but no transportation plan decisions have been made. The condition of all roads is poor, with washouts, drainage problems, excessively steep grades, and severe drainage and erosion problems throughout. The routes on the Limestone allotment are lightly used for public

recreation and administrative purposes. Some routes enter BLM public lands from adjacent private land.

4.4.2 Environmental Impacts

4.4.2.1 Alternative 1 - Proposed Action

Under the Proposed Action, existing inventory access routes would be used in connection with the use, maintenance and operation of the livestock grazing lease. The routes would continue to receive light use for administrative purposes and public recreational use. Traffic volume would continue to be low. Some existing routes may require repair or maintenance in order to safely accommodate vehicle access; no maintenance work is proposed, and would require specific authorization by the BLM when the work is planned under a separate action.

4.4.2.2 Alternative 2 - No Grazing

Under the no grazing alternative, existing inventory access routes would no longer receive traffic related to grazing use, maintenance or operation activities. The routes would continue to receive light use for administrative purposes and public recreational use.

4.4.2.3 Alternative 3 - Limit Period of Use

Under the limit period of use alternative, impacts would be similar to those under the Proposed Action, although the lessee would be utilizing the access routes less in the summer when the livestock are removed.

4.4.2.4 Alternative 4 - No Action

The no action alternative would result in the continuation of the existing terms and conditions under the current lease and would have the same affects as the Proposed Action.

4.5 Cultural Resources

4.5.1 Affected Environment

Allotment case files, Allotment Management Plan (AMP) files, range project files, and water-source inventory files, were reviewed to determine areas of livestock congregation. Cultural resource site records/files were also reviewed to determine if archaeological sites were previously recorded in and around areas of livestock congregation. After review, it was determined that no historic properties were identified in areas of livestock congregation, therefore no mitigation is recommended as a BLM responsibility or as a term of condition of the lease, to protect cultural resource values on the allotment.

4.5.2 Environmental Impacts

4.5.2.1 Alternative 1 - Proposed Action

The continuation of existing terms and conditions under the current lease would likely have few or limited impacts to cultural resources if guidelines for cultural resource compliance (referenced in “Cultural Resource Handbook 8120 for Grazing/Lease Renewals”) are followed. Impacts can occur to cultural resource properties from livestock grazing especially in areas where water developments occur. For this allotment, no cultural resource modifications have been recommended under the proposed action. Any subsequent NEPA related project activities such as construction of range improvements will require a Class III (Section 106 of the NHPA) cultural resource survey prior to project implementation. If historic properties are identified as being impacted by livestock grazing, and if the characteristics that make these properties eligible for the NRHP are being compromised, mitigation measures will be outlined in the NEPA document for the allotment.

4.5.2.2 Alternative 2 - No Grazing

Under the no grazing alternative, livestock grazing would not be continued so would not affect cultural resources.

4.5.2.3 Alternative 3- Limit period of use

Under the limited period of use alternative, livestock grazing would occur during the winter months. There would be a possibility that due to increased livestock numbers present on the allotment at one time, areas of livestock congregation could increase in extent. Under this scenario there might be a slightly higher likelihood that cultural resources could be impacted.

4.5.2.4 Alternative 4- No Action

The continuation of the existing terms and conditions under the current lease (no cultural resource modifications have been made to the proposed action to renew the grazing lease), would likely be expected to remain as they are; highest risk areas to cultural resources are around livestock waters, and the three water sources (springs/seeps). If cultural resource sites are being impacted, mitigation measures will be outlined in the NEPA document for the allotment.

4.6 Grazing Program

4.6.1 Affected Environment

The Limestone allotment is currently authorized for 54 cattle yearlong at 92% public land (719 AUMs) with 123 suspended AUMs resulting in 596 active AUMs. Two large pastures within the allotment are intertwined with land status owners. There are 24 miles of existing fencing in and around the allotment. Public lands cannot be managed separately from these other landowners without approximately 6 miles of new fence construction. There is no Coordinated Resource Management Plan written for the allotment. There was an allotment management plan written and

signed for the allotment in 1984 by the BLM and signed by a previous lessee. This plan has not been incorporated into the terms and conditions of the grazing lease.

There are three spring developments on BLM land (Tub Spring, Mine Spring, and Seep Spring). Currently, the spring developments are in disrepair. Mine Spring has a 100 foot pipe to a single trough. Tub Spring also had a pipe to a single trough. There is one well on state trust land and an AGFD wildlife water catchment #788 on BLM land (Figure 3). The well on State Trust Land is the primary water source for the northern portion of the allotment. Water is available on private land for the southern portion of the allotment.

4.6.2 Environmental Impacts

4.6.2.1 Alternative 1 - Proposed Action

Under the Proposed Action of renewing the lease and eliminating the suspended 123 AUMs, the lessee would use the allotment for the pasturing of 596 AUMs. Along with this new 10-year lease, a cooperative agreement with the lessee would be written to show responsibilities to each party involved for the maintenance of range improvement projects, including maintenance of range improvements.

4.6.2.2 Alternative 2 - No Grazing

No grazing would be authorized on public land. The BLM would not authorize grazing on the Limestone allotment for a ten-year term and all Animal Unit Months (AUMs) for active preference would not be available for livestock grazing on public lands. With no grazing for 10 years, this allotment would be expected to change according to the natural processes of the environment. The 910 acres of State Trust land may no longer be viable as a grazing lease as the four parcels would need to be fenced to prevent trespass onto the BLM lands. Since the two larger parcels are separated across the valley, and the two smaller ones are next to the private lands, there may not enough land in a manageable unit to support a livestock operation.

4.6.2.3 Alternative 3 - Limit period of use

Period of use would be changed from 596 AUMs yearlong to 596 AUMs in the winter months from September 1- March 1. The allotment contains predominantly summer growing vegetation. With a change of use to the winter season vegetation would have the summer season to grow, build carbohydrate reserves, and go to seed before any grazing took place.

4.6.2.4 Alternative 4- No Action

The continuation of the existing terms and conditions under the current lease would have the same affects as the proposed action, but they would still have the 123 suspended AUMs on their lease.

4.7 Wilderness Characteristics

4.7.1 Affected Environment

During scoping for the proposed development of a Tucson Resource Management Plan (currently Safford District RMP provides management guidance for this area), the BLM received a proposal from the Sky Island Alliance conservation organization in 2006 for an area believed to have wilderness characteristics, including portion of the Limestone allotment (Figure 12). The citizen's wilderness characteristics inventory area includes two old routes that were clearly constructed by equipment. However, maintenance on these routes has been limited to the passage of vehicles, and occasional trimming of encroaching vegetation. The portion of the allotment within the citizen's inventory unit appears to be largely natural due to the absence of developments, is roadless, and is approximately 5,700 acres in size. A BLM wilderness characteristics review and inventory was completed (AZ-4-1B) with the BLM public lands within T. 3 S, R. 16 E, being proposed as a WSA. The area was released from being a WSA under the Arizona Desert Wilderness Act of 1990 (P.L. 101-628), but the area still contains wilderness characteristics. An area is considered to possess wilderness characteristics if the following criteria are met:

- **Size** - The area must be over 5,000 acres of roadless, contiguous BLM-managed lands. Areas smaller than 5,000 acres may qualify if it is practical to preserve and use them without damaging their current condition. In addition, roadless areas less than 5,000 acres that are contiguous with lands that have been formally determined to have wilderness or potential wilderness values, or any federal lands already managed for the protection of wilderness characteristics (e.g. Wilderness Areas or Wilderness Study Areas) may also qualify.
- **Naturalness** - Must appear to have been affected primarily by the forces of nature and any work of human beings in the area must be substantially unnoticeable. Minor human impacts such as a water trough or fences may often be considered substantially unnoticeable.
- **Outstanding Opportunities for Solitude or Primitive, Unconfined Recreation** - The area must offer a visitor the chance to avoid evidence of other people or provide for outstanding opportunities for primitive and an unconfined type of recreation activity like hiking, fishing, etc. Solitude or outstanding primitive recreation opportunities do not have to be available in all portions of the area. An area may possess outstanding opportunities through either the diversity of possible recreation opportunities in the area or the outstanding quality of one opportunity.
- **Supplemental Values** - If size, naturalness and outstanding opportunities criteria are met, then ecological, geological, or other features of scientific, educational,

scenic, or historical values may be noted, but are not required to qualify as lands with wilderness characteristics.

Limestone Allotment - Former Proposed Wilderness Study Area

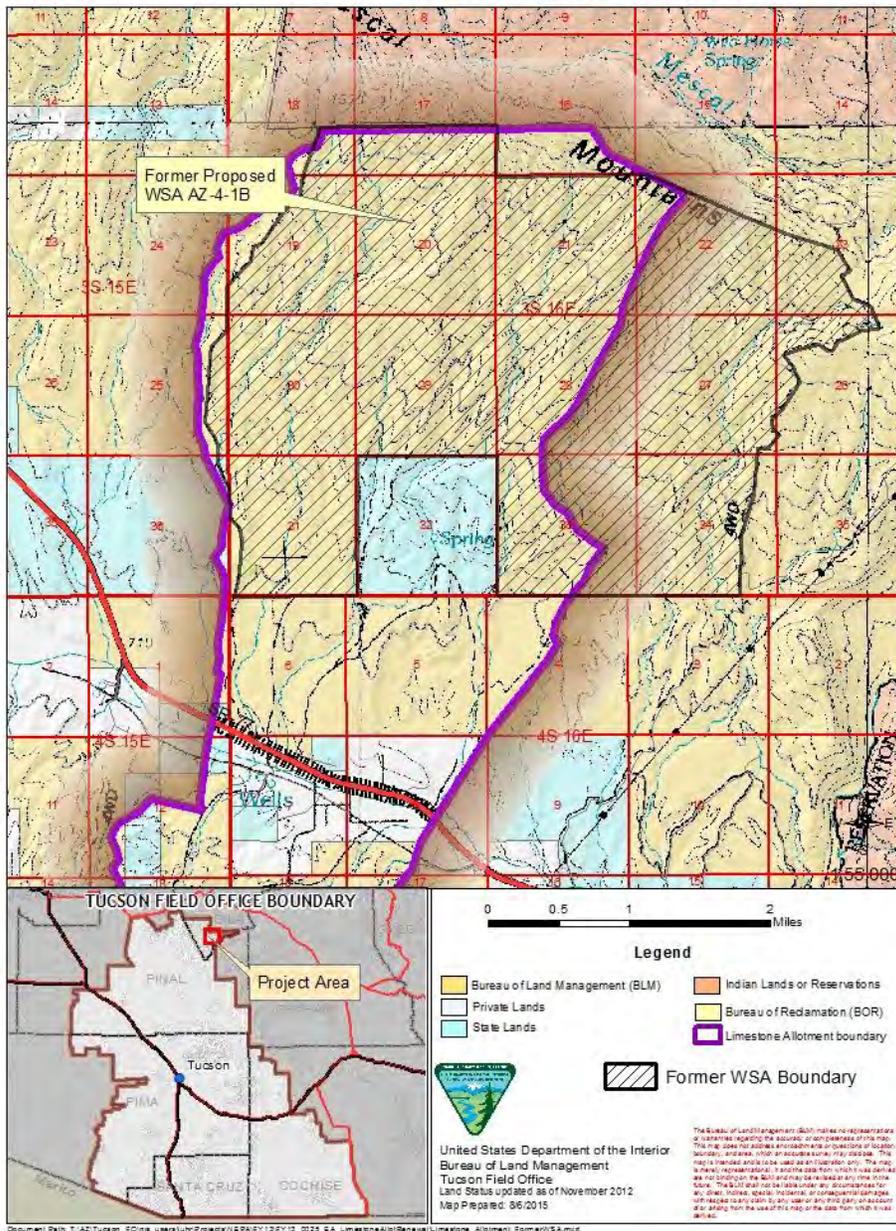


Figure 12 Formerly proposed Wilderness Study Area (WSA) on the Limestone allotment

4.7.2 Lands with Wilderness Characteristics Environmental Impacts

4.7.2.1 Alternative 1 - Proposed Action

Livestock grazing would not affect the size of the area that has wilderness characteristics.

The criteria for an area to meet the “naturalness” standard is that the “area must appear to have been affected primarily by the forces of nature and any work of human beings in the area must be substantially unnoticeable. Minor human impacts such as a water trough or fences may often be considered substantially unnoticeable (BLM, 2012).” Livestock grazing on the Limestone allotment would not affect the naturalness of the area because the grazing management objectives and Rangeland Health Standards would ensure that livestock grazing on the allotment allows for adequate vegetation cover and wildlife use. The existing range improvements are considered unnoticeable under the criteria for the “naturalness” standard as the range improvements were present when the area was inventoried for wilderness characteristics. No additional range improvements are proposed as part of this Proposed Action.

The criteria for an area to meet the “Outstanding Opportunities for Solitude or Primitive, Unconfined Recreation” standard is that “the area must offer a visitor the chance to avoid evidence of other people or provide for outstanding opportunities for primitive and an unconfined type of recreation activity like hiking, fishing, etc. Solitude or outstanding primitive recreation opportunities do not have to be available in all portions of the area. An area may possess outstanding opportunities through either the diversity of possible recreation opportunities in the area or the outstanding quality of one opportunity (BLM, 2012).” Livestock grazing on the Limestone allotment would not impact a visitor’s chance to avoid other people nor the opportunity for primitive recreation.

4.7.2.2 Alternative 2 - No Grazing

Impacts would be similar to those under the proposed action, except that there is no potential for impacts to wilderness characteristics on the Limestone allotment from range improvements under this alternative.

4.7.2.3 Alternative 3- Limit Period of Use

Under the limited period of use alternative, livestock grazing on the Limestone allotment and potential future range improvement projects might have a slight impact on the outstanding opportunities for solitude or primitive unconfined recreation because there would be 99 cows on the allotment during the winter. Thus there is a higher likelihood that recreational users might encounter a cow while recreating. The increase in cattle during the winter months, would not however, increase the likelihood that a visitor would encounter other people.

4.7.2.4 Alternative 4 – No Action

Under the No Action alternative, the potential impacts to wilderness characteristics from continued livestock grazing and potential future range improvements would be the same as those under the Proposed Action.

5 Cumulative Impacts from the Proposed Action and Other Alternatives

Cumulative impacts are defined 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" (40 CFR 1508.7).

Resources identified for cumulative impacts assessments include vegetation, wildlife and the T&E Southwestern Willow Flycatcher. A cumulative effects study area (CESA) for each resource has been defined, and is summarized in Table # below.

Table 11 Cumulative Effects Study Area

Resource Concerns/Issue	CESA	Justification
Vegetation	Dripping Springs Wash Watershed	This project would potentially affect vegetation across the watershed that provides forage and cover for big game wildlife species.
Wildlife	Dripping Springs Wash Watershed	This project would potentially affect wildlife species across the watershed, including the desert tortoise.
T&E: Southwestern Willow Flycatcher	Dripping Springs Wash watershed within 5 miles of the Gila River riparian vegetation.	The Biological Opinion for livestock grazing is set in the context of the Gila District.

5.1 Past & Present Actions

Current conditions in the project area result from a multitude of natural events and human actions that have taken place over many decades.

The Limestone allotment has been grazed by livestock since the 1890s, which has resulted in utilization of vegetation and changes in vegetative composition over the past century. Other types of past and present actions on the allotment include historic range improvement developments, roads, the highway right of way, and historic mining operations.

There is scattered development along the private lands along the bottom of the valley which blocks most recreational access to the public lands on the Limestone allotment.

The allotment adjoins three other grazing allotments and the San Carlos Indian Reservation. There are active grazing allotments throughout the Dripping Springs Wash Watershed. Most of these allotments have been grazed since the 1890s with mostly unmanaged livestock grazing until the 1970s and 1980s.

Other factors such as drought, habitat/ pasture loss due to agriculture, disease, and hunting/predation are likely to influence the viability of wildlife and livestock populations (Homewood et al. 2001).

5.2 Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions would likely include continued livestock grazing, development of private land including road building and clearing vegetation for houses, utility lines, and roads.

5.3 Vegetation

The CESA for vegetation is the Dripping Springs Wash watershed which surrounds the Limestone allotment. This area was chosen because it represents the potential impact area of the proposed action. Any impacts that occur downstream of the allotment would be confined to the xeroriparian habitat which is analyzed under the upland section.

The time frame for this analysis is the life of the lease, or 10 years. The impacts from the proposed action are anticipated to last for the life of the project after which impacts would be re-analyzed.

5.3.1 Proposed Action

The Proposed Action would utilize some upland vegetation associated with grazing. Adding the effects of the proposed action to the effects of the past, present and foreseeable future actions are not expected to change current conditions. This utilization of vegetation would not compromise wildlife habitat or plant community connectivity or result in the loss of any species or populations. Cumulatively these impacts aren't expected to result in the loss of habitat function in any of the vegetative communities within the Dripping Springs Wash watershed.

5.3.2 Limited Period of Use

Cumulative impacts to vegetation under the limited period of use alternative would be the same as the proposed action.

5.3.3 No Action

Cumulative impacts to vegetation under the no action alternative would be the same as the proposed action.

5.3.4 No Grazing

Under the No Grazing alternative, there would not be any impacts to upland vegetation. Therefore no additional impacts would be added to the past, present, and reasonably foreseeable future actions affecting upland vegetation.

5.4 Wildlife

The CESA is the Dripping Springs Wash Watershed. This area was chosen because it represents the potential impact area of the proposed action. Any impacts that occur downstream of the allotment would be confined to the xeroriparian habitat which is analyzed under the upland section.

The time frame for this analysis is the life of the lease, or 10 years. The impacts from the proposed action are anticipated to last for the life of the project after which impacts would be re-analyzed.

5.4.1 Proposed Action

The Proposed action would utilize some upland vegetation associated with grazing. Adding the effects of the proposed action to the effects of the past, present and foreseeable future actions are not expected to change current conditions. This utilization of vegetation by grazing livestock would not compromise big game wildlife habitat or habitat connectivity or result in the loss of any species or populations. Cumulatively, these impacts aren't expected to result in the loss of big game wildlife habitat function within the Dripping Springs Wash watershed.

5.4.2 Limited Period of Use

Cumulative impacts to wildlife under the limited period of use alternative would be the same as the proposed action.

5.4.3 No Action

Cumulative impacts to wildlife under the no action alternative would be the same as the proposed action.

5.4.4 No Grazing

Under the No Grazing alternative, there would not be any impacts to wildlife habitat from continued livestock grazing. Therefore no additional impacts would be added to the past, present, and reasonably foreseeable future actions affecting wildlife habitat.

5.5 T&E: Southwestern Willow Flycatcher

The CESA is the Dripping Springs Wash watershed within 5 miles of the Gila River. This area was chosen because it represents the potential impact area of the proposed action on the Southwestern Willow Flycatcher. Any impacts that occur downstream of the allotment would be confined to the xeroriparian habitat which is analyzed under the upland section, and would not reach the riparian areas of the Gila River, which is critical habitat for the Southwestern Willow Flycatcher.

The time frame for this analysis is the life of the lease (10 years). The impacts from the proposed action are anticipated to last for the life of the project after which impacts would be re-analyzed.

5.5.1 Proposed Action

The Proposed action would utilize some upland vegetation associated with grazing. Adding the effects of the proposed action to the effects of the past, present and foreseeable future actions are not expected to change current conditions. This utilization of vegetation would not compromise wildlife habitat or habitat connectivity nor result in the increase of cowbird concentrations or loss of any individuals or populations. Cumulatively these impacts aren't expected to result in the loss of habitat function in any of the vegetative communities that constitute the designated critical habitat for the southwestern willow flycatcher.

5.5.2 Limited Period of Use

Cumulative impacts to threatened or endangered species under the limited period of use alternative would be the same as the proposed action.

5.5.3 No Action

Cumulative impacts to threatened or endangered species under the no action alternative would be the same as the proposed action.

5.5.4 No Grazing

Under the No Grazing alternative, there would not be any impacts to southwestern willow flycatcher habitat from continued livestock grazing. Therefore no additional impacts would be added to the past, present, and reasonably foreseeable future actions affecting southwestern willow flycatcher habitat.

6 Consultation, Cooperation, and Coordination

This proposal was presented at the BLM TFO bi-monthly NEPA project coordination meeting which was held on April 22, 2013.

This document was posted for public review for a 30 day comment period. All public comments were analyzed and necessary changes were incorporated.

John Hardesty, grazing lessee was also consulted as part of this process.

6.1 List of Preparers

Darrell Tersey, Bureau of Land Management, Natural Resource Specialist
Eric Baker, Bureau of Land Management, Rangeland Management Specialist
Francisco Mendoza, Bureau of Land Management, Outdoor Recreation Planner

Amy Sobiech, Bureau of Land Management, Archeologist
Keith Hughes, Bureau of Land Management, Natural Resource Specialist

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8 Appendices

8.1 Appendix A (attachment): AZ Standards for Rangeland Health

8.2 Appendix B (attachment): Limestone Allotment Rangeland Health Evaluation

8.3 Appendix C (attachment): Public Comment Response

Appendix C: Public Comment Responses

Comment Number	Commenter	Comment	Response
1	Western Watershed Project (WWP)	BLM used the wrong EIS in the EA and S&G	The Upper Gila San-Simon Grazing EIS has been incorporated and is now appropriately referenced throughout the EA and RHE.
2	WWP	There are no specific objectives listed for this allotment in the above plans,” would be inaccurate. The UGEIS lists resource objectives for wildlife populations, plant density, forage availability, and watershed objectives for the Limestone allotment	The specific objectives for the Limestone allotment are now included in both the Limestone RHE and referenced in chapter 2 of the EA.
3	WWP	The S&G obviously doesn’t address how well the allotment is meeting these goals, and the EA would need to be revised in light of this major difference	The RHE and EA now address these specific objectives and explain why these objectives are no longer applicable to the allotment. The RHE sets new objectives as part of Standard 3.
4	WWP	We note that the Upper Gila-San Simon Grazing EIS was finalized in 1978, nearly forty years ago. The analysis of livestock grazing in that document is woefully outdated, and to the extent that the BLM is relying on tiering to it to justify the scant analysis in the EA, that reliance would be highly problematic and in contravention of the law	Decisions in UG-SSEIS were reviewed and incorporated into Safford RMP, also reviewed and Safford RMP amended with implementations of Land Health Standards. The EA steps down from the Upper Gila San-Simon with an analysis of continued livestock grazing on the Limestone allotment.
5	WWP	The Biological Opinion states that this allotment was covered in Consultation #02-21-00-F- 0029, or the Biological Opinion for Livestock Grazing on 18 Allotments along the Middle Gila River Ecosystem, a.k.a. “18 Allotments BO.” FWS 2012 at 2,193, 215. However, the 18 Allotment BO does not include the Limestone Allotment.	The BO for the Gila District Livestock Grazing Program states that the Limestone allotment was previously covered by Amendment No 1 Phoenix District AZ Grazing EIS Upper Gila San Simon (2-21-96-F-422 and 423)
6	WWP	Please explain the consultation history of this allotment in the revised EA.	Biological consultations that apply to the Limestone allotment are consultations that were done on multiple allotments. The Limestone allotment was included in the initial consultation for the Safford and Tucson Field Office’s Livestock Grazing Program including the five amendments: <i>Programmatic Biological Opinion for the Safford/Tucson Field Offices’ Livestock Grazing Program, Southeastern Arizona</i> (#02-21-96-F-0160) with reinitiations (1997 BO); The Limestone allotment was also included in the consultation on the UG-EIS which was done in 1996: <i>Biological Opinions for the Phoenix District Portion of the Eastern Arizona Grazing EIS and</i>

			<p><i>the Upper Gila-San Simon Grazing EIS (#02-21-96-F-0422 and #02-21-96-F-0423) with amendment (Phoenix District BOs)</i></p> <p>Finally, the Limestone allotment was also included in the consultation on the Gila District Livestock Grazing Program that was done in 2012: <i>Biological Opinion on the Gila District Livestock Grazing Program</i> #’s 02-21-92-F-0070 02-21-96-F-0160 02-21-96-F-0422 02-21-96-F-0423 02-21-00-F-0029 02-21-03-F-0462 02-21-04-F-0022 02-21-04-F-0454 02-21-05-F-0086 22410-2006-F-0414 22410-2007-F-0119 22410-2007-F-0225 22410-2007-F-0233 22410-2008-F-0103</p>
7	WWP	The Limestone allotment EA includes a Biological Evaluation (BE) that addresses the Sonoran desert tortoise, grey wolf, and ocelot. EA at 29. The EA also contains a list of “Wildlife Resources.” EA at 31. Neither document addresses southwestern willow flycatcher	SWFL added to both documents
8	WWP	The Limestone allotment is certainly within five miles of critical habitat for this species and the failure to even mention the bird in the EA violates NEPA and the Endangered Species Act.	SWFL added to both documents. SWFL covered in Gila District Grazing BO
9	WWP	The EA contains very little information regarding range developments, much less any analysis of cowbird concentration	Sections on cowbird concentrations have been added to the EA, RHE, and BE
10	WWP	This does not indicate whether the spring developments are on public or private land	This has been clarified in the EA and maps have been added to the EA to further clarify where these springs are located.
11	WWP	what the impacts of these diverted springs are on the hydrology of the public lands	Addressed in EA.
12	WWP	or how these provide for livestock concentration areas that could be facilitating cowbird infestation	Cowbird discussion added to the EA.
13	WWP	The map included with the EA does not show water infrastructure either.	New map added
14	WWP	“Tub Spring, Seep Spring, and San Bernardo mine water are known to be present on the allotment.” EA at 13. Are these the four spring developments referenced later in the EA,	Corrected in EA.
15	WWP	are there multiple troughs at each spring,	No. This has been clarified in the EA.

16	WWP	what are the San Bernardo mine waters	Added Mine and Seep waters to the EA and RHE.
17	WWP	The BLM has also not taken a hard look at these resources or evaluated a range of alternatives for livestock grazing in context of what could happen to these seeps and springs if they were restored for wildlife use	See analysis of Issue 2. The EA provides analysis of impacts to wildlife habitat including the impacts of a no grazing alternative.
18	WWP	While the EA states that the proposed action is to renew the grazing lease for a term of ten years for a preference of 557 AUMs (no suspended AUMs) on page 6, the table immediately following (Table 1) shows a fully active AUM level of 596. EA at 6	Corrected to 596.
19	WWP	The No Action/current management alternative describes 596 AUM with an additional 123 AUM suspended. EA at 9	Corrected in EA and RHE.
20	WWP	Elsewhere it says that the permit was reduced to 557 AUM and then raised again to 596 AUM. EA at 4	Corrected in EA.
21	WWP	In the Affected Environmental section of the EA, grazing use is described as 596 AUM. EA at 20	AUM numbers corrected throughout the EA.
22	WWP	The Environmental Impacts of the proposed action state that it would be permitted at 596 AUM. EA at 21	AUM numbers corrected throughout the EA.
23	WWP	There are no actual use data included in the EA.	Section added about actual use
24	WWP	It is also not clear that the BLM has ever based the stocking rate on a reevaluated carrying capacity of the allotment following the 1986 land transfer, since the EIS predated it	Clarified in the introduction.
25	WWP	In addition to lacking actual use data, the EA and the RHE lack any quantitative data.	Quantitative monitoring data is now included in both the EA and RHE.
26	WWP	The inclusion of Alternative 3, an alternative to "Limit Period of Use" to change the period of use to winter only is interesting, but entirely unexplored in the EA	The EA now fully analyzes this alternative.
27	WWP	There is no discussion of whether there would be sufficient vegetation resources to support this change, what the real impacts of concentrated livestock use would be on the plants and animals that inhabit the allotment, or how it could/would work.	The EA now fully analyzes this alternative.
28	WWP	There is not enough information to consider whether this is a reasonable alternative at all, and its inclusion feels more like an exercise in superficial fulfillment of NEPA's mandates to analyze a range of alternatives, but not really to do so.	The EA now fully analyzes this alternative.
29	WWP	Moreover, the description of this	The alternative is now consistent

		alternative is inconsistent. On page 9, BLM describes the alternative as changing the full number of AUM to winter only. On page 13, it says, "Limiting period of use may allow a decrease in livestock utilization and a subsequent change in vegetative cover, structure, and/or species. The current utilization levels would likely be even lower with a reduction in the stocking rate."	throughout the EA.
30	WWP	It isn't clear why BLM believes that the same number of AUM in a shorter time period is a reduced stocking rate, or why the same number of livestock would eat even less in the winter, but as noted above, Alternative B isn't fully or fairly considered. In light of the conflict with desert tortoise later in the spring and summer, this alternative should have been given more attention.	This alternative is fully described and it is explained how many livestock would be on the allotment at a time.
31	WWP	It is unclear whether livestock are authorized on the Desert Grasslands ACEC or not. The EA states that the management prescription for the exclusion of livestock from the ACEC affect only lands not currently accessible to livestock, including the parcel on the Limestone allotment.	The EA describes how the water placement and terrain prevent livestock from accessing the Desert Grasslands ACEC.
32	WWP	The map does not show the ACEC and the EA does not describe why it is inaccessible	Map of the grasslands ACEC is now included as figure 5 in the EA.
33	WWP	The Safford RMP contains very little information about the site-specific management of the Desert Grasslands ACEC on the Limestone allotment, and the present EA doesn't make up for this deficiency.	EA contains best available information.
34	WWP	Is the ACEC fenced? What is the condition of the fence? Do livestock ever access this relict grassland?	Information about the Desert Grasslands ACEC has been edited and clarified.
35	WWP	When was the last time BLM evaluated the ACEC? Are there key areas in the ACEC?	Addressed in RHE and EA.
36	WWP	The analysis of impacts of the proposed action to wildlife states, "Despite common misperceptions, evidence suggests that wildlife-livestock competition does not lead to competitive exclusion and may have a smaller impact on wildlife and livestock populations than factors external to the wildlife-livestock interaction." EA at 13. The EA then cites to a study from the Serengeti that considers wildebeest and land cover. Please provide more information supporting this idea in	Analysis of Issue 2 addresses the resource impacts from continued to livestock grazing and includes appropriate references from the desert southwest.

		the final EA using the best available science	
37	WWP	BLM relies on “inherent partitioning of habitat between Sonoran desert tortoise and livestock” and references but does not provide citations to the “several instances in the literature” that discuss it. EA at 15.	Removed could not find original documentation to back it up.
38	WWP	The FWS 12-month finding described observations of habitat overlap on 12 of 17 long-term monitoring plots in Arizona. 75 FR 78118. The FWS also cites to a study from the Florence Military Reservation (not far from the Limestone allotment) that finds that tortoises most strongly selected for canopy cover, followed by an absence of cattle activity. Id. BLM’s faith in habitat partitioning as a management tool may actually be end result of competitive exclusion instead. WWP urges the agency to take another look at the recent, published, peer-reviewed science.	done Butt and Turner Pastoralism: Research, Policy and Practice 2012, 2:9
39	WWP	The 12-month finding relied on the active management of land management agencies to mitigate the harms of grazing effects to tortoises. 75 FR 78120. That active management would presumably include site-specific, quantitative monitoring and a hard look at the potential effects when renewing grazing permits.	Quantitative pace frequency transect data & utilization data were both collected and incorporated into the analysis in the RHE and EA.
40	WWP	The lack of actual use data makes the information about rangeland health conditions hard to qualify. When the range personnel visited the allotment in 2013, had there been recent grazing?	No recent grazing for at least the past 5 years.
41	WWP	The line pertaining to actual use in the table in the S&G is blank, but the BLM admits that it measured utilization where there was no sign of cattle. It is unclear how this is supposed to provide a measure of livestock use. But BLM conducted utilization monitoring and reported that to was very low. Were there cows on the allotment in the previous year?	Edited in the RHE.
42	WWP	The S&G states that key species selected for utilization monitoring were those listed as preferential forage for livestock in the ecological site description, and that the three species were chosen because others either were not present or had no utilization. There is no discussion as to why some preferred plant species	The reason is under the conclusion for standard one

		weren't present, but it is notable that none of the key species were perennial grasses.	
43	WWP	The analysis of Alternative 2, the No Grazing Alternative, reports that eliminating livestock use on the Limestone allotment could lead to increased utilization and decreased cover on the state and private land of the allotment. EA at 18. There is no information about the current conditions on those lands now, and as far as anyone knows, it's already overgrazed and barren.	RHEs do not look at state or private lands, but it is logical to conclude if cattle are moved off of BLM to state and private, then there would be effects
44	WWP	The state and private land of the allotment total 1160 acres, and comprise only 8 percent of the allotment. Improving conditions on the 92 percent by eliminating livestock grazing may be worth it for the habitats of imperiled species, but BLM's analysis doesn't genuinely contemplate the net benefit of this action.	Revised no grazing alternative to provide an analysis of what would be expected to occur under the no grazing alternative.
45	WWP	BLM reports that there are two large pastures within the allotment that are "intertwined with land status owners." EA at 20. The BLM claims that the public lands could not be managed separately from the other lands without a large amount of new fencing construction. Id. The maps included with the EA (at 38 and 39) show solid boundaries between the state and private outside of the Dripping Springs wash corridor with the exception of one section of State Land. It appears that it would take just over 7 miles of fencing. Based on the lack of information and description in the EA, it doesn't appear that BLM has truly taken a hard look at this option.	EA has been edited.
46	WWP	It is not clear why BLM believes it has to facilitate grazing through public lands livestock permits in order to adhere to the Arizona State Constitution. EA at 21	EA has been edited.
47	WWP	This is the first instance where WWP has heard this rationale for why it must authorize public lands grazing. In order to support this hypothesis, WWP requests that BLM please provide a full economic analysis of the contribution of those 910 acres by comparing the price per AUM on the STL with the loss to federal taxpayers of administering the grazing permit for the federal lands. In this way, the reader could understand the true deprivation the No Grazing alternative might incur.	See above comments.

		<p>Please also provide a legal analysis supporting this idea of necessity, since WWP is unfamiliar with the federal decision-making hinging on state law affecting adjacent parcels. WWP would sincerely appreciate some background on this new-to-us approach.</p>	
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