



U.S. Department of the Interior
Bureau of Land Management

Big Ranch Unit A, Big Ranch Unit B, Gold Basin Allotments Grazing Permit Renewals

FINAL ENVIRONMENTAL ASSESSMENT

DOI-BLM-AZ-C010-2020-0025-EA



U.S. Department of the Interior
Bureau of Land Management
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CHAPTER 1 INTRODUCTION

In response to an application for grazing from the permittee in October of 2013, the Bureau of Land Management (BLM) Kingman Field Office (KFO) initiated a land health evaluation entitled “An Evaluation of Standards for Rangeland Health for the White Hills Evaluation. The evaluation was started in 2013 to determine whether Arizona Standards of Rangeland Health (AZ Standards) (BLM 1997) are being met for the Big Ranch Unit A, Big Ranch Unit B, and Gold Basin Allotments. Monitoring data collected in 2017 through 2018 was used to update the White Hills Evaluation (BLM 2019) herein referred to as the Evaluation 2019, which is provided in Appendix C.

This environmental assessment (EA) analyzes a range of alternatives as part of the grazing permit renewal process for the Big Ranch Unit A, Big Ranch Unit B, and Gold Basin Allotments. The Proposed Action as described in this EA has been developed to help support progress towards achieving land health standards including livestock and range improvement management, establishing best management practices for range improvement projects, and updating the terms and conditions for each permit. General range improvements are considered in the proposals including new construction, modification, and removal of grazing –related infrastructure to improve overall land health in these allotments. This EA discloses and analyzes the potential environmental consequences of renewing the grazing permits and associated range improvement projects (both modification, replacement or new construction) for the Big Ranch Unit A, Big Ranch Unit B, and the Gold Basin Allotments to determine whether any significant impacts could result from implementation of the Proposed Action or any of the action alternatives. It has been prepared for compliance with the National Environmental Policy Act (NEPA). It tiers to the 1995 Kingman Resource Management Plan (RMP) Environmental Impact Statement (EIS) (Kingman RMP/EIS 1995) and incorporates by reference the 2019 Evaluation.

1.1 Background

The Cerbat/Black Mountain Grazing EIS (1978) separated allotments into one of three selective management policy (SMP) categories¹, and then assigned allotments forage availability categories. The RMP EIS (1995) carried forward the decisions from the Cerbat/Black Mountain Grazing EIS (1978). The assignments for the three allotments are as shown in the following table.

Table 1: Allotment Information

Allotment	SMP Categories	Forage Availability
Big Ranch Unit A	I (Improve)	Perennial-ephemeral
Big Ranch Unit B	C (Custodial)	Ephemeral
Gold Basin	I (Improve)	Perennial-ephemeral

In March 2011, the BLM renewed the permit with the same terms and conditions pursuant to Section 426 of Public Law 111-88, pending compliance with applicable laws and regulations for a 10-year term for the Gold Basin Allotment. The BLM renewed the permit for the Big Ranch Unit A Allotment under a Cooperative Range Land Management Agreement approved July 7, 2003 (Appendix D) as the terms and conditions of the permit.

¹ *Selective Management Policy Categories: This Policy is used extensively in administering grazing leases. The SMP requires that BLM apply its limited workforce and budget to those lands providing the greatest potential for improvement and public benefit. Grazing allotments are separated into three management categories: "I" (improve), "M" (maintain), and "C" (custodial). I category means to improve current unsatisfactory resource conditions and M category means to maintain satisfactory resource conditions. C category means to manage custodially while protecting existing resource values.*

The White Hills Evaluation indicates that many of the key areas on two of three allotments, the Big Ranch Unit A and Gold Basin are not meeting rangeland health objectives and standards, as defined by the AZ Standards. The White Hills Evaluation indicates that the Big Ranch Unit B is meeting rangeland health objectives and standards.

The Determination Worksheet (Appendix E) states the decrease in frequency of grass species at these sites are more than likely related to the influence by drought, wildfire, and grazing by livestock and wild burros. Climatological data from the surrounding National Oceanic and Atmospheric Administration (NOAA) weather station displays that drought occurred many times during the evaluation period. Several wildfires in the West pasture occurred during the evaluation period. Utilization data indicates that year- round use by livestock and wild burros has also played a role in the non-attainment of rangeland health objectives and standards.

The RMP EIS (1995) identifies resource management objectives and management actions that establish guidance for managing a broad spectrum of land uses and allocations for public lands in the KFO. The RMP EIS (1995) allocated public lands within Big Ranch units A & B and Gold Basin Allotments as available for domestic livestock grazing. Where consistent with the goals and objectives of the RMP EIS (1995) and AZ Standards allocation of forage for livestock and the issuance of grazing permits to qualified applicants are provided for by the Taylor Grazing Act and the Federal Land Policy Management Act (FLPMA).

1.1.1 Location of Proposed Action

The Big Ranch (Units A & B) and Gold Basin allotments cover approximately 393,500 acres with the BLM managing 273,200 acres, Arizona State Land Department managing 18,277 acres, and 102,023 acres of private land in the northwest corner of Arizona in Mohave County, as depicted on Figure 1 in Appendix F.

The Evaluation Area was comprised of four livestock grazing allotments covering the northern end of the Kingman Field Office. The allotments that were evaluated are: Big Ranch Unit A, Big Ranch Unit B, Gold Basin, and Dolan Springs. A map of the Evaluation Area for the White Hills Evaluation can be found in Appendix F (Figure 2).

The Project Area for the Proposed Action encompasses three of these allotments, Big Ranch Unit A, Big Ranch Unit B, and the Gold Basin Allotments as shown on Figure 1 in Appendix F.

1.1.2 Preparing Office

Colorado River District, Kingman Field Office

1.1.3 Applicant Name

Charles W. Hamilton

1.2 Purpose and Need for Action

The purpose of the action is to fully process the term grazing permits for the Big Ranch Unit A, Big Ranch Unit B, and the Gold Basin Allotments in accordance with all applicable laws, regulations, and policies and in accordance with Title 43 Code of Federal Regulations (CFR) 4130.2. The purpose of the

action is also to improve land health in areas that are not currently meeting land health standards and to maintain those areas that are.

The need for the action is to renew these grazing permits with terms and conditions for grazing use that would meet, or make significant progress towards meeting, AZ Standards and Guidelines for Rangeland Health, Resource Management Plan, and other pertinent multiple use objectives for the allotment.

The need for this action is established by the Taylor Grazing Act, FLPMA, and the RMP EIS (1995), which requires that the BLM respond to grazing applications to fully process permits to graze livestock on public lands identified as available for livestock grazing.

1.3 Decision to be Made

The Authorized Officer would decide whether to issue new grazing permits for the three allotments and if so, what terms and conditions would apply to each permit. Additionally, the decision will be made whether to authorize range improvements or other projects designed to aid in achieving land health standards and improvement in rangeland conditions.

1.4 Conformance with Arizona Standards

Arizona Standards for Rangeland Health (AZ Standards):

The following standards are applicable to all three allotments:

Standard 1: Upland Sites

- Upland Soils exhibit infiltration, permeability, and erosion rates that are appropriate to soil type and landform (ecological site).
- Soil conditions support proper functioning of hydrologic, energy, and nutrient cycles.
- Soil condition indicators include: Bare ground or ground cover: litter; live vegetation (i.e., amount and type (e.g., grass, shrubs, trees, etc.); gravel and rock.
- Signs of erosion: flow pattern, gullies, rills, plant pedestaling, etc.

Standard 2: Riparian-Wetland Sites

- Riparian-wetland areas are in Properly Functioning Condition (PFC).
- Riparian-wetland functioning condition assessments are based on examination of hydrologic, vegetative, soil and erosion-deposition factors.
- PFC is indicated by such factors as: Gradient; width-to-depth ratio; channel roughness and sinuosity of stream channel; bank stabilization; reduced erosion; captured sediment; ground-water recharge; and dissipation of energy by vegetation.
- Productive and diverse upland and riparian-wetland plant communities of native species exist and are maintained.
- Attributes include: Composition, frequency, structure, and distribution.

Standard 3: Desired Resource Conditions (Vegetation)

- Productive and diverse upland and riparian-wetland plant communities of native species exist and are maintained.
- Upland and riparian-wetland plant communities meet Desired Plant Community (DPC) objectives.

- DPC objectives will be developed to assure that soil conditions and ecosystem function described in Standards 1 and 2 are met.
- DPC objectives will be used as an indicator of ecosystem function and rangeland health.
- Indicators include Composition, Structure, and Distribution.

1.5 Land Use Plan Conformance

The Proposed Action and Alternatives for all three allotments are subject to and have been reviewed for conformance with the following plan:

Name of Plan: Kingman Resource Area Proposed RMP and Final EIS and Record of Decision for the Approval of the Kingman Resource Area RMP

Approved: March 1995

The action alternatives are in conformance with the Rangeland Management Decisions described on pages 71-72 of the RMP EIS (1995) and includes guidance for the management of rangeland resources in accordance with the Cerbat/Black Mountain Grazing EIS (1978). See Appendix G for additional information on specific decisions and guidance objectives from these plans and relationship to other planning documents, statutes, and regulations.

1.6 Relationships to Statutes, Regulations, or Other Plans

This EA was prepared in accordance with the NEPA, as amended, and is in compliance with all applicable laws and regulations subsequently passed, including the Council on Environmental Quality (CEQ) regulations (40 CFR, Parts 1500-1508) and guidelines; U.S. Department of Interior (USDI) Regulations for Implementation of NEPA (43 CFR Part 46); USDI BLM NEPA Handbook, H-1790-1 (BLM 2008b); and the Department Manual (DM) Part 516. The Proposed Action is in conformance with applicable statutes, regulations, policies, and local area planning documents germane to the analysis area.

1.6.1 Other BLM Plans and Environmental Analysis

The following documents are applicable to the specific allotments as referenced:

Cerbat/Black Mountain Habitat Management Plan (BLM 1987)

- Improve mule deer habitat by relieving limiting habitat factors such as water, forage, or cover (page 13).

Black Mountain Ecosystem Management Plan and EA AZ-025-95-032, and Decision Record approved April 1996 (BLM 1996) All developments in wilderness areas listed in appendices 5 and 6 will be inspected and maintained without mechanized equipment (pg. 48).

The Cooperative Range Land Management Agreement (BLM 2003) (see EA Appendix D)

Big Ranch Allotment Unit A:

- To improve the quality of forage produced on the public lands and provide for long-term sustainability of the forage resource, the following grazing management prescriptions shall be implemented:

- A rotational razing system shall be implemented in each of the two major pastures and associated use areas. Cattle shall be rotated when the utilization threshold of moderate (40%—60%) has been reached on current annual growth of key forage species.
- Stocking rates will be reduced during drought to maintain vigor of forage species.
- The initial stocking rate shall not exceed 325 cattle at 77% public land. Additional cattle may be licensed when base and supplemental waters currently in disrepair are repaired and placed in operation.
- At the end of five years, this allotment will be re-evaluated with any stocking rate adjustment based on the analysis of the collected monitoring data.
- Ephemeral use in addition to the authorized active use may be licensed when the potential for sufficient ephemeral forage is present.
- The Bureau and the permittee agree that a long-term management plan is needed to provide for the physiological needs of the forage plants and to maintain and improve the water cycle for improved watershed condition. It is further agreed that this long-term plan will be cooperatively developed.

1.7 Scoping and Issues Identification

It was determined through a Colorado River District (CRD) Management Strategy Planning effort in September of 2019 that the KFO would begin evaluating the land health work done in the White Hills Area. Monitoring records were used as a basis for evaluating the potential permit renewal. This evaluation was scoped internally by the KFO Interdisciplinary Team in 2013 and again in 2019.

Issues and concerns identified by the KFO Interdisciplinary Team during internal scoping included:

Invasive Non-Native Species

Issue 1: How would reducing the stocking rate and resting a portion of these allotments from grazing each year affect the spread or control of invasive, noxious, and non-native species?

Issue 2: How would the development of new watering facilities affect the spread of invasive, noxious, and non-native species?

Grazing Management

Issue 3: How would reducing the stocking rate and resting a portion of these allotments from grazing each year affect the management of livestock grazing on the allotments?

Issue 4: How would the development of new watering facilities affect the management of livestock grazing on the allotments?

Issue 5: How would changing livestock grazing management and construction of additional range improvements impact the local communities and the permittee?

Recreation

Issue 6: How would reducing the stocking rate and resting a portion of these allotments from grazing each year, and developing new watering facilities affect recreational hunting opportunities and hunter success on these allotments?

Issue 7: How would the development of new watering facilities affect dispersed recreational camping opportunities and associated outcomes on the allotments?

Riparian

Issue 8: How would the development of fencing around springs to exclude livestock grazing affect the riparian vegetation on Big Ranch Unit A, Big Ranch Unit B and Gold Basin allotments?

Soils

Issue 9: How would reducing the stocking rate and resting a portion of these allotments from grazing each year affect soil compaction and erosion (including bare ground) on the allotments?

Issue 10: How would the development of new range improvements affect the soils across the allotments and in the proximity of the improvements?

Vegetation

Issue 11: How would reducing the stocking rate and resting a portion of these allotments from grazing each year affect the productivity of key species?

Issue 12: How would the development of new watering facilities affect composition and diversity of vegetation species across the allotments and in the proximity to the improvements?

Visual Resources

Issue 13: How would reducing the stocking rate and resting a portion of these allotments from grazing each year and proposed new watering facilities affect scenic quality of the area as measured by contrast to existing landscapes?

Wildland Fire Management

Issue 14: How would the reducing the stocking rate and resting a portion of these allotments from grazing each year affect habitat response to wildfires on these allotments?

Issue 15: How would the development of new range improvements affect habitat response to wildfires on these allotments?

Wildlife including Special Status Species and Migratory Birds

Issue 16: How would wildlife special-status species and migratory bird habitat and population be affected by reducing the stocking rate and resting a portion of these allotments from grazing each year?

Issue 17: How would reducing the stocking rate and resting a portion of these allotments from grazing each year affect general wildlife habitat?

Issue 18: How would the development of new watering facilities affect general wildlife habitat and wildlife's access to stock waters?

Wild Burros

Issue 19: How would reducing the stocking rate and resting a portion of these allotments from grazing each year affect wild burros on the allotments?

Issue 20: How would the development of new watering facilities affect the burros on these allotments?

Areas of Critical Environmental Concern

Issue 21: How would reducing the stocking rate and resting a portion of these allotments from grazing each year affect wildlife values for bighorn sheep habitat and federal candidate plant species within the Black Mountain Ecosystem Management Area of Critical Environmental Concern (ACEC)?

Issue 22: How would the development of new range improvements affect ACEC values on these allotments?

1.7.1 Public Review and Comments

Comments were accepted on the White Hills Evaluation (BLM 2019) for a 30-day period during the month of January 2020. The Land Health Evaluation was posted to the project webpage and notification sent to the interested parties during this comment period. Comments were received from the Mohave County Farm and Livestock Bureau, Arizona Game and Fish Dept., Desert Tortoise Council, Western Watersheds Project, The Big Sandy Natural Resource Conservation District and Jack Ehrhardt. In December 2019, several meetings were held between the BLM and the permittees to discuss their comments on the document. These comments and the issues presented by the commenters were considered in the development of this EA.

The resources and issues that were evaluated and deemed to not warrant additional analysis can be found in Appendix H including the rationale for not analyzing them in detail.

Comments were accepted on the EA for a 30-day public comment period. Minor revisions for clarification were made in this Final document based on those comments. The BLM has included in Appendix K the responses to comments received including where changes were made in the document.

CHAPTER 2 PROPOSED ACTION AND ALTERNATIVES

The current grazing system is described under Alternative 3 - No Action Alternative as a baseline for comparison to the other alternatives. The Proposed Action was designed to manage the allotments for livestock grazing, provide for a diversity of wildlife and plant species, maintain functioning ecosystems, and maintain or improve ecological condition to meet Rangeland Health Standards (USDI BLM 1997).

2.1 Proposed Action Alternative (Adaptive Management)

The Proposed Action alternative was developed to address the need for changes in grazing management to move Rangeland Health Standards more toward being met than they currently are under the Cooperative Management Plan (BLM 2003). Rangeland Health Standards (USDI BLM 1997) are not being met at some key areas within the Big Ranch Unit A and Gold Basin Allotments due to the combination of drought, wildfire, livestock and burro management. This alternative would replace the Cooperative Management Plan (BLM 2003).

Under the Proposed Action the BLM would reissue 10-year grazing permits for the Big Ranch Unit A, Big Ranch Unit B, and Gold Basin allotments in conformance with the Kingman RMP and related plans. This Alternative consists of three parts: 1) Renewal of the grazing permits with new terms and conditions (as appropriate), 2) Maintenance of existing range improvements needed to start the implementation of the grazing plan and 3) Construction of new range improvements to fully implement the Adaptive Management Plan (AMP) as described below.

A complete technical guide to Adaptive Management, prepared by the Department of Interior is available for review at the following web link:

<http://www.doi.gov/initiatives/AdaptiveManagement/documents.html>.

Adaptive management” is explained by Glick et al. (2011) in “Scanning the Conservation Horizon” as follows:

Adaptive Management identifies a series of steps which are summarized as follows:

- Under a common purpose develop a management and monitoring plan that maximizes results and learning.
- Implement your plans, analyze your data, communicate your results, adapt and learn.

The following terms and conditions containing Best Management Practices (BMPs) would be incorporated into all term grazing permits under the Proposed Action. Upon signing of the permit, the permittee would agree to the following:

Grazing Permit Terms and Conditions

The Proposed Action for the Big Ranch Unit B Allotment would be to issue the grazing permits under the same terms and conditions as the current permit, as described below.

The Proposed Action for Big Ranch Unit A and Gold Basin Allotments would be to issue the grazing permits with specific modifications to the terms and conditions, as described below.

Mandatory Terms and Conditions

Table 2: Current Permit Mandatory Terms and Conditions:

Allotment Name	No. of Livestock	Kind of Livestock	Season of Use Begin / End	% Public Land	Type Use	AUMs ²
Big Ranch Unit A	584AUs ³	Cattle	03/01 to 02/28	77%	Active	5,396
Big Ranch Unit B	0 AUs	Cattle	Ephemeral	100%	Active	0
Gold Basin	336 AUs	Cattle	03/01 to 02/28	73%	Active	2,943

Table 3: Proposed Permit Mandatory Terms and Conditions

Allotment Name	No. of Livestock	Kind of Livestock	Season of Use Begin / End	% Public Land	Type Use	AUMs
Big Ranch Unit A	321 AUs	Cattle	03/01 to 02/28	77%	Active	2966
Big Ranch Unit B	0 AUs	Cattle	Ephemeral	100%	Active	0
Gold Basin	180 AUs	Cattle	03/01 to 02/28	73%	Active	1663

Other Terms and Conditions

Big Ranch Unit B Allotment:

- Ephemeral use may be licensed when the potential for sufficient ephemeral forage is present.

² AUMs: Animal Unit Months

³ AUs: Animal Units or cattle numbers

Big Ranch Unit A and Gold Basin Allotments:

Adaptive Management

As part of the Proposed Action, the following AMP has been incorporated to replace the Cooperative Management Plan (BLM 2003) for these allotments. This AMP consists of the following parts which include:

Use the terms and conditions listed above and renewal of the grazing permits following implementation of an AMP that provides periodic rest over time to all areas across these allotments.

Big Ranch Unit A and Gold Basin allotments would be managed separately with Big Ranch Unit A further broke down into two units. One unit would consist of the allotment area west of U.S. Hwy 93 (US-93), and the other unit consisting of the allotment area east of (U.S. Hwy 93 (US-93) (see Figure 3, Appendix F for a detailed map of both allotments).

The large size of these allotments precludes fencing as an economical means of implementing a livestock rotational grazing system. Instead, water distribution networks utilizing pipelines would be used to control livestock movement and rest selected areas on an annual basis. Each year cattle would be moved off one network to rest the service area from grazing. Most of the water sources along the pipeline in the network would be shut off, with one or more as needed remaining on for wildlife, burros, and cattle that have strayed into the service area. The permittee would monitor the watering sites left on and remove any stray cattle they find. Monitoring data e.g. trend and utilization data would be used to determine the areas to be rested each year.

The active stocking rates for these allotments would not be changed until another stocking rate evaluation is completed and when monitoring data from all key areas in each allotment are meeting or making significant progress towards meeting AZ Standards for Rangeland Health (see Appendix C for a list of Land Health Standards).

Existing Range Improvements

Currently, there are seven high priority range improvement watering facilities. Where needed, these existing facilities would be maintained/improved to ensure they are reliable water sources. The high priority existing facilities with range improvement numbers assigned that are to be maintained/improved are found by allotment and management unit in Appendix I.

New Range Improvements

The grazing permittee has requested cooperative range improvement permits for the development, operation, and maintenance of new water facilities on the Big Ranch Unit A, Big Ranch Unit B, and Gold Basin Allotments. Maintenance responsibility would be assigned to the grazing permittee, as a term and condition of the cooperative range improvement permit.

A total of 16 new watering facilities would be developed in areas of these allotments which are currently without watering facilities and/or service areas. Some of these new watering facilities would be developed near existing watering facilities in order to help supplement and make these range improvements more reliable water sources. These high priority new water facilities would help improve livestock management and distribution in order to fully implement the AMP. The high priority facilities would be developed first as funding and resources become available as described in Appendix I.

As part of these new range improvements, three upland enclosures would be constructed to separate the effects of livestock management, weather, and other factors. Additionally, the Cottonwood and Lower Cross Springs in the West Unit of the Big Ranch Allotment would be fenced to exclude grazing on the riparian habitat associated with these springs.

Best Management Practices

The following best management practices would be implemented as part of the Proposed Action.

- Any fencing would be built using wildlife friendly guidelines as described in Arizona Game and Fish Fencing Guidelines.
- Utilization monitoring would be completed every year to determine use thresholds.
- Monitoring would be done every three to five years to determine the 17 indicators of land health for key areas.
- Rest at all key areas as needed.
- The KFO would complete cultural inventories within areas defined as areas of potential effect, as needed, where previous survey coverage is insufficient to the project design. These surveys shall use the appropriate survey strategy outlined in the State Protocol Agreement Between The Arizona State Historic Preservation Officer (SHPO) Regarding the Manner In Which the Bureau of Land Management Will Meet Its Responsibilities Under the National Historic Preservation Act and the National Programmatic Agreement Among the BLM, The Advisory Council On Historic Preservation, and the National Conference of State Historic Preservation Officers.
- If cultural remains or human burials are identified during this project, all ground disturbance from project operations must cease at the location of inadvertent discovery and the Kingman Field Office archaeologist would be contacted immediately.

2.2 No Action Alternative

Under the No Action Alternative, the current grazing permits and associated terms and conditions would be renewed for 10-years without change for the Big Ranch Unit A, Big Ranch Unit B, and Gold Basin allotments. The terms and conditions of the grazing permits for the Big Ranch and Gold Basin states the permittee would implement a Rotational Grazing System on the Big Ranch and Gold Basin Allotments. According to the 2003 Cooperative Management Plan for the Big Ranch Allotment, the BLM and the permittee would meet two times per year to decide which pastures should be rested during the year (for more detail see Appendix D).

2.3 No Grazing Alternative

Under this alternative the existing grazing permit for the Big Ranch Unit A and Gold Basin allotments would not be renewed and livestock grazing would be cancelled. Grazing would be eliminated on approximately 393,500 acres of public land, and 8,339 AUMs would be cancelled. Existing range improvements on these allotments would be evaluated for feasibility of maintenance by the BLM or removed and reclaimed. The permit for Big Ranch Unit B allotment would still be renewed with current terms and conditions under this allotment as the allotment is currently meeting AZ Standards for Rangeland Health and thus no changes were deemed necessary.

A summary of the actions proposed under each of the alternatives are provided in the following table.

Table 4: Grazing Strategies for Each Alternative

Alternative	Number of Livestock	Rest*	Moves	Proposed Range Improvements						
<p>Alternative 1 - Proposed Action</p>	<p>Grazing Permitted Use: 200 AUs</p> <p>Active Stocking Rate: 67 AUs</p>	<p>BIG RANCH ALLOTMENT UNIT A (WEST UNIT)</p> <p><u>Coyote /South Well Pipeline System</u> A minimum of 1 of 5 years (Rest)</p> <p><u>Cow Camp Well Pipeline System</u> A minimum of 1 of 5 years (Rest)</p> <p><u>Cottonwood Well Pipeline System</u> A minimum of 1 of 5 years (Rest)</p> <p><u>Great West/M.bird/Hwy93 Pipeline System</u> A minimum of 1 of 5 years (Rest)</p> <p><u>Smith Corrals Pipeline System</u> A minimum of 1 of 5 years (Rest)</p>	<p>1 per year</p>	<p>Install new cattleguards</p> <p>Construct new wells facilities with associated pipelines, storage tanks and troughs</p> <p>Construct exclosures</p> <p>Construct riparian exclosures</p>						
		<p>Alternative 1 - Proposed Action</p>		<p>Grazing Permitted Use: 384 AUs</p> <p>Active Stocking Rate: 254 AUs</p>	<p>BIG RANCH ALLOTMENT UNIT A (EAST UNIT)</p> <p><u>Spears Pipeline System</u> A minimum of 1 of 4 years (Rest)</p> <p><u>Jeff’s Camp Pipeline System</u> A minimum of 1 of 4 years (Rest)</p> <p><u>Upper White Elephant Pipeline System</u> A minimum of 1 of 4 years (Rest)</p> <p><u>Lower White Elephant Pipeline System</u> A minimum of 1 of 4 years (Rest)</p>	<p>1 per year</p>	<p>Install new cattleguards</p> <p>Construct new wells facilities with associated pipelines, storage tanks and troughs</p> <p>Construct exclosures</p> <p>Construct riparian exclosures</p>			
					<p>Alternative 1 - Proposed Action</p>		<p>Grazing Permitted Use: 336 AUs</p> <p>Active Stocking Rate: 180 AUs</p>	<p>GOLD BASIN ALLOTMENT</p> <p><u>Patterson/Fox Pipeline System</u> A minimum of 1 of 5 years (Rest)</p> <p><u>Lower Patterson Pipeline System</u> A minimum of 1 of 5 years (Rest)</p> <p><u>Archibald Pipeline System</u> A minimum of 1 of 5 years (Rest)</p> <p><u>White Elephant Pipeline System</u> A minimum of 1 of 5 years (Rest)</p>	<p>1 per year</p>	<p>Install new cattleguards</p> <p>Construct new wells facilities with associated pipelines, storage tanks and troughs</p> <p>Construct exclosures</p> <p>Construct riparian exclosures</p>

Alternative	Number of Livestock	Rest*	Moves	Proposed Range Improvements
		<u>Cyclopic Pipeline System</u> A minimum of 1 of 5 years (Rest)		
Alternative 2 – No Action Alternative (No Change to Current Conditions)	Grazing Permitted Use: 940 AUs Initial Stocking Rate: 940 AUs	BIG RANCH UNIT A AND GOLD BASIN ALLOTMENTS Provide rest (non-use) on the Big Ranch and Gold Basin Allotments each the year. This allotment management plan is based on the 2003 Cooperative Management Plan.	2 per year	Maintain and repair range improvements on BLM portion of allotments as authorized in the 2003 Cooperative Management Plan.
Alternative 3 – No Grazing Alternative	0	N/A	N/A	None

*Rest periods would be determined based upon monitoring in those specific areas.

2.4 Alternatives Considered but not Analyzed in Detail

During the public comment and review period, comments were received regarding additional analysis of alternatives, refer to Appendix K, Response to Comments. One alternative suggested was not already a part of those analyzed or eliminated from further analysis, this alternative is discussed below.

2.4.1 Reduce AUMs Only

Under this alternative the number of AUMs permitted in the Big Ranch Unit A and Gold Basin Allotments would be reduced as described under the Proposed Action. No new water developments would be constructed. Livestock would continue to graze in areas they are currently in, but at a reduced level. While this would alleviate some of the grazing pressures with reduced numbers, livestock distribution would remain the same and the areas currently grazed would continue to receive the same pressures. Not improving distribution with new water developments would not assist in making progress towards meeting Rangeland Health Standards in some key areas. Vegetation at existing water developments would continue to receive heavy grazing pressure. Reducing grazing pressure around existing watering facilities would slowly allow vegetation to improve and reduce bare ground in and around these old watering sites. This is accomplished by reducing stock rates with the additional proposal of opening new areas to construction and concentrated grazing activities. Therefore, an alternative that just reduces AUMs without also improving distribution would not assist towards meeting standards, which could have more adverse impacts than those analyzed in the EA on resources already receiving heavy grazing pressures. Hence this alternative has been eliminated from further analysis as it would not have benefits to the overall landscape vs another alternative analyzed.

CHAPTER 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the existing conditions relevant to the issues presented in Section 1.7 of this EA, and discloses the potential direct, indirect, and cumulative impacts of the alternatives on those issues.

3.1 Issues Brought Forward for Analysis

The description of the Affected Environment for all alternatives would be the same.

3.1.1 Invasive Non-Native Species

Issue 1: How would reducing the stocking rate and resting a portion of these allotments from grazing each year affect the spread or control of invasive, noxious, and non-native species?

Affected Environment

Invasive, non-native annual species are present in the allotments. Some of these have been in Arizona for more than 50 years and are common throughout the state and Mohave County. The most common invasive species are red brome (*Bromus rubens*) and Mediterranean grass (*Schismus*). Cheatgrass (*Bromus tectorum*) is also present but, less common than red brome. In years with above average winter and spring precipitation, red brome is widespread across the desert floor. In low rainfall years, red brome is restricted to the base of desert shrubs.

Perennial native invasive species can also be found on the allotments. For example, snakeweed, a native invasive plant, is found on all three allotments and is common within disturbed sites. Snakeweed is a dominate plant that can increase and establish when other desirable plant species are removed.

Sahara mustard (*Brassica tournefortii*) is typically common on disturbed sites and along roadsides but does not require disturbance (such as grazing) to be invasive in the area. Puncturevine (*Tribulus terrestris*) occurs on the allotments in areas highly disturbed by humans. It has not yet been found around the livestock facilities on these allotments. Invasive non-native species are spread by animals such as livestock, burros, mule deer, bighorn sheep, and birds as seeds are transported via hair, hooves, and/or spread in feces. Invasive species can also be spread by wind, water, human presence, and motorized equipment i.e. off-road vehicles, etc. Spread of invasive species cannot be prevented, but can be reduced by decreasing disturbed sites, increasing composition and cover of valuable species, and active management in high concentrate areas.

Missouri Spring located on Big Ranch A has an abundance of Malta star-thistle (*Centaurea melitensis*) which commonly occurs in disturbed sites. This species dominates sites due to its large seed production and without treatment and management it would prevent riparian obligate species to establish. The species would require yearly management to reduce seed source and spread.

Environmental Consequences

Proposed Action Alternative

Maintaining the desired plant community (DPC), as prescribed in the Proposed Action, is expected to reduce the spread of undesirable plant species. Composition and cover of desired forage species is expected to be maintained or improved under the Proposed Action and could potentially reduce open space between perennial plants where invasive annual grasses and forbs can grow. Fencing out spring sources would decrease foot traffic, compaction, and use on riparian species. This would decrease the opportunity for invasives to establish and spread. Cheatgrass increases with the removal of native perennial herbaceous grasses and forbs, which can occur as a result of fire and overgrazing (Zouhar 2003). This happens in part because cheatgrass and other invasive plants can out compete native ones in accessing soil, water, and nutrients. With the additional water developments there would be new ground disturbance which could present the opportunity for invasives to increase in these areas. However, it has been found that proper range practices (rest from grazing) can help prevent the spread of invasive non-native plant species (Sheley 1995).

Adaptative management would allow for periods of rest and less grazing pressure, which would reduce disturbance and competition between invasive and native key species. These key plant species may be more vigorous and productive throughout their lifecycles because of rest from grazing and reduced stocking rate, allowing plants to reach reproductive capabilities during growing season. The BLM would continue to monitor the allotments for the presence of invasive weeds.

No Action Alternative

In key areas where Standard 1 & 3 is not being met, it is expected that invasive non-native species would increase in abundance or remain the same. The reduced occurrence of key plant species (USDI BLM 2019) in some key areas on these Allotments may have allowed for an increase of invasive non-native species. When native species decline, it opens space for invasive non-native annual grasses and forbs to invade and become established (USDA Forest Service 2014).

No Grazing Alternative

Removal of livestock would not eliminate the presence of invasive non-native species on the allotments because some species (red brome) are already established and widespread throughout the area. Young and Evans (1978) found that removal of grazing by domestic livestock does not automatically lead to the disappearance of cheatgrass (Young and Evans 1978). Burros, bighorn sheep, mule deer, birds, and other wildlife would continue to be vectors for the spread of invasive plants. Removal of grazing would reduce areas of disturbance where cattle tend to congregate, which in turn reduces compaction, bare ground, and chance for invasive to establish. The removal of grazing is expected to result in an increase over time for the frequency, cover, recruitment, and composition of key perennial plant species which would allow for a more rapid attainment of DPC objectives. Maintaining the DPC objectives is expected to reduce the spread of undesirable plant species.

Cumulative Effects

Communicating with Mohave County in their weed eradication efforts could help to identify areas when non-native invasive are noticed. BLM also has guidance in the Vegetation Treatments on Bureau of Land Management Lands in 17 Western States EIS (2007) available for various mitigations and applications that can be used to address invasive species that emerge on the Big Ranch and Gold Basin Allotments from various forms of multiple-use. Overall, the effects of monitoring, treatment, and when applicable wildfire rehabilitation would be beneficial to upland soils and vegetation in the long-term. This would indirectly contribute to attainment of the AZ Standards.

Recommended Mitigation and Monitoring

Key areas not meeting standards would be priority for rest. 17 indicators of land health would continue to be conducted. Monitoring invasive presence and size would be collected at each site and provided in the 17 indicators and weed inventories.

Issue 2: How would the development of new watering facilities affect invasive, noxious, and non-native species?

Environmental Consequences

Proposed Action Alternative

The installation of new water developments could increase the presence and spread of invasive species through increased disturbance from concentrated livestock and other ungulate use near or around the

water developments. There would be an increase in the amount of bare ground in and around the area in which new range improvements are developed. This could increase the open spaces between perennial plants where invasive grasses, forbs, and shrubs can grow. Reduced grazing pressure around existing watering facilities could allow vegetation to improve and reduce bare ground in and around these old watering sites.

No Action Alternative

Under the No-Action Alternative, no new water developments would be developed and therefore, no increase in the amount of bare ground in the area occur. Therefore, the presence and spread of invasive species would remain unchanged.

No Grazing Alternative

Under the No Grazing Alternative, no new water developments would be developed and therefore, no increase in the presence and spread of invasive species would occur from livestock grazing. Also existing water developments may not be maintained, so areas around these facilities could recover from the effects of grazing.

Cumulative Effects

The impacts of the Proposed Action are expected to increase key species, ground cover there could be less open space for invasive species. Reduced grazing pressure around existing watering facilities could allow vegetation to improve and reduce bare ground in and around these old watering sites.

In the short term the installation of new water developments along with other activities like the development of wide energy projects which are occurring in the project area currently could also increase the presence and spread of invasive species through increased disturbance. This could increase the open spaces between perennial plants where invasive grasses, forbs, and shrubs can grow.

Recommended Mitigation and Monitoring

New key areas would be established if needed to capture land health in areas where grazing by livestock did not occur. The 17 indicators of land health would continue to be conducted. Monitoring invasive presence and size would be collected at each site and provided in the 17 indicators and weed inventories.

3.1.2 Livestock Grazing Management

Issue 3: How would reducing the stocking rate and resting a portion of these allotments from grazing each year affect the management of livestock grazing on the allotments?

Affected Environment

Livestock grazing has evolved and changed since it began in the 1870s and has influenced the present-day condition of natural resources on the allotments. Given the past experiences with livestock impacts on resources on public lands, management of livestock grazing is an important tool for ensuring the protection of public land resources. A grazing permit is issued for livestock forage produced on public lands and is allotted on an AUM basis. Livestock are to be grazed on public lands in accordance with the terms and conditions of the BLM issued grazing permit including numbers, established season of use, etc. The livestock operator assumes grazing management responsibility with the intent to maintain or improve existing resources. The BLM retains the right to manage the public lands for multiple-uses and to make periodic inspections to ensure that inappropriate grazing does not occur. The BLM does not

control private lands within the allotments. The permit holder may own or lease private lands for grazing.

The Big Ranch Unit A and Gold Basin Allotments are categorized as perennial ephemeral “improve” (I) allotments. This category was defined by BLM to identify allotments with management and resource concerns. These allotments can be managed more intensively and monitored more frequently when funding and resources are available to pursue such efforts. As a result of their categorization as improve allotments, and the Big Ranch Unit A and Gold Basin Allotments have AMPs in place. Both the Big Ranch Unit A and Gold Basin allotments are grazed together as three units, one east of US-93 (East Unit), one west of the highway (West Unit) and the Gold Basin allotment. The Big Ranch Unit B is an ephemeral allotment and is only grazed when ephemeral forage is available and the permittee applies for a grazing permit.

Environmental Consequences

Proposed Action Alternative

Progress could be made toward meeting the Rangeland Health Standards (USDI BLM 1997) with improved grazing management, increased rest from grazing, and the additional terms and conditions and range improvements proposed.

Under adaptive management, the permittee should be able to have a sustainable livestock operation with similar or better economic returns beginning with a lower initial stocking rate of 501 Animal Units (AUs), lower utilization limits in some areas (as described in the Black Mountain Ecosystem Management Plan), and rest through grazing deferment versus the No Action Alternative. Adaptive management is expected to improve range conditions over time, and this in turn should improve condition class and overall health of the herd. Over the next ten years, through adaptive management, the stocking rate may be adjusted up or down based on monitoring results.

The grazing permittee is expected to incur costs associated with the maintenance of existing and new range improvements. The permittee could apply for the funding needed with BLM, Natural Resources Conservation Service (NRCS), or Arizona Game and Fish Department (AZGFD). Approximately six acres of grazing land (i.e., forage for livestock grazing) would be removed from livestock grazing as a result of the construction of three (two-acre) exclosures built and maintained by BLM.

Meeting or trending towards DPC objectives would improve forage quality and production, and ultimately result in higher quality forage for cattle. Healthy productive cows are expected to yield a higher calf crop and higher economic returns.

No Action Alternative

This alternative would maintain the current level of livestock grazing authorized for the permittee. Permit renewal under this alternative would likely result in a continuation of Standard 1 & 3 not being met at most of the key areas. The operation may become unsustainable as frequency of key species continues to decline. This is also likely to result in a continued decline of key species. The No Action Alternative could result in lower calf weights, uneven calf sizes, and lower breed back percentages. The permittee's risk associated with drought could go up as the need to destock more often could increase. Destocking during a drought means cattle may be sold at lower prices because the market would be flooded with cattle from other ranches that are also destocking. Once the permittee would be able to

restock, purchase prices of a mother cow would be much higher as others would also be trying to do the same thing.

Not installing the cattleguards is expected to make the control of livestock difficult. Cattle would be able to drift onto the Lake Mead National Recreation Area without these improvements. It is possible that the public would continue to leave gates open where the cattleguards are proposed and continue to cut fences to gain easier access.

New infrastructure costs to the permittee would be less under this alternative because no new water developments are proposed. The six acres of grazing land would not be constructed under this alternative; therefore, this acreage would not be removed from grazing.

No Grazing Alternative

If the No Grazing Alternative is chosen, the renewal of the 10-year permit for the Big Ranch and Gold Basin Allotments would not be authorized. The Kingman RMP could be amended to permanently remove the allotments from grazing. The permittee would discontinue his cow/calf business, and the allotments would not be available to transfer permitted use to another permittee. There would be no income to the community from the cattle operation.

Cumulative Impacts

The Proposed Action is expected to improve upland vegetation communities throughout the allotments and result in beneficial effects for all resources present within the allotments. Which is also expected to meet or make progress toward meeting Rangeland Health Standards (USDI BLM 1997) resulting in an incremental positive cumulative effect for the area. Benefits in addition to improving the watershed and rangeland values over the long-term are expected to include increasing wildlife in the area, and possibly wildlife viewing and other recreational activities.

The change in stocking rate, utilization limits, rotation and deferment, and addition of one new well on State trust land could be cumulatively beneficial to vegetation communities in the allotments and is expected to aid in the maintenance and attainment of the Rangeland Health Standards (USDI BLM 1997).

Recommended Mitigation and Monitoring

Key areas not meeting standards would be priority for rest. The 17 indicators of land health would continue to be conducted. Monitoring invasive presence and size would be collected at each site and provided in the 17 indicators and weed inventories.

Issue 4: How would the development of new watering facilities affect the management of livestock grazing on the allotments?

Affected Environment

Currently, there are seven existing high priority water facilities. Where needed, these existing facilities would be maintained/improved to ensure they are reliable water sources. These seven existing base waters are critical components for the implementation of AMP. The high priority existing facilities with range improvement # to be maintained/improved are found at the locations mentioned in Appendix I by allotment and management unit.

Environmental Consequences

Proposed Action Alternative

The proposed new water developments could increase water quantity and availability for livestock. This could potentially reduce the need to haul water, resulting in savings for man hours, machine maintenance and fuel costs. The proposed cattleguards are expected to provide for improved livestock control on the allotments. Installation of the cattleguards is expected to reduce the likelihood of gates being left open and fences being cut by the public.

The grazing permittee is expected to incur costs associated with the maintenance of existing and new range improvements. The permittee could apply for the funding needed with BLM, NRCS, or AZGFD. Additionally, the permittee is expected to incur costs associated with the drilling and equipping of up to eight new wells. Approximately six acres of grazing land (i.e., forage for livestock grazing) would be removed from livestock grazing as a result of the construction of three two-acre exclosures built and maintained by BLM.

Meeting or trending towards DPC objectives would improve forage quality and production, and ultimately result in higher quality forage for cattle. Healthy productive cows are expected to yield a higher calf crop and higher economic returns.

No Action Alternative

There would be no new water developments and there would be no increase in water quantity available for livestock. This would not reduce the need to haul water, resulting in more man hours, machine maintenance and fuel costs. The proposed cattleguards would not be installed, resulting in no improved livestock control on the allotments.

No Grazing Alternative

Under No Grazing, Environmental Effects would be the same as those described under the No Action Alternative

Cumulative Impacts

Past impacts such as the development of watering facilities along with the development of new water facilities would improve the distribution of livestock. The installation of cattle guards would add to the overall control and management of livestock across these allotments.

Recommended Mitigation and Monitoring

Key areas not meeting standards would be priority for rest. Seventeen indicators of land health would continue to be conducted. Monitoring invasive presence and size would be collected at each site and provided in the 17 indicators and weed inventories.

Issue 5: How would changing livestock grazing management and construction of additional range improvements impact the local communities and the permittee?

Affected Environment

All three allotments are located within Mohave County, Arizona. The population of the county is approximately 209,550 as of 2018. The population density is 15.0 inhabitants per square mile. The allotments are located in the northern portion of the county and not located near any of the major

communities in the County. The per capita income as of 2018 is \$33,745 for the County. Employment in the County is overwhelmingly Services related at 74.9%, with jobs in Non-service related industries (such as farming, agriculture services, mining and construction jobs) making up approximately 13.8% of the total jobs for the county. Farming related jobs have increased by 23% from 2001 to 2018 for Mohave County while agricultural services have declined by 88.5% over the same timeframe. The average unemployment rate as of 2019 for the county was at 5.7%, which is higher than the Arizona average of 4.7% for the same timeframe (BLM, 2020).

Actual economic contributions from the livestock industry can vary from year-to-year, depending on changes in market demand for livestock production.

Environmental Consequences

Proposed Action Alternative

The Proposed Action promotes long-term sustainable livestock grazing through improved grazing management, new developments, and management action tools. The BLM's continued provision of sustainable forage allows for continued livestock production and income to ranchers and employed help. This is a positive impact to the permittee and local communities by helping to maintain future ranching in these allotments. Those allotments currently not meeting standards could result in eventual reductions in AUMs.

Reduced AUMs on these allotments could have long-term negative impacts on the permittees, as operations may need to reduce the number of livestock or pay a higher price for replacement feed. Given the number of response options available to ranchers, it is not feasible to anticipate how individual ranchers would react to changes. Actual economic impacts would vary from year-to-year, depending on changes in market demand for livestock production. Additionally, the open space in the area is important for quality of life to local residents.

Fuel and labor costs are expected to be reduced or offset by managing a smaller area at any one time. The permittee may be better able to keep track of his cattle because they would not be spread over all of the pastures at the same time. The permittee may also be able to run fewer bulls because the bulls would have less area to search for cows. As a result, it is anticipated there could be an increase in calf crop above 75% over the next ten years. Calving could become more synchronized under this alternative, which means the calving period would be reduced from year-round to a few months out of the year. Thus, when the permittee gathers calves in the fall most calves could be ready for branding and culling at once. When the calves go to market they could be of more uniform size and weight. Larger calves are expected to bring more pounds across the scale and a better price upon selling.

The proposed water developments could increase water quantity and availability for livestock. This could potentially reduce the need to haul water, resulting in savings for man hours, machine maintenance and fuel costs. Installation of the cattleguards is expected to reduce the likelihood of gates being left open and fences being cut by the public.

No Action Alternative

The current management practices would not change and this could result in negative impacts to the permittee and local communities by not maintaining future ranching on these allotments. These allotments are currently not meeting standards and this could result in eventual reductions in AUMs.

No Grazing Alternative

Under the No Grazing Alternative, a loss of net revenue could occur in Mohave County from not re-authorizing livestock grazing on these allotments over the next ten years. The closing of these three allotments to livestock grazing could compound any loss of revenue in Mohave County which may have already occurred from other allotments not currently permitted for livestock grazing.

Cumulative Impacts

Cumulative local and regional socioeconomic impacts of the selected alternative are expected to be determined by the production and operation decisions made by the rancher as well as being affected by market conditions and regional and national economic variables.

Recommended Mitigation and Monitoring

No mitigation or monitoring is recommended.

3.1.3 Recreation

Issue 6: How would reducing the stocking rate and resting a portion of these allotments from grazing each year, and developing new watering facilities affect recreational hunting opportunities and hunter success on these allotments?

Affected Environment

The project area is located in northwestern Arizona in AZGFD Game Management Units (GMU) 15A, 15B, and 15CN east and west of U.S. Highway 93 and adjoins National Park Service managed lands on the western and northern boundaries of the project area and contains lands managed by the Arizona State Land Department and Bureau of Reclamation as well as private property. Despite the variety of land ownership within the project area, recreational travel and dispersed camping particularly as it relates to hunting is largely uninhibited in the area and most public lands are accessible to hunters utilizing the 878 miles of inventoried off-highway vehicle (OHV) routes in the area as documented in the BLM's ground transportation linear feature data set.

Primary game species within the project area including javelina, antelope, and bighorn sheep while quail and dove are considered secondary game species. Most hunting and scouting activities take place from September through February annually with use related to hunting steeply falling off after February due to the end of the authorized hunting seasons. In 2019, a total of seven permits were issued for antelope and bighorn sheep. Of those seven permits, five permits had additional data associated with the permit and included five hunters totaling 62 hunter days with a total harvest of four big game species for a success rate of 80%.

Environmental Consequences

Proposed Action Alternative

Under the Proposed Action, there would be less AUs, increased rest adjacent to pipeline systems, and increased water availability as a result of maintenance of existing waters and development of new waters. Decreasing AUs, increasing rest adjacent to pipeline systems, and increasing water availability would likely create more forage for primary game species and increased water availability within the project area, which could increase the primary game species productivity and allow AZGFD to increase the number of hunting permits available in GMUs 15A, 15B, and 15CN. An increase in available

hunting permits would lead to an increase in hunters and hunter days potentially increasing hunting success rates and perceived outcomes of recreational hunters.

No Action Alternative

Under the No Action, current management of livestock in the project area would remain unchanged. This would not lead to any measurable change in regard to recreational hunting opportunities or associated outcomes within the project area.

No Grazing Alternative

As with the Proposed Action, there would be a decrease in livestock grazing within the project area (in this case, it would be eliminated). There would also be no improvement or new development of waters throughout the project area under this alternative meaning the amount of water available for primary game species would fluctuate based on seasonality of precipitation and be subject to the natural environment. There would, however, be less competition for forage from livestock, meaning there would be a greater availability for primary game species which could increase productivity among these species meaning that more hunting permits would be available in GMUs 15A, 15B, and 15CN. An increase in available hunting permits would lead to an increase in hunters and hunter days potentially increasing hunting success rates and perceived outcomes of recreational hunters.

Cumulative Effects

Increased hunting opportunities in the project area could lead to an overall increase in recreational use of the area and lead to additional impacts from recreationists such as increased OHV use, increased density of dispersed camping areas, larger group size, less seasonal use and more year-round use. These additional impacts could impact soil and vegetative communities negatively through increased ground disturbance, soil displacement, and/or compaction which may have subsequent effects to natural plant communities which may lead to soil erosion and greater competition for forage.

Recommended Mitigation and Monitoring

No mitigation is recommended. Continue to monitor AZGFD harvest data to determine if Proposed Action would beneficially impact recreational hunting throughout the project area.

Issue 7: How would the development of new watering facilities affect dispersed recreational camping opportunities and associated outcomes on the allotments?

Environmental Consequences

Proposed Action Alternative

Under the Proposed Action, there would be increased developed water sources within the project area. As outlined in Arizona Revised Statute 17-308, it is unlawful to camp within one quarter (1/4) mile of a natural watering hole or man-made watering facility containing water. Therefore, there would be an additional 8,750 acres or about 3% of the project area where camping would be restricted. This could lead to recreationists creating additional dispersed camping locations in areas adjacent to where camping is no longer authorized as a result of redeveloped and new water sources. These new areas would likely replace abandoned areas at a 1:1 ratio and the old areas would naturally reclaim as a result of abandonment.

No Action Alternative

Under this alternative no additional water facilities would be developed and therefore dispersed camping opportunities would remain unchanged.

No Grazing Alternative

Under this alternative, no additional water facilities would be developed and therefore dispersed camping opportunities would remain unchanged.

Cumulative Impacts

There would be no cumulative impacts as a result of the Proposed Action, No Action, or No Grazing alternatives.

3.1.4 Riparian Resources

Issue 8: How would the development of fencing around springs to exclude livestock grazing affect the riparian vegetation on Big Ranch Unit A, Big Ranch Unit B, and Gold Basin allotments?

Affected Environment

Big Ranch A and Gold Basin Allotments are mostly Mojave Desert scrub with intermittent washes containing xeroriparian habitat. The washes are linear, infrequently flooded sites that have surface water for only brief periods. Dominate plant species within these washes are generally cheeseweed (*Hymenoclea salsola*), catclaw (*Acacia greggii*), four-wing saltbush (*Atriplex canescens*), and big galleta (*Pleuraphis rigida*), all of which are riparian facultative (species can occur outside of riparian habitat), not obligate (species requires the presence of constant water). There are ten documented spring sources that have held riparian obligate and facultative species to support functionality. These species include cottonwoods (*Populus fremontii*) and (*Populus angustifolia*), and desert baccharis (*Baccharis sergiloides*). Three of the ten springs are no longer supporting riparian vegetation and above surface water. Five of the ten springs are not meeting standards and are functional at risk due to reduced riparian vegetation from use and trampling. These springs provide some habitat opportunities for wildlife species such as migratory birds. Two of the ten springs are at proper functioning conditions and are supporting both facultative and obligate species. These springs are classified as lentic (lakes or non-flowing sources) riparian wetland areas. One of the springs is located in a narrow canyon where access is difficult, the other is in a shaded canyon with easy access but infested with malt star-thistle.

Environmental Consequences

Proposed Action Alternative

The Proposed Action would include fencing out spring source/origin of flow. This would only consist of fencing the main source/origin of water flow while allowing an accessible unfenced portion or piping water out into a trough. Fencing out the source/origin would reduce trampling and compaction around the source and reduce heavy use on the riparian vegetation allowing the spring to reach potential of a proper functioning condition system. Springs sources/origins may reach potential with increased abilities of riparian vegetation to reproduce and maintain stable banks. Increased riparian vegetation would increase potential for nesting species such as migratory birds and raptors and increase wildlife presence.

No Action Alternative

Fencing out springs would not be a part of the permit renewal. In areas where Standard 2 is not being met, functionality of springs would slowly become non-functional due to continued excessive use.

Facultative and obligate species would lose reproductive capabilities and over time decrease in presence leading to a loss of above surface water. Areas where springs plan to be fenced whether through this EA or other means may reach potential with increased riparian vegetation and continue to provide habitat for wildlife.

No Grazing Alternative

Fencing out springs would not be a part of the permit renewal. In general, there would be reduced impacts such as trampling, compaction, and livestock use on the spring sources. There would still be use on the springs from wildlife and wild burros. Trampling, compaction, and high use could still occur in areas where burro populations exceed management numbers. Springs where burro populations are stable may reach potential with increased abilities of riparian vegetation to reproduce and maintain stable banks. Increased riparian vegetation would increase potential for nesting species such as migratory birds and raptors and increase wildlife presence. Areas where springs plan to be fenced whether through this EA or other means may reach potential with increased riparian vegetation and continue to provide habitat for wildlife.

Cumulative Impacts

Springs where excessive use is present would lose functionality over time and lose riparian species and ability to provide habitat. Areas where springs plan to be fenced whether through this EA or other means may reach potential with increased riparian vegetation and continue to provide habitat for wildlife.

Recommended Mitigation and Monitoring

Fencing out spring sources in high use areas would lead to reduced stress on riparian habitat and increase spring potential. Springs would continue to be monitored using the proper functioning condition methods.

3.1.5 Soils

Issue 9: How would reducing the stocking rate and resting a portion of these allotments from grazing each year affect soil compaction and erosion (including bare ground) on the allotments?

Affected Environment

Soils and ecological sites on the Allotments were mapped and correlated to the National Cooperative Soil Survey Order III soil survey standards (Soil Survey Manual, Soil Taxonomy, and National Survey Handbook). This information is published in the Soil Survey of Mohave County, Arizona, Central Part 2005 by the NRCS available at the following website:

(http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/arizona/AZ697/0/Mohave%20Central.pdf).

Corresponding details on ecological site information, correlated to soil map unit information, is also found on the NRCS website

(<http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/alphabetical/ecosite/?cid=stelprdb1049096>).

To determine the functional status of the three rangeland health attributes (soil/site stability, hydrologic function, and biotic integrity) an interdisciplinary team reviews the ratings of the 17 indicators of rangeland health (Pellant et al. 2005) on a site-by-site basis and formats the interpretation into a collective rating. Based on the rating, it is then determined if more information is needed, or if the site requires additional management action(s).

The Rangeland Health Evaluation (USDI BLM 2019) found that Standard 1, Upland Health, was met at some key areas. Upland soils exhibited infiltration, permeability, and erosion rates appropriate to soil type, climate, and landform (ecological site) for the areas examined.

Environmental Consequences

Proposed Action Alternative

Adaptive management would allow for rest and reduced congregation in some areas which would reduce compaction of soils from hoof traffic. Rest on vegetation also allows for deep rooted vegetation to stabilize and keep soil intact. Stabilized native vegetation also increases cover and reduces bare ground where wind and water flow can increase soil erosion.

No Action Alternative

Compaction would continue near high use areas. Key areas which are not meeting standards due to loss of composition and ground cover would lose soil stability over time leading higher bare ground and erosion.

No Grazing Alternative

There would be no congregation of livestock and less compaction of soils from hoof traffic. Rest on vegetation also allows for deep rooted vegetation to stabilize and keep soil intact. Stabilized native vegetation also increases cover and reduces bare ground where wind and water flow can increase soil erosion.

Cumulative Impacts

Areas of high concentration from livestock would continue to create compaction of soils, eventually leading to soil loss and erosion. Areas receiving rest would reduce impaction to soils allowing for soil stability to occur and reestablishment of vegetation between interspaces.

Recommended Mitigation and Monitoring

Key areas not meeting standards would be priority for rest. Soil stability tests would continue to be conducted when collecting 17 indicators of land health.

Issue 10: How would the development of new range improvements affect the soils across the allotments and in the proximity of the improvements?

Affected Environment

The above affected environment would apply. Congregation at water sources creates compaction of the soils leading to reduced soil stability, and over time erosion. Livestock tend to follow fence lines and create compaction from hoof traffic.

Environmental Consequences

Proposed Action Alternative

New water developments may reduce compaction at current water sources but may also increase compaction at new sites. New fence lines would increase compaction at those fences but may reduce compaction along other fence lines. Compaction may be less severe at water sources but would continue to occur. More range improvements would increase the overall amount of disturbed and compacted areas at the water sources but may reduce compaction severity at key areas not meeting standards.

No Action Alternative

Compaction from congregation and hoof traffic would continue to occur at current on the ground range improvements and near key areas not meeting standards. Compaction would continue at current water sources and near high use areas. Key areas which are not meeting standards due to loss of composition and ground cover would lose soil stability over time leading to higher bare ground and erosion.

No Grazing Alternative

There would be reduced compaction due to no hoof traffic and congregation of livestock. Areas that were receiving high use would re-stabilize over time. Compaction would lessen allowing filtration and reestablishment of perennial vegetation.

Cumulative Impacts

Areas of high concentration from livestock would continue to create compaction of soils, eventually leading to soil loss and erosion. Removal of livestock would reduce compaction due to no hoof traffic and congregation of livestock. Areas that were receiving high use would re-stabilize over time. Compaction would lessen allowing filtration and reestablishment of perennial vegetation.

Recommended Mitigation and Monitoring

The 17 indicators of rangeland health would continue to be collected at all key areas. Key areas not meeting standards would be priority for rest. Soil stability tests would continue to be conducted when collecting 17 indicators of land health. New key areas would may be established if needed to capture use and changes in areas where new water sources have given access to livestock grazing.

3.1.6 Vegetation

Issue 11: How would reducing the stocking rate and resting a portion of these allotments from grazing each year affect the productivity of key species?

Affected Environment

Management of the allotments is based on use thresholds, composition, and frequency of key species for each allotment. In the Big Ranch and Gold Basin Allotments, the more common key species are big galleta (*Pleuraphis rigida*), black grama (*Bouteloua eriopoda*), bush muhly (*Muhlenbergia porteri*), Sand dropseed (*Sporobolus cryptandrus*), Desert needlegrass (*Stipa speciosa*), Slim tridens (*Tridens muticus*), Globemallow (*Sphaeralcea ambigua*), White bursage (*Ambrosia dumosa*) and Mormon tea (*Ephedra spp.*). The key plant species are defined as: 1) forage species of sufficient abundance and palatability to justify its use as an indicator to the degree of use of associated species and 2) those species, because of their importance, that must be considered in the management program (Coulloudon 1999, Smith et al. 2005). Proposed management of these key species provides for the physiological requirements of most of the other desirable species on the allotments. The Land Health Evaluation (see Appendix C) is composed of tables for each key area in the allotments which depict the DPC objectives for the Proposed Action and alternatives. These objectives are based on the ecological site descriptions of species composition and compared to species present at the key areas and historical data. DPC objectives are used as an indicator of ecosystem function and rangeland health.

Monitoring data indicate that resource conditions on the allotments are not currently meeting all applicable standards for rangeland health because DPC objectives for vegetation components at key areas are not being met in some locations. Some key areas show a loss of key species, which could be

result from drought, fire, and continued use. The White Hills Rangeland Health Evaluation (USDI BLM 2019) developed a data summary for each of the three Arizona Standards for a detailed discussion on why objectives are met or not met, refer to the conclusion section of the White Hills Rangeland Health Evaluation (USDI BLM 2019).

Xeroriparian or desert washes occur throughout the Big Ranch and Gold Basin Allotments. These washes are linear, infrequently flooded sites that have surface water for only brief periods and often just for a few hours in a year. The perennial plant community consists of a mix of catclaw acacia, grey thorn, mesquite, wolfberry, cheeseweed, and wooly-fruited bursage.

Environmental Consequences

Proposed Action Alternative

Adaptive management that includes rest and reducing the stocking rate would give key species the opportunity to produce seed heads and increase reproductive functionality. Extended rest over a few years allow for successful stolon rooting, which is how certain grasses such as black grama reproduce. Given the opportunity to reproduce, key species should begin to reestablish increasing composition and cover. Composition and cover of desired forage species is expected to be maintained or improved under the Proposed Action and could potentially reduce open space between perennial plants. Adaptive management would allow for periods of rest and less grazing pressure, which would reduce disturbance and competition between invasive and native key species. These key plant species may be more vigorous and productive throughout their lifecycles because of rest from grazing and reduced stocking rates, allowing plants to reach reproductive capabilities during growing season.

No Action Alternative

Key species in areas not meeting standards would continue to lose the ability to reproduce as seed head availability and stolon rooting would be reduced. There would not be a recruitment of new and young plants required to maintain site stability and potential. Current use levels would eventually lead to loss of species over time. Key areas not meeting standards would continue to not meet standards.

No Grazing Alternative

There would be less use on vegetation and key species, resulting in increased seed head production and stolon rooting. Improved reproductive capabilities would increase composition and cover, which would lead to stabilization of most key areas. The removal of grazing is expected to result in an increase over time for the frequency, cover, recruitment, and composition of key perennial plant species which would allow for a more rapid attainment of DPC objectives.

Cumulative Impacts

Impacts would be similar to above. In areas where burro numbers are currently high, vegetative reproduction capabilities would continue to be inhibited. Once burro numbers are meeting Herd Management Area (HMA) standards, impacts to vegetation would be reduced. Rest or reduced use on vegetation and key species would allow for increased seed production and stolon rooting.

Recommended Mitigation and Monitoring

The 17 indicators of rangeland health would continue to be collected at key areas. New key areas could be established if needed to capture use and changes in areas where new water sources have given access to livestock grazing. Trend monitoring and use would continue to be collected to make sure sites not

meeting standards are moving in an upward trend towards meeting standards. Use would be collected to ensure that threshold standards are not moving towards loss of species or species reproductive capabilities.

Issue 12: How would the development of new watering facilities affect composition and diversity of vegetation species across the allotments and in the proximity to the improvements?

Environmental Consequences

Proposed Action Alternative

New water developments may reduce grazing pressure on key areas not meeting standards by opening other areas to grazing. Utilizing new water sources to enforce rest in areas not meeting standards would allow for an increase in reproductive capabilities of vegetation and key species. There would be grazing by livestock on vegetation and key species where it currently does not occur. New water developments with wildlife friendly access would provide water for wildlife in areas where water sources may not be present.

No Action Alternative

There would be no new water developments to open other areas to grazing. If current range improvements are functioning, rest on vegetation may still occur in areas not meeting standards. Use on areas not receiving rest would continue to not meet standards.

No Grazing Alternative

New range improvements would not be necessary to take grazing stress off of areas not meeting standards.

Cumulative Impacts

If new water developments remain functional and are utilized to rest areas, then grazing pressure in areas not meeting standards may be reduced allowing for vegetation to reproduce and re-establish. New water developments without the use of rest would open new areas to grazing on vegetation and key species, reducing reproductive capabilities. In areas where burro numbers are currently high, functioning water sources would continue to receive high use. Vegetation near water sources would continue to be inhibited. Once burro numbers are meeting HMA standards, impacts to vegetation would be reduced. Water gaps for wildlife would still be accessed and new water developments would be implemented where necessary.

Recommended Mitigation and Monitoring

The 17 indicators of rangeland health would continue to be collected at all key areas.. Trend monitoring and use would continue to be collected to make sure sites not meeting standards are moving in an upward trend towards meeting standards. Use would be collected to ensure that threshold standards are not moving towards loss of species or species reproductive capabilities. Range improvement maintenance checks would be done to ensure functionality of all water facilities and their ability to ensure rest.

3.1.7 Visual Resources

Issue 13: How would reducing the stocking rate and resting a portion of these allotments from grazing each year and proposed new watering facilities and exclosure fencing affect scenic quality of the area as measured by contrast to existing landscapes?

Affected Environment

The project area is located in BLM Visual Resource Management (VRM) Classes I, II, III, and IV. VRM Classes are used by the BLM to objectively manage the aesthetic value of landscapes and determine if proposed activities are in conformance with a particular landscape based on the allowable level of change within a landscape. VRM Class I areas are typically located in designated Wilderness (Mount Wilson Wilderness Area) and no modification of the natural landscape should be evident to the casual observer, whereas VRM Class IV areas typically allow for a greater level of modification of the landscape and include areas where modifications may be readily recognizable to the casual observers.

VRM Class IV accounts for 88% of the area, while VRM Class III accounts for 1%, VRM Class II accounts for 2% and VRM Class I accounts for 9%. The project area is located within the Basin and Range physiographic province and includes views within and of the Black Mountains, Cerbat Mountains, Music Mountains, White Hills, Detrital Valley, Hualapai Valley and isolated views of the Grand Wash Cliffs. Vegetation throughout the area includes dominant species such as creosote, bursage, yucca, and notable areas of Joshua trees. Abrupt ridges and rolling hills of the Black, Cerbat and Music Mountains provide visual interest and contrast the south/north running Detrital and Hualapai Valleys. Portions of the project area provide isolated panoramic views of the Grand Wash Cliffs, a prominent transition point from the Basin and Range physiographic province to the Colorado Plateau physiographic province. Vegetation transitions along valleys and up ridges, mountains and rolling hills add texture and create enhanced visual interest from within the project area. Developments within the area are both scattered across the landscape in the form of old mining infrastructure and rural housing developments that give way to long linear infrastructure in the form of major transmission lines and developed roadways.

Environmental Consequences

Proposed Action Alternative

Under the Proposed Action, there would be less AUs, increased rest adjacent to pipeline systems, and increased water availability as a result of maintenance of existing waters and development of new waters. A decrease in AUs combined with increased rest along pipeline systems could increase productivity within the native plant communities in the project area. This, however, would be over a long duration and would produce no contrast to the casual observer (see Appendix J). Maintenance of existing waters could drive livestock back to these locations and denude the vegetation and landform in concentrated areas around water sources creating a weak contrast to the casual observer (see Appendix J). Installation of new pipeline systems are proposed in VRM Class II, III and IV management areas and could lead to denuded vegetation as a result of nearby foraging from livestock and wildlife and the new development of the pipeline itself. However, due to the sporadic and isolated nature of these developments, contrast to the casual observer would be weak (see Appendix J). There are no new roads planned under the Proposed Action as all new waters are planned for placement along existing roads. Any construction planned for the new water developments, and exclosure fencing around riparian areas, would have little affect on visual resources when compared to the construction of the Wind Farm that is

currently being constructed in this same project area. Overall, the Proposed Action would create a weak contrast throughout the landscape and be in conformance with management objectives.

No Action Alternative

Under this alternative, there would be no proposed change to the current livestock management or range improvements within the project area. Therefore, there would be no change to visual resources in the project area and under this alternative the project would be in conformance with management objectives.

No Grazing Alternative

Impacts under this alternative would be similar to the Proposed Action with the exception that there would be no new proposed range improvements and there would be no opportunity for livestock to have areas of increased disturbance as there would be no new waters or livestock in the area. Contrast resulting from this alternative would occur over a long period of time as the landscape returns to more natural vegetative appearance as the plant communities recover from the affects of livestock grazing. Contrast would be weak to the casual observer as many observers would not be able to readily identify changes in the plant communities whether it be in density or establishment of historic persistent plant species.

Cumulative Impacts

Past impacts such as sporadic mining, rural housing developments, mineral material pit operations, installation of major transmission lines, highway development and widening projects, and authorization of renewable energy infrastructure have added to the overall contrast that is defined by the modified or developed nature of the landscape. Present developments, such as the construction of the *White Hills Wind Farm* have further modified the landscape and created a greater level of baseline contrast. There are no planned future developments that further add to the infrastructure in the characteristic landscape, however, reasonably foreseeable future development of the private lands adjacent to public lands would incrementally add to developments within the characteristic landscape. These developments would not be cumulatively significant to the management of visual resources in the project area as 88% of the project area is in VRM Class IV and considered to be a highly developed environment presently. These activities when considered together would still meet objectives for VRM Class IV landscapes and where VRM Class I, II, and III landscapes exist, many components of other infrastructure is not readily visible.

Recommended Mitigation and Monitoring

All range improvements including pipelines, water tanks, and troughs would be a color that blends with the characteristic landscape and be selected using the BLM Standard Environmental Color Chart (CC-001; June 2013).

3.1.8 Wildland Fire Management

Issue 14: How would the reducing the stocking rate and resting a portion of these allotments from grazing each year affect habitat response to wildfires on these allotments?

Issue 15: How would the development of new range improvements affect habitat response to wildfires on these allotments?

Affected Environment

The Big Ranch and Gold Basin Allotments are located in the Mojave Desert where desert scrub is the dominant plant community. Desert scrub vegetation types are not fire-adapted, and native species do not rapidly recover from the effects of wildfire. Fire is carried by exotic annual grasses which have invaded into the landscape. Exotic annual grasses such as red brome become fire hazards after wet winters. The grasses usually cure by mid-May, when the fire season typically begins.

The vegetation within the Big Ranch allotment in the West Unit was burned by wildfire in August of 1994 and again in July 2005. Red brome was the primary fuel which carried these fires; along with other annual grasses and forbs. No fuel reduction or fuels management projects have occurred on these allotments.

Environmental Consequences

Proposed Action Alternative

Proposed range improvements, deferment, rest, and rotation could have an effect on fire or fuels management. If DPC objectives are met within the ten year grazing period, cattle could graze on annual grasses during abundant ephemeral growth years, but grazing would not reduce the risk of fire following a wet winter unless it was concentrated and focused grazing (McAdoo 2007). It is assumed that native perennial vegetation cover, which is currently not meeting DPC objectives at some key areas, could begin to increase without grazing pressure.

No Action Alternative

The effects on fire/fuels management by the No Action Alternative would be similar to the Proposed Action. Key plant species are expected to decrease in pastures that are not meeting objectives. This could increase the buildup of fine fuels because there would be more open space for the non-native annuals to invade. This Alternative could have minimal to no impact on fire frequency and size as large fires in Big Ranch and Gold Basin Allotments have burned under current grazing management up to three years following El Nino winters. After three years or so following wet winters, red brome breaks down, fuel continuity is interrupted, and fire hazard is reduced whether there are cattle present or not.

No Grazing Alternative

An assumption could be made that no grazing would potentially increase the intensity of fires in the area. However, large fires in the Big Ranch and Gold Basin Allotments have burned under current grazing management up to three years following El Nino winters. Consequently, the No Grazing Alternative could have minimal to no impact on fire frequency and size. After three years or so following wet winters, red brome breaks down, fuel continuity is interrupted, and fire hazard is reduced whether there are cattle present or not. The impacts then may be similar to the Proposed Action because key species are expected to increase and there could be less open space for exotics.

Cumulative Impacts

As more and more plant communities move toward DPC across the KFO, an increasing number of these plant communities should return to a more natural fire regime. The Proposed Action should allow plant communities to someday reach DPC and restore the natural fire regime to these allotments. Which minimize the potential for large summer wildfires and the negative impacts associated with large hot wildfires.

Recommended Mitigation and Monitoring

Overall the effects of monitoring, treatment, and when applicable wildfire rehabilitation would be beneficial to upland soils and vegetation in the long-term. This would indirectly contribute to attainment of the Arizona Standards for Rangeland Health.

3.1.9 Wildlife Resources (Including threatened, endangered, and special status species, and migratory birds)

Issue 16: How would wildlife special-status species and migratory bird habitat and population be affected by reducing the stocking rate and resting a portion of these allotments from grazing each year?

Issue 17: How would reducing the stocking rate and resting a portion of these allotments from grazing each year affect general wildlife habitat?

Affected Environment

Habitat for multiple wildlife species occurs within these allotments. Wildlife in the Big Ranch and Gold Basin Allotments considered in this EA include species such as gray fox (*Urocyon cinereoargenteus*), kit fox (*Vulpes macrotis*), bobcat (*Lynx rufus*), coyote (*Canis latrans*), speckled rattlesnake (*Crotalus mitchellii*), chuckwalla (*Sauromalus*), cactus wren (*Campylorhynchus brunneicapillus*), black-throated sparrow (*Amphispiza bilineata*), golden eagle (*Aquila chrysaetos*), prairie falcon (*Falco mexicanus*), western burrowing owls (*Athene cunicularia hypugaea*), Sonoran desert tortoise (*Gopherus morafkai*), Merriam's kangaroo rat (*Dipodomys merriami*), black-tailed jackrabbit (*Lepus californicus*), western diamondback rattlesnake (*Crotalus atrox*), common side-blotched lizard (*Uta stansburiana*), great horned owl (*Bubo virginianus*), . Upland game species include Gambel's quail (*Callipepla gambelii*), mourning dove (*Zenaida macroura*), javelina (*Pecari tajacu*), white-winged dove (*Zenaida asiatica*), and desert cottontail (*Sylvilagus audubonii*). Big game species include desert bighorn sheep (*Ovis canadensis*), mule deer (*Odocoileus hemionus*), and mountain lion (*Puma concolor*).

A Biological Evaluation was completed for the Big Ranch and Gold Basin Allotments (USDI BLM 2010a). The Biological Evaluation used the county list for Mohave County from the 2010 U.S. Fish and Wildlife Service (USFWS) website. A review of the USFWS list in 2015 revealed no changes in the species list for the Big Ranch and Gold Basin Allotments. There is no suitable or critical habitat in the allotments for the Mexican spotted owl, southwestern willow flycatcher, Yuma clapper rail, Hualapai Mexican vole, Gila topminnow, or desert pupfish. Therefore, there would be "no effect" to any of these species. The BE reported that Big Ranch and Gold Basin is within the nonessential experimental range of the California condor; however, there would be no effect to this species from implementation of the Proposed Action (USDI BLM 2010a) or any of the alternatives. Impacts will not be further analyzed because there was a determination of no affect for these species.

A review of the USFWS Information Planning and Conservation System (IPAC) Official List of Threatened, Endangered, and Proposed species was done for the project vicinity. IPAC listed the potential for nine species to occur in the project area (see Table 5 below). Seven of those species would unlikely occur due to lack of suitable habitat. One of the species may occur and the other species for the area is a candidate species and BLM sensitive.

California Condor (*Gymnogyps californianus*)

The experimental 10(j) population is located in northern Arizona. The experimental population is not considered federally endangered and has a primary range within the Vermillion Cliffs. This species may occur in the area as the species can travel long distance, however, the experimental population tends to remain close to its established territory. This species is unlikely to occur, and the Proposed Action would not have any affects to the species or individuals.

Candidate and BLM Sensitive Species

In addition to the federally listed species, there are several candidate and BLM sensitive animal species that occur or may occur within the Big Ranch and Gold Basin Allotments (see Table 5). Information on occurrence and habitat needs for many of these species is limited because sensitive species are usually rare and decreasing in populations and have limited ranges. Special status species that have a potential to occur within the allotments or have potential habitat in these allotments are shown in the table below.

Table 5: Special Status Species That Occur or Have Potential Habitat in the Allotments

Species	Federally Listed Species	Candidate Species	BLM Sensitive	Known to occur in allotments	Potential habitat in allotments
American peregrine falcon (<i>Falco peregrines</i>)			X	X	
Ferruginous hawk (Buteo regalis)			X		X
Golden Eagle (<i>Aquila chrysaetos</i>)			X	X	
Western burrowing owl (<i>Athene cunicularia hypugaea</i>)			X	X	
California condor (<i>Gymnogyps californianus</i>)	X				X
Le Conte's Thrasher (<i>Toxostoma lecontei</i>)			X		X
Allen's big-eared bat (<i>Idionycteris phyllotis</i>)			X	X	
Fringed myotis (Myotis thysanodes)			X	X	
Arizona myotis (<i>Myotis occultus</i>)			X		
California leaf-nosed bat (<i>Macrotus californicus</i>)			X	X	
Cave myotis (<i>Myotis velifer</i>)			X	X	
Spotted bat (<i>Euderma maculatum</i>)			X		X
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)			X	X	

Species	Federally Listed Species	Candidate Species	BLM Sensitive	Known to occur in allotments	Potential habitat in allotments
Greater Mastiff Bat (<i>Eumops perotis californicus</i>)			X		X
Sonoran Desert tortoise (<i>Gopherus agassizii</i>)		X	X	X	
Two-colored beard tongue (<i>Penstemon bicolor</i>)			X	X	

Sonoran Desert Tortoise (*Gopherus agassizii*)

The Sonoran population of the desert tortoise (*Gopherus agassizii*) is a candidate for listing under the Endangered Species Act, but the listing is precluded by higher priority actions (USFWS 2010). The desert tortoises in the project area primarily inhabit rocky hillsides and gravelly desert washes below 3,530 feet. Desert tortoises in the Black Mountains are classified as Sonoran, although recent genetic research shows they are more related to the Mojave Desert tortoise (McLuckie et al. 1995). Research into morphologic and behavior characteristics suggests there may be a gradation between the Sonoran and Mojave populations in the Black Mountains ecosystem.

The BLM conducted field surveys for Sonoran desert tortoise to determine the presence or absence within the KFO. From this survey data and using the tortoise habitat category descriptions and criteria found in the Desert Tortoise Management on the Public Land, a Range-wide Plan (USDI BLM 1988), the boundaries for the various tortoise habitat categories found in the Kingman RMP (USDI BLM 1995) were designated (RMP designated). BLM has not conducted tortoise surveys for some areas within Big Ranch and Gold Basin Allotments. Within these unsurveyed areas, the predictive tortoise habitat model produced by United States Geologic Survey (USGS) (Nussear et al. 2009) using geographic information system technology shows there is potential tortoise habitat (USGS potential) within the unsurveyed areas across all three allotments (see Figure 4 in Appendix F). In 2015 the Arizona Game and Fish Department performed a study on the tortoise species in the Black Mountains. The results found that this species is a hybrid species, but dominantly Mojave. At this time, the species southeast of the Colorado River are not treated as threatened or endangered and are monitored and impacts mitigated per the Candidate Conservation Agreement (CCA) guidelines for Sonoran tortoise species.

The desert tortoise is also considered in the design criteria (turnout criteria for ephemeral use authorization is 280 pounds per acre minimum in desert tortoise habitat) for both Alternative 1 and Alternative 2.

Western Burrowing Owls (*Athene cunicularia*)

Western burrowing owls are listed as BLM sensitive due to habitat loss, fragmentation, and human influence on prey species (specifically prairie dogs). Burrowing owls occur in a variety of grassland communities and generally utilize burrows already created by mammal species. They also populate areas of disturbance and rural and residential areas. The species does occur within the allotments where there is an abundance of small mammal prey and areas where there is short vegetation in open flats.

Cerbat Beard-tongue (*Penstemon bicolor*)

The Cerbat beard-tongue is a rare plant found within the black mountains. The species occurs on mountainside sites of rhyolite and andesite parent material and in sandy washes. This species is thought to be impacted by grazing, off-highway vehicle uses in washes and surface mining. (Kingman RMP)

Desert bighorn sheep (*Ovis canadensis*)

The Black Mountains support the largest, contiguous desert bighorn sheep population in the world (AZGFD 2007). The range of desert bighorn sheep and livestock overlap on the Big Ranch Allotment in the Black Mountains. This species is found within the Mojave Desert scrub plant communities and prefers steep, rocky terrain for bedding, lambing, and escape from predators. They graze and browse on a wide variety of plant species of which grasses and forbs are preferred.

Migratory Birds

All migratory birds are protected under the 1918 Migratory Bird Treaty Act (16 USC 703), which prohibits the taking of any migratory birds, their parts, nests, or eggs. Additional protection is provided by the Neotropical Migratory Bird Conservation Act of 2000 (16 USC 80). Migratory birds occur within the KFO, many of which are known to use the habitat types present in these allotments. In April 2010, BLM and USFWS entered into a Memoranda of Understanding to promote the conservation of migratory birds, as required in Executive Order 13186 (USDI BLM 2010). These species are protected by law and it is important to maintain habitat for these species so migratory patterns are not disrupted. Habitat for the following birds of conservation concern is found in Big Ranch and Gold Basin Allotments: Le Conte's thrasher (*Toxostoma lecontei*), Bendire's thrasher (*Toxostoma bendirei*), curve-billed thrasher (*Toxostoma curvirostre*), hooded oriole (*Icterus cucullatus*), peregrine falcon (*Falco peregrinus*), prairie falcon (*Falco mexicanus*), burrowing owl (*Athene cunicularia*), and Costa's hummingbird (*Calypte costae*) (USFWS 2008). A recent IPAC tool has also found Black-chinned Sparrow (*Spizella atrogularis*) and Gilded Flicker (*Colaptes chrysoides*) may also occur in the area.

Environmental Consequences

Proposed Action Alternative

Direct impacts to species would be trampling of burrows, removal of cover from grazing, and displacement due to disturbance. Indirect impacts would be reduced cover in areas receiving active grazing and increase in cover in areas being rested. Resting and reduced AUMs would give vegetation the ability to reproduce and reestablish, increasing composition and cover, which would benefit the overall habitat. Areas not meeting standards would improve and lead to more quality habitat that includes better cover and forage. Resting would also provide access to vegetation where wildlife are generally displaced by livestock.

No Action

Use would continue at sites not meeting standards, leading to loss of habitat. Direct impacts would be the same as above. Indirect impacts would reflect those sites where vegetation is restricted from the ability to reproduce. This would lead to a loss of habitat for multiple species.

No Grazing Alternative

Direct impacts would include reduced trampling of burrows and no displacement due to livestock. Indirect impacts would be an increase to habitat and quality. Vegetative resources would have the ability to reproduce and re-establish, increasing composition and cover need for quality habitat.

Cumulative Impacts

Areas not meeting standards with continued use would not meet standards and habitat loss would occur. Areas of rest and no livestock grazing would give the opportunity for habitat to re-establish and improve. Other factors such as drought and fire may decrease habitat quality, but would only be temporary if these areas are left to rest and re-establish vegetation. In areas where burro numbers are currently high, habitat quality would not reach potential. Once burro numbers are meeting HMA standards, impacts to vegetation would be reduced and habitat quality would increase for wildlife species.

Recommended Mitigation and Monitoring

The 17 indicators of rangeland health would continue to be collected at key areas. Data collection of wildlife populations and status would continue to determine impacts to species.

Issue 18: How would the development of new watering facilities affect general wildlife habitat and wildlife's access to stock waters?

Environmental Consequences

Proposed Action Alternative

Development of new range waters that are wildlife fitted would directly provide a water source in areas where water may not be present for the use of wildlife. New water developments would also directly impact the surrounding vegetation and habitat from congregation of livestock. New waters would also allow livestock grazing in areas hard to reach due to lack of water and impact the quality of habitat in those areas. Indirect impacts would be a change in habitat near water sources. Areas where waters currently exist may recover and re-establish habitat if given the opportunity to rest due to use on new waters. Areas with new water developments would now receive use and habitat would move towards a downward trend, if not allowed to rest.

No Action Alternative

Areas not accessible to livestock grazing would maintain high quality characteristics. Areas accessible to grazing due to current water facilities without rest would continue towards a downward trend. Cover and forgeable plant species where livestock grazing is occurring, would be lost reducing habitat quality for wildlife species.

No Grazing Alternative

Areas not accessible to livestock grazing would maintain high quality characteristics. Areas currently being grazed by livestock would improve over time as vegetation would regain reproductive capabilities and re-establish.

Cumulative Impacts

Vegetation near water sources would continue to be inhibited. Once burro numbers are meeting HMA standards, impacts to vegetation would be reduced and habitat quality would increase for wildlife species.

Recommended Mitigation and Monitoring

The 17 indicators of rangeland health would continue to be collected at key areas not meeting standards. New key areas would be established to capture use and changes in areas where new water sources have

given access to livestock grazing. Trend monitoring and use would continue to be collected to make sure sites not meeting standards are moving in an upward trend towards meeting standards. Use would be collected to ensure that threshold standards are not moving towards loss of species or species reproductive capabilities. Range improvement maintenance checks would be done to ensure functionality of all water facilities and their ability to ensure rest.

3.2.10 Wild Burros

Issue 19: How would reducing the stocking rate and resting a portion of these allotments from grazing each year affect wild burros on the allotments?

Affected Environment

Wild horses and burros are protected and managed by the BLM in accordance with the Wild Free-Roaming Horses and Burros Act 1971, as amended. The goal of the Wild Horse and Burro Program is to manage for healthy herds and healthy rangelands.

The Black Mountain HMA was designated in the early 1980s and is the largest in Arizona. Portions of the Big Ranch Unit A and B Allotments west of US-93 lie within the HMA.

Burros are medium sized ungulates (hoofed animals) that can use a variety of terrain including flat areas as well as the steep, more rugged terrain usually associated with bighorn sheep. Typically, burros are opportunistic grazers that can efficiently use coarse, lower quality forage (USDI BLM 1996 and Burden 2012). The estimated appropriate management level (AML) in the Black Mountain is 478 burros (USDI BLM 1996) based on a population metric determined by an analysis of monitoring data such as grazing use, vegetative production, trend in range condition, actual use, and other factors. Forage is allocated to burros in AUMs. One burro is 0.5 AUs, or two burros for one month equals 1 AUM. A population estimate completed in 2014 with the USGS indicates an approximate population estimate of 1,600 animals for the entire HMA.

Burros are one of the factors that contributed to some of the key areas within the allotments not meeting Rangeland Health Standards (USDI BLM 1997). Addressing the issue of burros over AML is beyond the scope of this EA. An EA has been developed to address reducing the burro numbers in this Herd Management Area; the EA (DOI-BLM-AZ-C010-2019-0030-EA) is discussed as a reasonably foreseeable action in the cumulative impacts analysis.

Environmental Consequences

Proposed Action Alternative

Adaptive management provides for flexibility in the grazing system and stocking rate. This is an important consideration because burro populations present in portions of the allotments could fluctuate. Adaptive management would be a useful tool to change livestock grazing in response to changing burro herd numbers. The BLM estimates that burro herds grow at an average rate of 20% annually. The adaptive management approach provides flexible options in livestock management to accommodate for changes in environmental conditions such as fluctuations in these populations.

By renewing the 10-year grazing permit, potential competition for forage between cattle, an burros could occur. However, the management practices proposed under this alternative are designed to manage

livestock grazing to provide for a diversity of wildlife and plant species, to maintain ecological functioning systems, and to maintain and/or improve ecological conditions.

Under this action, if cattle rotations are controlled by water, burros may fall subject to the same movements as cattle. This could force more burros into areas that are only occasionally used for longer periods of time as well as limit their movement across the HMA. Impacts to wild burros are expected to decrease under a grazing system by resting and reducing livestock AUMs in the HMA.

No Action Alternative

Current downward trends at some key areas could continue if Rangeland Health Standards (USDI BLM 1997) are not met or continue to decline, potentially increasing competition for forage between cattle, burros, and wildlife. Declining forage conditions and amounts could cause burros and wild horses to graze on less desirable species. In combination with livestock grazing, this could lead to desired forage species (e.g., big galleta, black grama, bush muhly, Mormon tea, globemallow etc.) declining or disappearing on the landscape. Consequently, ungulates would need to switch to less palatable species such as flat-top buckwheat, etc.

No Grazing Alternative

In the long-term, the removal of grazing livestock from the allotments would reduce any competition for forage, space, and water in riparian and upland burro habitats.

Cumulative Impacts

Burro population levels would continue to fluctuate within the allotments. Potential future population control efforts, adoptions, and holding facility capacities as well as natural factors like drought, wildfire, and reproductive rates could influence the degree of fluctuation in the population levels. Burro populations could continue to affect vegetation cover, frequency, and composition and the available forage for livestock and wildlife and vice versa. The EA developed by the KFO to address burros over AML in the Black Mountain HMA (Black Mountain Herd Management Area Wild Burro Gather EA No. DOI-BLM-AZ-C010-2019-0030-EA) is scheduled to be completed in August 2020.

Recommended Mitigation and Monitoring

The 17 indicators of rangeland health would continue to be collected at key areas not meeting standards. Key areas would be used to capture use and changes in areas where new water sources have given access to livestock grazing. Trend monitoring and use would continue to be collected to make sure sites not meeting standards are moving in an upward trend towards meeting standards. Use would be collected to ensure that threshold standards are not moving towards loss of species or species reproductive capabilities. Range improvement maintenance checks would be done to ensure functionality of all water facilities and their ability to ensure rest.

Issue 20: How would the development of new watering facilities affect the burros on these allotments?

Environmental Consequences

Proposed Action Alternative

Developing new and the maintenance of waters could affect burro distribution and reduce grazing pressure on vegetation around the existing water sources.

No Action Alternative

No new watering facilities would be developed and would therefore not affect burro distribution and reduce grazing pressure on vegetation around the existing water sources.

No Grazing Alternative

In the short-term, the shutting off of water under the No Grazing Alternative would seasonally exclude in some areas unless natural perennial waters (springs) existed. In the long-term, BLM or some other entity could assume responsibility to maintain some of the waters allowing use of these areas by burros.

Cumulative Impacts

Impacts are similar to those above. In areas where burro numbers are currently high, functioning water sources would continue to receive high use.

Recommended Mitigation and Monitoring

Same as described above for issue 18.

3.2.11 Areas of Critical Environmental Concern

Issue 21: How would reducing the stocking rate and resting a portion of these allotments from grazing each year affect wildlife values for bighorn sheep habitat and federal candidate plant species within the Black Mountain Ecosystem Management Area of Critical Environmental Concern (ACEC)?

Affected Environment

The southern portions of Big Ranch A and B contain parts of the Black Mountain Ecosystem Management ACEC. Wildlife values are premiere bighorn sheep habitat and federal candidate plant species habitat. Mitigation related to this EA within the Black Mountain ACEC include managing livestock to achieve big horn sheep and Cerbat beard-tongue desired plant community description objectives and maintaining existing riparian enclosures around springs. The northeast portion of Gold Basin is within the Joshua Tree Forest – Grand Wash Cliffs ACEC where wildlife values are unique vegetation and peregrine falcon aeries. Most restrictions are related to recreational activities.

Environmental Consequences

Proposed Action Alternative

Adaptive management that includes rest would give the vegetative community the opportunity to reproduce. Key species should begin to reestablish increasing composition and cover and overall quality of habitat. Values for big horn sheep habitat would improve and be closer to the desired plant community. Rest would improve desired plant community for Cerbat beard-tongue and allow the opportunity for the species to reproduce and reestablish, improving population size over time.

No Action Alternative

Areas not meeting standards within the ACECs would continue not to meet standards. Management activities as prescribed in the RMP would not occur, and trend would move away from meeting desired plant community and objectives.

No Grazing Alternative

There would be no prescribed management for livestock and desired plant community would meet the description objectives. Key areas not meeting standards due to loss of key species and composition within the ACECs would move upward in trend.

Cumulative Impacts

Impacts would be the same as above. In areas where burro numbers currently high, functioning water sources would continue to receive high use. Vegetation near water sources would continue to be inhibited. Once burro numbers are meeting HMA standards, impacts to vegetation would be reduced and habitat quality would increase for wildlife species.

Recommended Mitigation and Monitoring

The 17 indicators of rangeland health would continue to be collected at key areas. Soil stability tests would be done at all key areas.

Issue 22: How would the development of new range improvements affect ACEC values on these allotments?

Environmental Consequences

Proposed Action Alternative

There are two high priority new watering facilities proposed in each ACEC; the Fox Canyon Well in the Joshua Tree Forest-Grand Wash Cliffs ACEC and the Coyote Well in the Black Mountain Ecosystem Management ACEC. New water developments may reduce grazing pressure on key areas not meeting standards in the ACECs by opening other areas to grazing. Utilizing new water sources to enforce rest in areas not meeting standards could allow for the ACECs to meet vegetative community objectives. There would be grazing by livestock on vegetation and key species where it currently does not occur. New water developments with wildlife friendly access would provide water for wildlife in areas where water sources may not be present.

No Action Alternative

There would be no new water developments to open other areas to grazing. Objectives would not be met for desired plant communities.

No Grazing Alternative

New range improvements would not be necessary to take grazing stress off areas not meeting standards within the ACECs.

Cumulative Impacts

ACECs without new water facilities could meet plant community objectives without grazing pressure. ACECs that gain new water facilities may move away from plant community objectives as grazing by livestock would occur in areas currently un-grazed.

Recommended Mitigation and Monitoring

The 17 indicators of rangeland health would continue to be collected at key areas. Soil stability tests would be done at all key areas.

CHAPTER 4 CONSULTATION AND COORDINATION

Table 6: Persons, Groups, or Agencies Consulted

AGENCY/GROUP	PERSON(S) CONTACTED
Arizona Game and Fish Department	Deanna L. Kephart
Grazing Permittee	Bill Hamilton
Grazing Permittee	Clay & Sandra Overson
Big Sandy Natural Resource Conservation District	Anita M. Waite
Mohave County Farm and Livestock Bureau	Dan Rodriguez
Desert Tortoise Council	Edward L. LaRue Jr., M.S.
Western Watersheds Project	Cyndi C. Tuell
Resource Advisory Committee	Jack Ehrhardt
Arizona State Land Department	Mr. Sharp
Rangeland Consultant	Elno Roundy
Wilderness Watch	Jeff Smith
International Society for the Protection of Mustangs & Burros	Karen Sussman
Wild Earth Guardians	Keven Buller
Center for Biological Diversity	Mr. O Sullivan
Colorado Mining LLC	Lenard Marden
Chemehuevi Indian Tribe	--
Fort Mojave Indian Tribe	--
Colorado River Indian Tribes	--
Hopi Tribe	--
Hualapai Tribe	--
Moapa Band of Paiute Indians	--
Navajo Nation	--
Pueblo of Zuni	--

CHAPTER 5 LIST OF PREPARERS

Table7: BLM Resource Specialists

NAME	TITLE
Amanda Dodson	Field Manager
Chris Bryan	Assistant Field Manager
Joelle Acton	Wildlife Biologist
Matt Driscoll	Outdoor Recreation Planner
Tom Thomas	Archaeologist
Angelica Rose	Planning and Environmental Coordinator
Michael Blanton	Rangeland Management Specialist

APPENDICES

Appendix A –Acronyms and Abbreviations

Appendix B –List of References

Appendix C –White Hills Land Health Evaluation

Appendix D - Cooperative Range Improvement Management Agreement 2003

Appendix E – Determination Worksheet

Appendix F - Maps and Figures

Appendix G – Land Use Plan Conformance and Objectives

Appendix H - Issues Considered but Not Analyzed in Detail

Appendix I – List of Range Improvements

Appendix J – Visual Resources Management Analysis Supplement

Appendix K – **Response to Comments**

Big Ranch 'A' Allotment #0007
July 7, 2003

Kingman Field Office

COOPERATIVE RANGELAND MANAGEMENT AGREEMENT

This agreement is entered into by The Charles W. Hamilton Irrevocable Trust and the Bureau of Land Management (BLM) of the Kingman Field Office, Kingman, Arizona. BLM recognizes The Charles W. Hamilton Irrevocable Trust as the permittee in the Big Ranch 'A' Allotment.

The current active use authorized to The Charles W. Hamilton Irrevocable Trust is 584 cattle yearlong which equates to 5,397 AUMs at 77 percent public land. The annual billing period is from 3/1 - 2/28.

I. Livestock Grazing Management

A. To improve the quality of forage produced on the public lands and provide for long-term sustainability of the forage resource, the following grazing management prescriptions shall be implemented:

1. A rotational grazing system shall be implemented in each of the two major pastures and associated use areas. Cattle shall be rotated when the utilization threshold of moderate (40%-60%) has been reached on current annual growth of key forage species.

2. Stocking rates will be reduced during drought to maintain vigor of forage species.

3. The initial stocking rate shall not exceed 325 cattle at 77% public land. Additional cattle may be licensed when base and supplemental waters currently in disrepair are repaired and placed in operation. At the end of five years, this allotment will be re-evaluated with any stocking rate adjustment based on the analysis of the collected monitoring data.

4. Ephemeral use in addition to the authorized active use may be licensed when the potential for sufficient ephemeral forage is present.

5. The Bureau and the permittee agree that a long term management plan is needed to provide for the physiological needs of the forage plants and to maintain and improve the water cycle for improved watershed condition. It is

further agreed that this long term plan will be cooperatively developed.

B. The feeding of hay to livestock shall not be permitted on public land unless approved by the authorized officer to improve livestock distribution.

C. Salt, mineral block and protein supplement will be used to the maximum extent practicable to aid in the proper distribution of livestock within the grazed pastures.

II. Monitoring

The Bureau will conduct necessary monitoring to evaluate the effects of livestock grazing and to assist in determining future stocking rates and grazing management.

The Bureau will:

A. Conduct upland utilization/trend/dry weight-rank studies in accordance with current procedures and policies. This formal monitoring shall be conducted every three years with the next monitoring scheduled for the fall of 2003. Annual utilization data will be collected.

B. Obtain climatic data from the official Climatological Data Report published by the National Oceanic and Atmospheric Administration (NOAA) and collect local climatic data.

C. Notify the permittee and other involved parties in advance that studies will be conducted and encourage them to participate in data gathering and analysis.

The permittee will:

A. Maintain existing range improvements in accordance with the signed cooperative agreements and Sec. 4 range improvement permits.

B. Manage livestock on public lands in accordance with the current permit as amended by this agreement. A rotational grazing system as defined in I.A.1. shall be adhered to.

C. Notify the Bureau of any unusual circumstances encountered on the allotment.

III. Commitment to Future Adjustments

A. Permanent

The undersigned, The Charles W. Hamilton Irrevocable Trust and the Bureau agree to make further adjustments (increases or reductions) in stocking rate and grazing management that are consistent with the results of the monitoring studies and land use plan. The next scheduled allotment evaluation will occur prior to the 2009 grazing season, unless monitoring studies indicate a need to analyze the allotment sooner.

This agreement will remain in effect until superceded by a subsequent agreement or decision.

B. Temporary

The Bureau will administer temporary seasonal adjustments due to fire, drought, disease or additional forage after consultation with the permittee and interested publics. Final determination rests with the Bureau.

IV. Terms

The terms of this agreement will be reflected on the grazing permit and billing statements by reference and are binding on heirs/successors in interest. This agreement will not preclude the undersigned, The Charles W. Hamilton Irrevocable Trust and the base property owner, Arizona Acreage, LLC from administratively challenging any future adjustments.

V. Signatures

The undersigned agree to abide by the terms and conditions of this Cooperative Rangeland Management Agreement (CRMA).

Charles W. Hamilton Trustee
The Charles W. Hamilton Irrevocable
Trust, c/o Bill Hamilton

July 7 2003
Date

John R. Christensen
John R. Christensen
Kingman Field Manager

7/7/03
Date

Example of a schedule for a Rotational Grazing System

This is an example of how a rotational grazing system could be developed for Big Ranch. However, no system will work without adequate water control when implementing a deferred rotation system. The Ephemeral Allotment can provide relief to the east pasture occasionally.

				Spring Growing Season				Summer Growing Season				Winter Dormant Period			
Year			Pasture	M	A	M	J	J	A	S	O	N	D	J	F
1	4	7	A	G	R $\frac{1}{2}$	R	R	R	R	R	R $\frac{1}{2}$	G	G	G	G
			B	G	G	G									
			C	R	G $\frac{1}{2}$	G	G	G	G	G	G	R	R	R	R
2	5	8	A	G	R $\frac{1}{2}$	R	R	R	R	R	R $\frac{1}{2}$	G	G	G	G
			B	G	G	G									
			C	R	G $\frac{1}{2}$	G	G	G	G	G	G	R	R	R	R
3	6	9	A	R	G $\frac{1}{2}$	G	G	G	G	G	G	R	R	R	R
			B	G	G	G									
			C	G	R $\frac{1}{2}$	R	R	R	R	R	R $\frac{1}{2}$	G	G	G	G

A – West Pasture

B – Big Ranch “B” (Use Dependant on Ephemeral Bloom)

C – East Pasture

R = Rest

G = Graze

The West Pasture treatment schedule provides for rest two out of three years. Under this example, warm season plants would not be grazed during the growing season. This would allow warm season plants to store carbohydrates, set seed and reach their full life cycle potential. Cool season plants do most of their growing during the spring months when this pasture would be ungrazed and therefore have the opportunity every year to fully mature and set seed.

The East Pasture would be grazed during the spring and summer months 2 out of three years. To provide for cool and warm season plant health, water control management would be implemented. Deferring use on portions of the east pasture by shutting off waters would reduce impacts associated with repetitive spring/summer use. Water control management would allow portions of the East Pasture to be rested during the spring/summer months.

This determination represents an administrative process and is not a decision document.

DETERMINATION

Achieving Standards for Rangeland Health and Conforming with Guidelines for Grazing Administration

Field Office: Kingman

Watershed Name/Number: Detrital Valley, 15010014

Grazing Allotment Name/Number: Big Ranch Unit A (#00007), Big Ranch Unit B (#00081)
and Gold Basin (#00037)

Public Land (acres): Upland 273,199 Riparian/Wetland <10 Total 273,207

Streams on Public Land (miles): 0

Date(s) of Determination: 08/04/2020

Name of Permittee(s): Bill Hamilton

Assessment Participants (Name/ Discipline/Interest):

Kingman Field Office Resource Staff:

Michael Blanton	Rangeland Management Specialist/Team Lead
Joelle Acton	Wildlife Biologist/Wildlife, Vegetation, Special Status Species, and Riparian Resources
Matt Driscoll	Outdoor Recreation Specialist, Recreation & Wilderness
Chad Benson	Wild Horse and Burro Specialist
James (Chris) Bryan	Assistant Field Manager

The summary of results for attainment of land health standards for each key area on all three allotments were developed in the White Hills Evaluation. This evaluation indicates that all standards for land health at all key areas on the Big Ranch Unit B Allotment are achieved. The White Hills Evaluation also suggest that many of the key areas on the other two allotments the Big Ranch Unit A and Gold Basin are not achieving standards for land health.

The development of this Determination Document is required since land health standards are “not achieved” at many of the key areas on the Big Ranch Unit A and Gold Basin according to the White Hills Evaluation. In order to determine which activities are significant factors for not achieving land health standards, a review of all activities for conformance with or deviation from appropriate management practices for those activities was completed.

Review existing grazing management practices for conformance with guidelines developed by State Directors in consultation with Resource Advisory Councils per 43 CFR 4180.2. In order to identify whether existing grazing management is a significant causal factor and identify potential modifications in management, H-4180-1 directs interdisciplinary teams to ask two questions:

- 1) “Is it more likely than not that existing grazing management practices or levels of grazing use are significant factors in failing to achieve the Standards or conform to the Guidelines?”
- 2) “Is it more likely than not that existing grazing management needs to be modified to ensure that the Fundamentals of rangeland health are met, or making significant progress toward being met?”

A significant factor is defined as the principal causal factor in the failure to achieve the land health standard(s) and conform to the guidelines. A significant factor would typically be a use that, if modified, would enable an area to achieve or make significant progress toward achieving the land health standard(s). To be a significant factor, a use may be one of several causal factors contributing to less-than-healthy conditions; it need not be the sole causal factor inhibiting progress towards the standards.

Since, land health standards are not being met, utilization data, actual use records and information from the evaluation was reviewed to determine whether current livestock management practices are contributing to not attaining standards. The results of this review and determination are listed by standard under Rationale/Information Sources below:

Standard 1 (Upland Sites)

Check those that apply:

- Meeting the Standard
- Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard, but Making Significant Progress towards
- Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

Rationale/Information Sources:

The summary of results from the White Hills Evaluation suggest that many of the key areas are not achieving of *Standards 1* on the Big Ranch Unit A and Gold Basin allotments. Based on utilization data and information from the evaluation it was determined that more than likely the current livestock management practices (year-long grazing) is a significant causal factor in *Standard 1* not being achieved.

Other causal factors such as drought played a role in the non-attainment of this standard as well, however drought was not the sole factor for non-attainment of this standard. After all this is a desert environment and drought is considered a normal event in any desert ecosystem. In

addition, some key areas were affected by wildfires during the evaluation period. In the desert, burned sites are very slow to recover from the effects of fire and were not achieving land health standards in part as a result of wildfires.

Standard 2 (Riparian- Wetland Sites)

There are no perennial or intermittent streams on these allotments.
Springs and seeps have been evaluated for riparian conditions or values.

Check those that apply:

Meeting the Standard

Not Meeting the Standard, Livestock Grazing Management Practices are a Significant Factor

Not Meeting the Standard, but Making Significant Progress towards

Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

Rationale/Information Sources: There are 16 springs that were inventoried and the results are summarized and presented in the White Hills Evaluation. The summary of results from the White Hills Evaluation suggest that many of these springs have not achieved of *Standards 2* on the Big Ranch Unit A and Gold Basin allotments. Based on inventory data and information from the evaluation it was determined that more than likely livestock management practices (year-long grazing) is a significant causal factor in this land health standard not being attained.

Standard 3 (Desired Resource Conditions)

Check those that apply:

Meeting the Standard

Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

Not Meeting the Standard, but Making Significant Progress towards

Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

Rationale/Information Sources:

The summary of results from the White Hills Evaluation suggest that many of the key areas have not attained of *Standard 3* on the Big Ranch Unit A and Gold Basin allotments. Based on utilization data and information from the evaluation, it was determined that current livestock management practices (year-long grazing) is more than likely a significant factor in this land health standard not being met.

Other causal factors such as drought played a role in not achieving *Standard 3* as well, however drought was not the sole factor for not achieving Standard 3 at every key area. It was determined that current livestock management practices (year-long grazing) is more than likely a significant factor at key areas receiving moderate to heavy grazing use from livestock and burros in the west

management unit of the Big Ranch Unit A Allotment. However, key areas receiving only light or less grazing use, then drought and/or wild fire are most likely significant causal factors where standards are not being achieved.

If it is determined that current livestock management practices or levels of grazing use on public land are significant factors, then an appropriate action must be developed and implemented in accordance with 43 CFR subpart 4180.2(c). Which states that appropriate actions will be taken on the allotments identified as soon as practicable but no later than the next grazing year. Once the Determination document is completed and signed by the Authorized Officer, the interdisciplinary team has at the most one year to complete the remaining grazing permit renewal processes.

Appropriate actions in this case means a change in current livestock management practices from year-around grazing to an Allotment Management Plan (AMP) which provides for periodic rest at all key areas from livestock grazing.

/s/Amanda M. Dodson, authenticated by A. Rose
Amanda M. Dodson
Field Manager
Kingman Field Office

August 4, 2020
Date

Appendix F – Figures

Figure 1 – Map Overview of the Big Ranch Unit A, Big Ranch Unit B, and Gold Basin Allotments

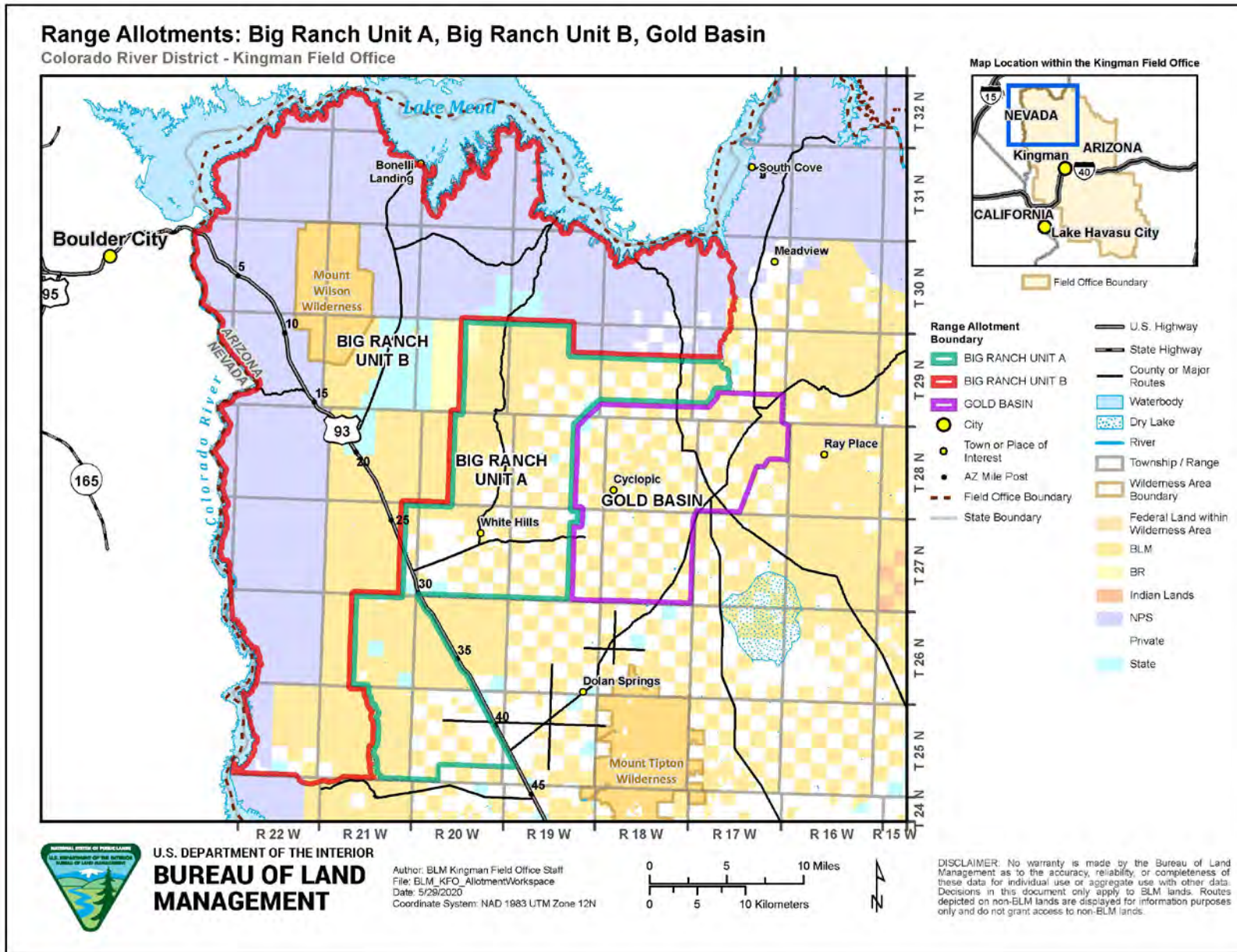


Figure 2 – Allotments within the White Hills Evaluation Area and Key Areas

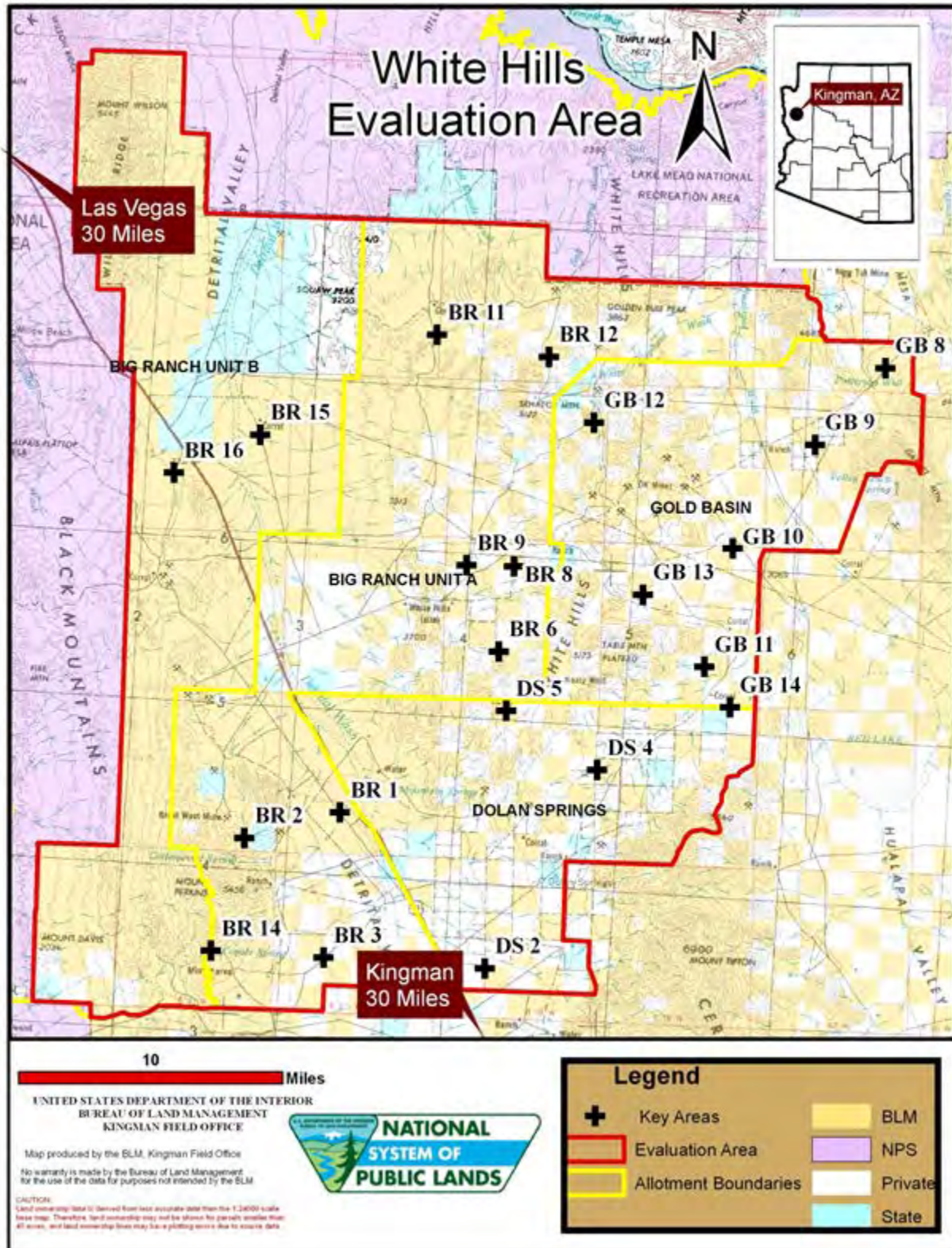


Figure 3 - Map of Big Ranch Unit A, East and West Sections

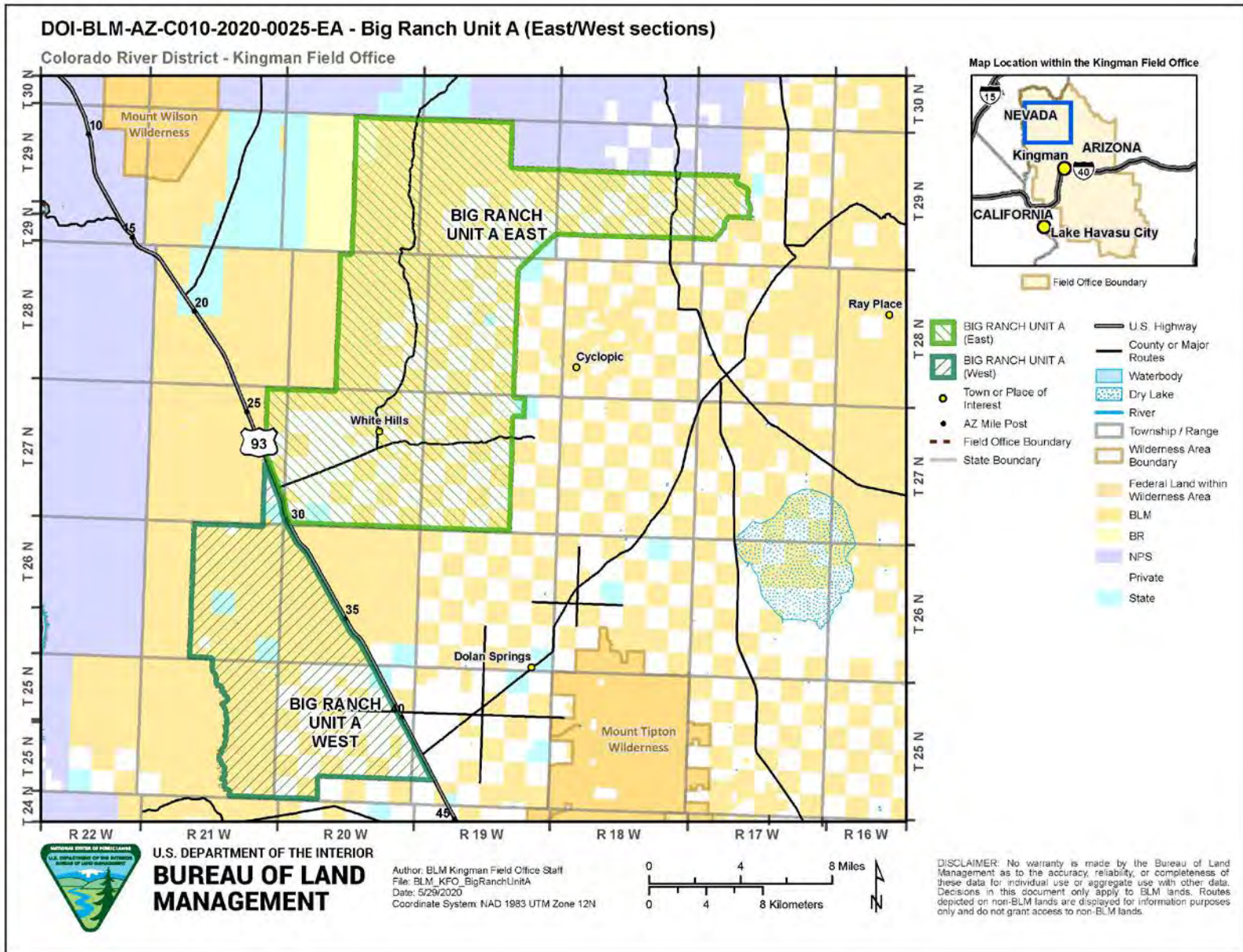
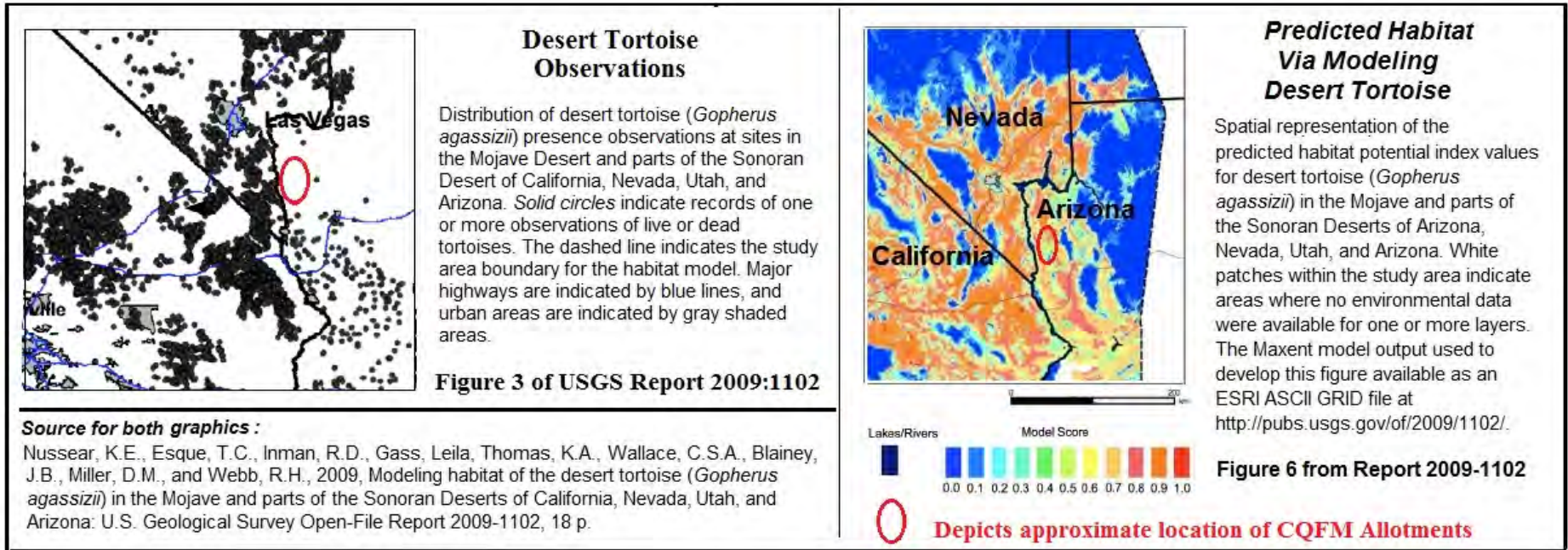


Figure 4 - Desert Tortoise Observations and Predicted Habitat Using USGS Modeling



Appendix I - Range Improvements List

BIG RANCH ALLOTMENT UNIT A (EAST Unit)							
Range Improvement			Location				Priority of R. I.
Map #	R. I. #	Name	Town	Range	Section's		
1	New	Lower W. Elephant Pipeline	29	20	1, 12, 13		High
			29	19	14, 15, 16,	17, 18, 19,	
			29	19	20, 26, 29,	32, 33	
			29	18	29, 20, 22		
2	New	Squaw Peak Well	29	20	1	NENE	Low
3	New	White Hills 1	29	19	14	NWNE	Low
4	New	White Hills 2	29	19	20	NWSW	Low
5	New	White Hills 3	29	20	23	NWNE	Low
6	New	Beaur od Rec. (BOR) Well	29	29	34	NENW	Low
7	New	South Senator Well	28	19	16	NESW	High
8	New	Gold Rual Well	28	18	30	SWNW	High
9	New	Bluebird Mine Well	29	17	20	SESE	Low
10	New	Powerline Well	28	20	16	SWNE	High
11	New	Lower Spears Well	28	20	28	NWNW	Low
12	New	Squaw Peak Pipeline	29	20	36, 25, 24		Low
			28	20	2, 11, 12		Low
13	New	Section 13 Well Pipeline	28	20	2, 3, 11, 14	34, 35	Low
14	New	Lower Spears Pipeline	28	20	21, 22, 28		High
15	New	Red Water Pipeline	28	19	3, 10, 14, 22	26	Low
16	New	South Senator Pipeline	28	19	16, 21, 28		Low
17	New	Upper White Hills Pipeline	28	21	36		Low
			28	20	31, 32, 33,	34, 36	
			28	19	32, 34		
			27	19	4, 6		
18	New	White Hills Road Well	27	20	10	SESW	Low
19	New	White Hills Road Pipeline	27	20	2, 3, 10		
20	New	Jeff's Camp Well	27	19	10	SESE	High
21	New	White Hills South Well	27	19	20	SWSW	High
22	New	Nealy Well #2	27	19	23	SENE	High
23	New	Jeff's Camp Pipeline	27	19	10, 16, 20,	28, 30	Low
24	New	Lower W. Hills South #1 Well	27	19	30	NWSW	Low
25	New	Lower W. Hills South #2 Well	27	20	26	NWSW	High
26	New	Powerline Pipeline	28	20	14, 15, 16	24	Low
			28	19	20, 28		
26	New	Powerline Cattleguard	26	20	4	NENW	Low
27	New	Dolan/Big Ranch Cattleguard	26	19	4	NWNE	Low

BIG RANCH ALLOTMENT UNIT A (WEST Unit)

Range Improvement			Location				Priority of R. I.
Map #	R. I. #	Name	Town	Range	Section's		
A4:A4:R	New	Mohave Mine Well	26	21	4	NWNW	Low
2	New	Porter Road Well	26	21	1	NWNW	Low
3	New	Mockingbird Well	26	21	15	SESW	Low
4	30552	Great West Mine Well	26	21	26	SESE	High
5	New	Powerline Well	26	21	9	NENE	Low
6	New	Scales Well #2	26	20	28	SESW	Low
7	34941	Cottonwood Well	25	21	2	NWSW	High
8	20967	Cow Camp Well	25	21	12	NENE	High
9	New	Cow Camp Well #2	25	21	14	SESW	Low
10	New	Coyote Well	25	21	23	SWSW	High
11	New	Scales Corral Well	25	20	26	SESE	Low
12	New	Powerline Pipeline	26	21	1, 2, 6,	8, 9, 10	Low
13	New	Scales Pipeline Extension	26	20	1, 17, 18		Low
14	30706	Mockingbird / Hwy93 Pipeline	26	21	1, 2, 11	15	High
15	30709	Cottonwood Pipeline	26	20	19, 20, 30	31	High
			25	21	1, 2		
			25	20	6		
16	New	Upper Scales Pipeline	26	20	19, 29, 30	32, 33	Low
			25	20	10		
17	20967	Cow Camp Pipeline	25	21	13, 14		High
			25	20	8, 18		
18	New	Coyote Pipeline	25	21	23, 26, 35		Low
19	New	Smith Corrals Cattleguard	25	20	22	SESE	Low
20	New	Smith Corrals Cattleguard 2	25	20	24	NWNW	Low

BIG RANCH ALLOTMENT UNIT B

Range Improvement			Location				Priority of R. I.
Map #	R. I. #	Name	Town	Range	Section's		
1	New	Black Butte Well	29	21	3	NWNW	Low
2	New	Householder Well	29	21	20	NWNW	High
3	New	Block Well	29	21	1	SESE	Low
4	New	Powerline Well	28	21	7	SWNW	Low
5	New	Sand Pit Well	28	21	26	NWNW	High
6	30560	Pope Mine Well	27	21	8	NWSW	High
7	New	Dettrital Well	28	21	36	SESE	Low
8	New	BlackButte/H.holder Pipeline	29	21	3, 4, 9, 16,	17, 20, 30,	Low
			29	21	31		
			28	21	6		
9	New	Dettrital Valley Pipeline	28	21	2, 3, 11, 14,	24, 25, 36	Low
			28	20	29, 30, 31		
10	New	Pope Mine Pipeline	28	21	20, 29, 30,	31, 32	High
			27	21	3, 4, 5, 6, 8,	9, 14, 16, 17	
			27	21	18, 20, 21,	22, 23, 26	
			27	21	27, 28, 29,	30, 32, 33,	
			27	21	34, 35		
11	New	Gold Door Well	25	21	20	SWNE	Low
12	New	Sand Pit Pipeline	28	21	3, 10, 15, 22	26, 35, 36	Low
			27	21	1, 2, 12, 24		

GOLD BASIN ALLOTMENT

Range Improvement			Location				Priority of R. I.
Map #	R. I. #	Name	Town	Range	Section's		
1	New	Pearce Ferry Rd Well Pipeline	28	18	22, 26, 27	35, 36	Low
2	New	Cyclopic Basin Well	28	18	17	NWNW	High
3	New	Excelsior Mine Well	28	18	22	SWSE	Low
4	New	Lower Cyclopic Pipeline (S.)	28	18	16, 17, 22		Low
5	New	Lower Cyclopic Pipeline (N.)	29	18	36		Low
			28	18	2, 10, 16		
6	30586	Fox Cayon Pipeline	28	17	10, 11, 12	15, 22, 28	High
7	New	Fox Cayon Well	28	17	12	SENE	High
8	New	Section 34 Well	28	18	34	SESE	Low
9	New	Section 34 Well Pipeline	28	18	2		
10	New	Cyclopic Pipeline South	28	18	30, 32		Low
			27	18	4, 5, 9	14, 15, 23	
11	New	White Elephant Well	28	19	12	NWSE	Low
12	New	Bob's Well	27	18	6	SWSW	High
13	New	Joshua Tree Well	29	17	32	NENE	Low
14	New	Joshua Tree Pipeline	29	17	28		Low
15	New	Nealy/Powerline Pipeline	27	19	36		Low
			27	18	26, 32		
16	New	Venny S./Red Water Pipeline	28	19	10, 14, 22	26, 34, 36	High
17	New	Rock Springs Well	27	19	12	NWNW	Low
18	New	Achibold Well	27	18	14	SWSE	Low
19	New	Patterson Cattleguard	29	17	26	NENE	Low
20	NEW	Fox Canyon Cattleguard	28	17	22	SENE	Low
21	New	Powerline Cattleguard	27	18	13	SENE	Low
22	New	Filaree Tank Cattleguard	27	18	24	NESE	Low
23	New	Dolan spr./Gold Basin C.G.	27	18	36	SWSE	Low

Appendix K: Responses to Comments

The *Big Ranch Unit A, Big Ranch Unit B, Gold Basin Allotments Grazing Permit Renewals* Environmental Assessment (EA), DOI-BLM-AZ-C010-2020-0025-EA, was posted for a 30-day comment and review period from June 1, 2020 through June 30, 2020. Comments received after the official end of the comment period were also considered.

A letter announcing the beginning of the public comment period was mailed to 22 individuals, organizations, and agencies on June 2, 2020. Emails of the letter were also sent that day to 18 additional individuals, organizations, and agencies. Potentially affected or interested tribes were sent letters that included a description of the proposed project, a map of the project location, and an invitation for comments or feedback regarding the project. These tribes are listed in Chapter 5 of the Final EA.

Comment letters were received from the following: the Arizona Game and Fish Department, Center for Biological Diversity, the affected permittee, the Desert Tortoise Council, the International Society for the Protection of Mustangs and Burros, and Western Watersheds Project.

Although not required by regulation for an EA, an agency may respond to substantive and timely comments. Substantive comments: 1) question, with reasonable basis, the accuracy of information in the EIS or EA; 2) question, with reasonable basis, the adequacy of, methodology for, or assumptions used for the environmental analysis; 3) present new information relevant to the analysis; 4) present reasonable alternatives other than those analyzed in the Environmental Impact Statement (EIS) or EA; and/or 4) cause changes or revisions in one or more of the alternatives (BLM 2008). All comments were reviewed, considered, and labelled according to the applicable section of the EA. Comments and the BLM responses are described in Table 1 below. Comments are summarized and not verbatim; minor spelling and grammar revisions have been made. Modifications to the EA in response to comments are noted in the response tables below.

Table 1: Response to Comments Received on the Big Ranch Unit A, Big Ranch Unit B, Gold Basin Allotments Grazing Permit Renewals EA

#	Comment/Summary of Comment	BLM Response
1	<p>Comments received related to Lands with Wilderness Characteristics (LWC) requested that BLM consider these in the National Environmental Policy Act (NEPA) analysis. And that the project area includes portions of several proposed LWC units, including but not limited to Mt. Perkins Proposed LWC, Trail Rapids Wash Proposed LWC, Black Mountains North Proposed LWC, and possibly others identified in citizen reports.</p>	<p>The Kingman ROD and RMP (BLM 1995) does not allocate any lands managed for wilderness characteristics and does not provide guidance on the management or subsequent goals and objectives for any lands with wilderness characteristics within the Kingman Field Office. Therefore, the units are only categorized as “inventoried” units as they have not been allocated through a Resource Management Plan (RMP) revision or amendment. Instead, the BLM as it relates to this proposal would only supplement ongoing inventory data that would be utilized at time of an RMP revision or amendment to designate lands with wilderness characteristic as outlined in BLM Manual 6320 (BLM 2012).</p> <p>Also, of note to the comment, the Black Mountains North proposed lands with wilderness characteristics is not located within the project area. No changes to the EA have been made.</p>
2	<p>Comments received in regard to comments submitted for the Draft Travel Management Plan from 2018 and the identified routes within the project area which should be closed to protect resource values.</p>	<p>This proposal would not designate any routes within the project area as open, limited, or closed. This process is done through the Travel Management Planning (TMP) framework and would be subject to a separate NEPA analysis. Any continued NEPA work in the future as it relates to TMP would take into account the previous comments submitted on the Draft Kingman Field Office Travel Management Plan and EA. No changes to the EA have been made.</p>
3	<p>Comments suggest that the BLM has presented alternatives that reduce the amount of livestock grazing as a negative only and state that while fewer livestock may mean more wildlife and hunter success, there are no economic benefits for this and that increased recreational opportunities will be harmful to the landscape. Additionally, the EA states increasing the number of waters would be beneficial because it would force recreational users (campers) to avoid 3 percent of the project area due to restrictions on camping within a quarter mile of wildlife or livestock waters and this would result in natural revegetation and be an environmental improvement. BLM ignores here the likely increase in hunter success that would be harmful to the landscape it had described in the paragraphs above.</p>	<p>Any analysis related to economic benefit of increased hunter success from the sale of additional permits if forage were to improve, is purely speculative and not quantifiable. The analysis outlines that if numbers of cows were reduced, there could be more forage, hence greater presence of wildlife and greater opportunity for hunting success, which is a permitted activity by the AGFD. The BLM has no jurisdiction over the issuance of hunting permits.</p> <p>The claim that increased recreational opportunities will be more harmful to the landscape is unfounded without references to support the claim, which have not been provided. No changes to the EA have been made.</p>
4	<p>Response to comments regarding camping near waters and the impacts on recreational dispersed camping.</p>	<p>This statement is simply an analysis of law regarding camping near waters and is of fact. There is no statement in the document that the</p>

#	Comment/Summary of Comment	BLM Response
		<p>revegetation would be an environmental improvement, in fact there is acknowledgement that these current dispersed camping location would likely be replaced by other dispersed camping locations at a 1:1 ratio, meaning there is no environmental improvement. Again, this comment is baseless and works to change the analysis that is currently contained in the EA. No changes to the EA have been made.</p>
5	<p>The EA doesn't include the impacts from other elements such as the roads, other construction developments in the area, and visual contrast resulting from fencing of springs.</p>	<p>Clarification to the text has been added to Section 3.1.7 of the Final EA. There would be no visual changes from roads as none are proposed.</p>
6	<p>Analyze an alternative that includes reduced AUMs and does not propose or require a that additional water sources be constructed.</p>	<p>Refer to Section 2.4 of the EA.</p>
7	<p>This EA should include an alternatives providing more enhanced conservation which includes continued/expanded rest and permanent exclusion from identified critical areas, reduced or eliminated stocking in areas not meeting Standards, a robust monitoring plan with at least one sizable upland exclosure per pasture for comparison/control, an inventory of forage quality and quantity for both local species of Gopherus tortoise, and no construction of new water or fence systems.</p>	<p>As stated in the EA, Chapter 2 Proposed Action, the only new fencing is the construction of exclosures' and the fencing of riparian habitat around springs. Which are intended on being a barrier to livestock to protect riparian vegetation or habitat associated with these springs. As stated in the EA, three exclosures are planned in each management unit.</p> <p>Rest in areas would be determined based on monitoring, the rest for one out of 4-5 years is only a starting point as states in the EA (see description under the Adaptive Management Plan, Chapter 2). If monitoring shows that an area that has been rested has not shown to recover from the effects of grazing it could be rested for a longer period of time such as two years or more.</p> <p>Also, refer to comment response 6, and 8. No additional alternatives were analyzed in detail based on this comment as all components are addressed in other alternatives described in Chapter 2 of the EA.</p>
8	<p>General comments concerning analysis of desert tortoise and impacts to them and requests both information on Sonoran and Mojave tortoise species.</p>	<p>Section 3.1.9 of the EA discusses desert tortoise. Standard Operating Procedures (SOPs) and guidelines have been developed in coordination with AZGFD and would be implemented as part of any action alternative. The BLM is monitoring and mitigating for the species per the Candidate Conservation Agreement (CCA) guidelines for Sonoran tortoise species. The following guidance applies to this project in regards to desert tortoise: As stated in Instruction Memorandum (IM) AZ-2016-004 Desert Tortoise Conservation Agreement Implementation ,</p>

#	Comment/Summary of Comment	BLM Response
		<p>"The Sonoran desert tortoise and its habitat south and east of the Colorado River will be conserved and managed as described in Manual Section 6840 and consistent with the CCA conservation commitments. Mitigation for the Sonoran desert tortoise will follow the guidance provided in IM No. AZ-2012-031 (Desert Tortoise Mitigation Policy) or subsequent revised guidance." Additional guidance is provided in BLM Manual 6840 which includes conducting and maintaining current inventories, which will be done. These measures and mitigation would be followed and used in areas where suitable habitat is present and where suitable habitat has yet to be determined. Best Management Practices (BMPs) are done for desert tortoise whether quality habitat is present or not. The degree of BMPs is determined by habitat quality. BMPs are determined by management goals stated in the KFO RMP for the 3 categories of tortoise habitat.</p> <p>Regarding the Mojave desert tortoise species, In 2015 the AZGFD did a study on the tortoise species in the Black Mountains. The results found that this species is a hybrid species, but dominantly Mojave. BLM mitigates impacts to this species in accordance with BLM Manual 6840 and the Cooperative Conservation Agreement. At this time, the species southeast of the Colorado River are not treated as threatened or endangered.</p>
9	General comments relating to the vegetation and dietary needs of desert tortoise not adequately described in the EA.	The Affected Environment discussion on vegetation provided in chapter 3, Section 3.1.6 of the EA includes the most dominant perennial species utilized by wildlife (including desert tortoise) and livestock. If a specific vegetation species is not listed, it was because they are not a dominate plant species in the area.
10	BLM should specify how it is ensuring that there is adequate forage quantity and nutritional quality for both species of desert tortoise, independently, so that growth, reproduction, and recruitment will occur for this species following grazing rotations.	BLM manages for multiple species under FLPMA's multiple use mandate, not specifically just the tortoise. BMPs and the CCA are followed to minimize impacts to desert tortoise.
11	Range improvements, specifically water facilities bringing in an increased number of ravens or population or tortoise population.	Ravens are protected under the MBTA. Additionally, there are no studies that show that either species tend to congregate at new water facilities.
12	Has the impact of cattle grazing on local <i>Y. jaegeriana</i> populations been addressed and quantified?	BLM conducts trend monitoring for this species. No declines in Joshua tree has been observed in this area.
13	The EA does not address climate change. Climate change is likely to exacerbate drought, stress vegetation, and lead to	While climate change may be relevant to the analysis of issues in a NEPA document, climate

#	Comment/Summary of Comment	BLM Response
	<p>more uncharacteristic fire behavior. The cumulative effects of climate change interacting with grazing are significant, but not discussed in any capacity in the EA.</p>	<p>change does not have a clear cause and effect relationship with the proposed action or alternative, because it is not currently possible to identify a specific source of greenhouse gas emissions or sequestration and designate it as the cause of specific climate changes. The BLM NEPA Handbook explains that a topic must have a cause and effect relationship with the proposed action or alternatives to be considered an issue (BLM NEPA Handbook H-1790-1, p. 40). Current BLM guidance can be found in BLM Washington Office Instruction Memorandum No. 2018-002 https://www.blm.gov/policy/im-2018-002.</p>
<p>14</p>	<p>The gross overpopulation of wild burros is a contributing factor to the poor land health of these grazing allotments. BLM explicitly states that burro management is not in the scope of this EA, as there is a burro management plan under concurrent review (DOI-BLM-AZ-C010-2019-0030-EA). While the burro management strategy may be an independent project, providing information on how burro numbers are expected to be reduced, wild burros are still undeniably a source for additional cumulative impacts as it pertains to this EA directly. To excuse the issue from discussion violates NEPAs requirement for analyzing cumulative impacts of similar and related projects.</p>	<p>Cumulatively we would remove burros to achieve AML and meeting standards or making significant progress towards meeting standards. This as well as the reduction of livestock to improve management should help to improve overall rangeland health.</p> <p>This is a concern BLM is actively working towards mitigating to improve overall landscape health.</p>
<p>15</p>	<p>Domestic livestock diseases infect bighorn sheep and are known or strongly suspected to cause significant mortality, including extinction of local populations.</p>	<p>Domestic livestock in the form of sheep have been known to transfer diseases to bighorn sheep, not cattle.</p>
<p>16</p>	<p>Cattle may act as a reservoir for bluetongue, a disease highly fatal to pronghorn.</p>	<p>There have not been any cases of bluetongue in this area to date.</p>
<p>17</p>	<p>Claim that BLM is piecemealing analysis of allotment renewals for same permittee and not addressing private land and grazing management occurring there.</p>	<p>BLM does not have jurisdiction for these portions of the allotments occurring on private lands.</p> <p>The Kingman RMP has an associated EIS document, and the Grazing EIS cover this project area. The EA has been updated to include reference to the Grazing EIS as appropriate, refer to Section 1.6 in the EA.</p>
<p>18</p>	<p>Comments suggest that other land uses in the area such as recreational off-road activities, developments (such as the construction of the White Hills Wind Farm), new roads and other construction will further modify the landscape and cumulative impacts for these not addressed in regards to visual, invasive species and wildlife.</p>	<p>Refer to comment response 5, Section 3.1.7 of the EA has been updated.</p> <p>Other cumulative impacts are described in Chapter 3 by issue.</p>
<p>19</p>	<p>Mohave County Development Services supports the proposed action with no additional comments.</p>	<p>Thank you for your comment. No changes were made to the EA.</p>
<p>20</p>	<p>The BLM must admit that the “No Grazing” alternative is actually a “reduced grazing” alternative and the BLM has failed to analyze an actual “No Grazing alternative.</p>	<p>Although we did consider the no grazing alternative on Big Ranch Unit A and Gold Basin Allotments. In the case of the Big Ranch Allotment Unit B, which is currently meeting Land Health Standard, there no reason to</p>

#	Comment/Summary of Comment	BLM Response
		analyze the No Grazing alternative any further for this allotment as there would not be changes to their permit.
21	Comments suggest that BLM did not coordinate with tribes.	BLM has coordinated with local Tribes and the consultation for the project was conducted and the Final EA includes a list of those who were contacted. See Chapter 5 List of preparers.
22	Some comments suggest that those submitted on the Land Health Evaluation were not accounted for in the EA.	The land health evaluation is based on data gathered and collected at key areas. This evaluation provides the data and whether areas are meeting standards. All comments received on the evaluation were considered in the EA process through development of alternatives, specifically to help refine the Proposed Action to address issues found through the evaluation process.
23	While we understand that existing improvements may not have been constructed to current standards, we request that existing improvements that may currently pose a risk of harm to wildlife be prioritized for repair/upgrade, and new fencing follow the AZGFD guidelines for wildlife compatible fencing.	Existing and new range improvements would be developed in accordance with established guidelines to ensure wildlife compatibility.
24	Comments suggest that maintenance, monitoring of, and repairs to water sources, (particularly those noted as having trampling, removal of riparian vegetation and reduction in flows) be given high priority for protection and repairs.	As described in Chapter 2, Proposed Action and Appendix I, a list of priorities has been established to bring these improvements up to established standards.
25	The EA does not include or state how, what, or when changes will be implemented, if trend monitoring indicates "not meeting standards." Comments suggest that further information be added to the EA to clarify how utilization monitoring and trend data will be used to indicate that current permitted uses will be in balance with capacity for the allotments.	<p>AUMs in Temporary Suspension will be reassessed when the following criteria have been met: 1. Wild burro population has reached AML; 2. All watering facilities are completed and operational; 3. All key area (DPC) objectives are being met or making significant progress towards achievement.</p> <p>Grazing use would be in accordance with the rotational grazing system. Cattle would move to the next use area when the utilization threshold of moderate (40-60%) has been reached for the East management unit and Gold Basin allotment. Utilization threshold for the West management unit are 35% on Big Galleta.</p> <p>Additional information was included in the EA in Chapter 2, Section 2.1.</p>
26	Comments suggest there are foreseeable resource conflicts between resident bighorn sheep, wild burros, and livestock in the west pasture of the allotment.	Refer to the Black Mountain Ecosystem Management Plan and EA AZ-025-95-032, and Decision Record approved April 1996 (BLM 1996).
27	Comments refer to ephemeral grazing and the need for long term monitoring date (i.e. Trend data).	In 2013 the BLM established two study plots in order to collect data to compare these sites to the Ecological Site Description (ESD) for these two soil types.
28	The BLM can't use the RMP and or the Grazing EIS as they are extremely outdated and therefore there is no legal way for	Chapter 5 of the BLM National Environmental Policy Act Handbook H-1790-1 describes the degree to which existing analysis may be

#	Comment/Summary of Comment	BLM Response
	BLM to make a Finding of No Significant Impact on these allotments.	utilized for tiering or incorporation by reference. Some new and updated guidance for grazing management and additional projects and developments are the only major changes to grazing management that has occurred since decisions were signed on the RMP and associated amendments. Analysis has not changed to a point these decisions are no longer valid. No changes have been made to the EA.
29	The BLM is planning to combine the three allotments into one allotment.	Text in the EA has been revised in Section 2.1 to clarify that the allotments would not be combined only managed in a similar manner.
30	What is the funding source for monitoring?	This is outside the scope of analysis in the EA. All the monitoring conducted on BLM land in the Kingman Field Office is completed by the BLM annually and will continue to monitor these allotment as it has been done in the past.
31	What price does the community pay for these extremely low grazing fees? There are apparently no economic benefits for the No Grazing alternative?	Refer to Issue 5 of the EA which describes the impacts to the local communities. Grazing fees are established by the Department of the Interior and is outside the scope of this analysis. Under federal grazing regulation half the grazing fee paid by the grazing permittees come back to the grazing districts or local communities from which they were collected. These fees are used for on the ground projects (which could include those that benefit wildlife) or range improvements which comes from and is paid into the local economy. Economic impacts to the community from no grazing, impacts would be expected to be minimal. Some of the range improvements that currently provide benefits to wildlife as well as livestock could fall into disrepair or be removed unless there is an agreement in place. Maintenance and further improvements to these would become the responsibility of either the federal or state government agencies.
32	Constructing new water development on these allotments would effectively offset the positive progress in meeting Rangeland Health Standards though AUM reduction alone.	The combination of reducing the AUMs and developing new waters to improve livestock distribution would take grazing pressure off historically heavier grazed portions of these allotment. This in turn this would allow these sites to improve more rapidly and begin to make progress toward meeting Rangeland Health Standards.
33	Comments received discuss that the EA doesn't address that there would be an increase in the presence of and spread of invasive species though increased disturbance from concentrated livestock and other ungulate use near or around the water developments.	The text in Section 3.1.1 of the Final EA has been updated based on this comment.
34	Increased invasive species could increase fire risk in the area. How is the fire risk being mitigated in the Project Area, and how is the continued cattle stocking impacting this risk? How	The development of range improvements and increase in vehicle traffic would not be expected to cause an increase in fire risk as this

#	Comment/Summary of Comment	BLM Response
	would the expansion of motor vehicle use to new water developments increase the risk of fire?	area is not a fire-adapted environment. No changes have been made to the EA.
35	Construction and maintenance of new fencing on these allotments would create barriers and increase vehicular traffic.	As stated in Section 2.1 of the EA the only new fencing is the construction of enclosures' and the fencing of riparian habitat around springs. These fences are intended on being a barrier to livestock to protect riparian vegetation or habitat associated with these springs. Existing routes would be used for accessing these new range improvements and associated fencing for maintenance and construction activities. There would be minimal increases in trips to these areas, which would be limited to construction or maintenance of the improvements, in comparison with existing vehicular traffic on these routes which are already in existence.
36	The EA suggest resting pastures for a duration of one year of 4-5 years of grazing, which is a grossly inadequate length of time for ecosystem to recovery.	Refer to comment response 6.