

Gable Complex Grazing Permit Renewal

FINAL ENVIRONMENTAL ASSESSMENT

DOI-BLM-AZ-P020-2018-0040-EA

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October 2018



It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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1.0 INTRODUCTION/PURPOSE AND NEED

1.1 Introduction

The Bureau of Land Management (BLM) is proposing to fully process the term grazing authorizations on the A Lazy T (#03002), Dendora Valley (#03024), Gable-Ming (#03032), Jagow-Kreager (#03044), Layton (#03049), and the Ward (#03086) allotments (Complex).

The Complex is located 20 miles northwest of Gila Bend, Arizona (Map 1). The Complex is bound by Interstate 10 to the north, Interstate 8 to the south, and State Highway 85 to the west. The Complex is also roughly bisected by Agua Caliente Road, which runs west/southwest between Arlington and Hyder, Arizona. The Complex covers approximately 252,208 acres in Maricopa County. The BLM-administered portion of the Complex is approximately 212,657 acres. The remaining acreage is Arizona State Trust Lands (15,563 acres), other federal lands (1,463 acres) and privately owned (22,525 acres).

This Environmental Assessment (EA) has been prepared to analyze and disclose the potential environmental consequences associated with the Proposed Action and alternatives for livestock management on the Complex. The analysis was conducted in accordance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations (CFR) 1500-1508), and direction provided under BLM NEPA Handbook H-1790-1 (2008).

Allotment Profiles

A Lazy T Allotment

The A Lazy T Allotment is roughly bisected by Centennial Wash which conflues with the Gila River just east of the Allotment boundary. The Allotment is authorized for ephemeral use only with the exception of the State lands, which are permitted for yearlong use. The Allotment contains three primary pastures and two smaller holding pastures. Livestock generally remain on the State lands in the north and east portions of the Allotment and only occasionally cross onto BLM-administered lands while migrating to water supplied by the Arlington Canal. Utility rights-of-way (ROWs), industrial scale solar, off-highway vehicle (OHV) use, hunting, and agriculture are common uses in the area.

Dendora Valley Allotment

The Dendora Valley Allotment is located west of Painted Rock Dam, east of Oatman Mountain, south of the Southern Pacific Railroad, and north of the Gila River. The Allotment is authorized for ephemeral use only and has one defined pasture with livestock waters distributed throughout. Grazing is primarily operated in conjunction with the agricultural developments in the southern portion of the Allotment along the Gila River. The Woolsey Peak Wilderness Area encompasses much of the eastern portion of the Allotment. Utility ROW, OHV use, hunting, and agriculture are common uses on the Allotment.

Gable-Ming Allotment

The Gable-Ming Allotment is the largest Allotment of the Complex, consists of primarily BLM-administered land, and is authorized for perennial/ephemeral use. The Allotment is roughly bisected by the Southern Pacific Railroad and contains two large pastures. Cattle rarely graze the

Allotment year round but are generally turned out to utilize ephemeral forage when available. There are no defined pastures on the Allotment, however, livestock are controlled by water availability. The Allotment contains two wilderness areas, Signal Mountain and Woolsey Peak. Agua Caliente Road and wilderness corridor roads are the primary access to the Allotment which otherwise has limited vehicular access. Utility ROWs, OHV use, hunting, and mining are common on the Allotment. The Allotment has historically been operated in conjunction with the other allotments in the Complex.

Jagow-Kreager Allotment

The Jagow-Kreager Allotment is bound by the Gila River to the east, the Gila Bend Mountains to the south and west, and the Layton Allotment to the north. The Allotment is an ephemeral community Allotment with two permittees who split the ephemeral use when authorized based on their percent interest in the range improvements of the Allotment. Fencing and topographic features prevent cattle drift to the south, east, and west. There is no fence between the Jagow-Kreager and the Layton allotments. These two allotments are often grazed in conjunction when ephemeral use is authorized. The Woolsey Peak Wilderness Area encompasses much of the southern portion of the Allotment. Utility ROWs, OHV use, hunting, and mining are common uses on the Allotment.

Layton Allotment

The Layton Allotment is bound by the Gila River to the east, Agua Caliente Road to the north, the Jagow-Kreager Allotment to the south, and the Gable-Ming Allotment to the west. The Allotment is authorized for ephemeral use only. The Allotment has no defined pastures and the southern boundary with the Jagow-Kreager Allotment is unfenced. Utility ROWs, OHV use, hunting, and mining are common uses on the Allotment.

Ward Allotment

The Ward Allotment is roughly bisected by Centennial Wash and is bound by Saddle Mountain to the north, the Palo Verde Hills to the east, the Southern Pacific Railroad to the south, and the Hansen Allotment to the west. The Allotment is authorized for perennial/ephemeral use. The central portion of the allotment along Centennial Wash contains a large amount of State and private land. The Allotment’s headquarters is located in the central portion of the Allotment at Twin Tanks. Utility ROWs, OHV use, hunting, and mining are common uses on the Allotment.

Tables 1-6 provide profile information for each allotment within the Complex.

Table 1. A Lazy T Allotment Profile

Permittee	David Landford
Percent/Acres BLM Land	27 percent/5,072 acres
Percent/Acres State Land	40 percent/7,653 acres
Percent/Acres Private Land	33 percent/6,301 acres
Grazing Preference	0 Animal Unit Months (AUMs)
Season of Use	Ephemeral
Range Classification	Ephemeral

Management Category	Improve
Kind and class of livestock use	0

Table 2. Dendora Valley Profile

Permittee	A Tumbling T Ranches
Percent/Acres BLM Land	87 percent/29,360 acres
Percent/Acres State Land	6 percent/1,967 acres
Percent/Acres Private Land	3 percent/1,028 acres
Percent/Acres Other Federal	4 percent/1,463 acres
Grazing Preference	0 Animal Unit Months (AUMs)
Season of Use	Ephemeral
Range Classification	Ephemeral
Management Category	Maintain
Kind and class of livestock use	0 Cattle

Table 3. Gable-Ming Allotment Profile

Permittee	K Cross Cattle Co
Percent/Acres BLM Land	99 percent/29,360 acres
Percent/Acres State Land	T percent/40 acres
Percent/Acres Private Land	T percent/24 acres
Grazing Preference	4200 Animal Unit Months (AUMs)
Season of Use	Yearlong
Range Classification	Perennial
Management Category	Maintain
Kind and class of livestock use	350Cattle

Table 4. Jagow-Kreager Allotment Profile

Permittees	K Cross Cattle Co and Craig Kreager
Percent/Acres BLM Land	99 percent/13,044 acres
Percent/Acres State Land	T percent/24 acres
Grazing Preference	0 Animal Unit Months (AUMs)
Season of Use	Ephemeral
Range Classification	Ephemeral
Management Category	Maintain
Kind and class of livestock use	0 Cattle

Table 5. Layton Allotment Profile

Permittee	K Cross Cattle Co
Percent/Acres BLM Land	87 percent/5,894 acres
Percent/Acres State Land	7 percent/496 acres
Percent/Acres Private Land	6 percent/401
Grazing Preference	0 Animal Unit Months (AUMs)
Season of Use	Ephemeral
Range Classification	Ephemeral
Management Category	Maintain
Kind and class of livestock use	0 Cattle

Table 6. Ward Allotment Profile

Permittee	Centennial Cattle Co.
Percent/Acres BLM Land	63 percent/34,758 acres
Percent/Acres State Land	10 percent/5,354 acres
Percent/Acres Private Land	27 percent/14,771
Grazing Preference	1,476 Animal Unit Months (AUMs)
Season of Use	Yearlong
Range Classification	Perennial/Ephemeral
Management Category	Improve
Kind and class of livestock use	150 Cattle

1.2 Purpose and Need

The purpose of this action is to consider livestock grazing opportunities on public lands where consistent with management objectives, including the BLM *Arizona Standards for Rangeland Health and Guidelines for Livestock Grazing Management* (Rangeland Health Standards) (BLM 1997).

The need for this action is established by the Taylor Grazing Act, the Federal Land Policy and Management Act, Fundamentals of Range Health (43 CFR 4180), and the Lower Sonoran Resource Management Plan (RMP) of 2012 to respond to an application for renewal of an expiring livestock grazing lease to graze livestock on public land. In detail, the analysis of the actions are needed because:

- The Lower Sonoran RMP (2012) 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 Lower Sonoran Field Office. The RMP allocated public lands within the Gable Complex as available for domestic livestock grazing. Where consistent with the goals and objectives of the RMP and Land Health Standards, the

issuance of grazing permits or leases to qualified applicants are provided for by the Taylor Grazing Act and the Federal Land Policy and Management Act (FLPMA).

- BLM Arizona adopted the Arizona Rangeland Health Standards (Land Health Standards) and Guidelines for Livestock Grazing Management (Arizona S&Gs) in all Land Use Plans in 1997 (Appendix B). The Land Health Standards and Guidelines for Grazing Administration were also incorporated into the RMP. The Land Health Standards for Rangeland should be achieving or making significant progress toward achieving the Standards. Guidelines direct the selection of grazing management practices and, where appropriate, livestock facilities to promote significant progress toward, or the attainment and maintenance of, the Standards. The Final Land Health Evaluation (LHE) completed for the Complex determined that Standards 1 and 3 are being achieved on the majority of upland sites.

1.3 Scoping and Issue Identification

Internal scoping was conducted with BLM specialists in March 2016 and June 2018. External scoping was conducted via letters sent to individuals and organizations on the Consultation, Coordination, and Cooperation list. Recipients were asked to comment on the draft LHE and the management recommendations. The scoping period for the Gable Complex draft LHE was November 24 through December 24, 2015. One external comment letter was received for the BLM to consider. Comments were received and addressed in the Final LHE (Appendix A).

Issues for Analysis

For the purpose of BLM NEPA analysis, an “issue” is a point of disagreement, debate, or dispute with a Proposed Action based on some anticipated environmental effect. An issue is more than just a position statement, such as disagreement with grazing on public lands. An issue:

- has a cause and effect relationship with the Proposed Action or alternatives;
- is within the scope of the analysis;
- has not been decided by law, regulation, or previous decision; and
- is amenable to scientific analysis rather than conjecture.

For the purposes of this EA, the BLM analyzed issues if the analysis of the issue is necessary to make a reasoned choice between alternatives, or the issue is significant or may have potentially significant effects (BLM 2008). The Interdisciplinary Team (IDT) considered comments by BLM specialists, permittees, interested parties, and affected agencies in order to identify issues relevant to issuing a 10-year grazing permit or lease. The issues derived from internal and external scoping on technical recommendations of the Final LHE (Appendix A) are as follows:

Issue 1 – Upland vegetation: How would continued livestock grazing affect the levels of annual plant species given the BLM’s current monitoring methods?

Issue 2 – Soils: How can the BLM attribute a site’s land health failures to livestock if no palatable species are present?

Issue 3 – Wildlife: What impacts would the permitted level of livestock grazing have on Sonoran desert tortoise (*Gopherus morafkai*) and bighorn sheep (*Ovis canadensis nelsoni*) in terms of forage competition and social avoidance?

Issue 4 – How was the Gable-Ming Allotment authorized more than 4,200 AUMs if it is perennial only?

1.4 Land Use Plan Conformance Statement

Rangeland management decisions in the Lower Sonoran RMP that pertain to the Proposed Action include:

Rangeland Management (GR)

Desired Future Conditions

“GR-1: Manage livestock grazing in the Lower Sonoran Decision Area to provide for multiple uses while maintaining healthy ecosystems.

GR-1.1 Livestock grazing use and associated practices will be managed in a manner consistent with other multiple use needs and other desired resource condition objectives to ensure that the health of rangeland resources and ecosystems are maintained or improved. Management will achieve, or make significant progress toward achieving, Land Health Standards and produce a wide range of public values, such as wildlife habitat, livestock forage, recreation opportunities, clean water, and functional watersheds.

GR-1.1.1 Approximately 830,200 acres of BLM-administered lands are allocated and available for livestock grazing, as shown in Table 2-6 and Map II, Livestock grazing. Approximately 100,000 acres of BLM-administered lands will not be available for grazing.

GR-1.1.7 All existing water developments will be evaluated and modified, as necessary, to provide the maximum benefit and minimum impact to priority wildlife and special status species.

GR-1.1.8 Grazing management on Allotments categorized as “Maintain” and “Improve” may include rest rotation, deferred rotation, deferred, seasonal, short duration or other management practices to be implemented where needs are identified through monitoring. On “Custodial” Allotments, grazing systems or season of use will be coordinated with the permittee, Arizona State Land Department, and/or Natural Resources Conservation Service.

GR-1.1.10 Allotments may be classified as ephemeral, in accordance with the Special Ephemeral Rule published December 7, 1968, through Rangeland Health Assessments during the permit renewal process. The BLM has established criteria and Standard operating procedures (SOPs; see Appendix A, Best, Management Practices and Standard Operating Procedures), based upon the Special Rule through which Allotments can be classified and managed as ephemeral.

GR-1.1.11 The Arizona Guidelines for Grazing Administration, as approved in the Arizona Standards for Rangeland Health and guidelines for Grazing Administration (1997), will apply where appropriate to all livestock grazing activities.

GR-1.1.12 Land not allocated for livestock use will remain unallocated for this use and its forage and other vegetation will be reserved for wildlife and nonconsumptive uses.

GR-1.1.13 If an evaluation of land health Standards identifies an Allotment where land health Standards cannot be achieved under any level or management of livestock use and where current grazing use has been identified as the causal factor, then decisions identifying those areas as available for livestock grazing will be revisited.

GR-1.1.14 Should a livestock grazing permit be relinquished, the Allotment and associated resources and public uses will be evaluated to determine the appropriate allocation of available forage.

GR-1.1.16 Construction of new livestock waters in Category I and Category II Sonoran desert tortoise habitat and in bighorn sheep habitat will be addressed on a case-by-case basis.

GR-1.1.17 Range improvement permits and cooperative range improvement agreements shall specify the Standards, design, construction, and maintenance criteria for the range improvements and other additional conditions and stipulations or modification deemed necessary. The extent, location, and timing of such actions will be based on Allotment-specific management objectives adopted through the evaluation process, interdisciplinary development, and analysis of proposed actions and funding.”

1.5 Relationships to Statutes, Regulations, Manuals and Other Plans

The Taylor Grazing Act and the FLPMA recognize grazing as a valid use of the public lands and require BLM to manage livestock grazing in the context of multiple use and sustained yield. Additionally, livestock grazing on public lands is managed according to grazing regulations found in the Code of Federal Regulations (at 43 CFR Part 4100).

The Taylor Grazing Act of 1934 provides for two types of authorized use: (1) a grazing permit, which is a document authorizing use of the public lands within an established grazing district, and are administered in accordance with Section 3 of the Taylor Grazing Act; and (2) a grazing lease, which is a document authorizing use of the public lands outside an established grazing district, and are administered in accordance with Section 15 of the Taylor Grazing Act. All of the Gable Complex allotments are considered Section 3 grazing permits.

Title 43 CFR 4100.0-8 states, in part, “The authorized officer shall manage livestock grazing on public lands under the principle of multiple use and sustained yield, and in accordance with applicable land use plans.” Title 43 CFR 4130.2(a) states, in part, “Grazing permits or leases shall be issued to qualified applicants to authorize use on the public lands and other lands under the

administration of the Bureau of Land Management that are designated as available for livestock grazing through land use plans.”

The Proposed Action is consistent with the Fundamentals of Rangeland Health (43 CFR 4180.1) and Rangeland Health Standards, which were developed through a collaborative process involving the Arizona Resource Advisory Council and the BLM State Standards and Guidelines team. The Secretary of the Interior approved the Standards and Guidelines in April 1997. These Standards and guidelines address watersheds, ecological condition, water quality, and habitat for special status species.

Additionally, the following pertinent laws and/or agency regulations also apply:

- 43 CFR 4100 Grazing Administration - Exclusive of Alaska.
- Taylor Grazing Act of 1934.
- Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.).
- Public Rangelands Improvement Act of 1978.
- 43 CFR 4100 Grazing Administration - Exclusive of Alaska.
- Arizona Water Quality Standards, Revised Statute Title 49, Chapter II.
- Section 106 of the National Historic Preservation Act of 1966, as amended.
- Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001-3013; 104 Stat. 3048-3058).
- National Environmental Policy Act of 1969.
- Special Ephemeral Rule *Federal Register* Vol. 33, No. 238, Page 18245.

1.6 Decision to be Made

The Authorized officer would determine whether to renew, renew with modifications, or not renew the leases and permits. If renewed, management actions, mitigation measures, and monitoring requirements will be prescribed for the Complex to ensure management objectives and Rangeland Health Standards continue to be achieved.

2.0 PROPOSED ACTION AND ALTERNATIVES

This chapter describes the alternatives to be analyzed in detail in Chapter 3. The IDT developed four alternatives – Proposed Action, No Action, No Grazing, and Ephemeral Grazing Only – based on the analysis and technical recommendations presented in the Final LHE (Appendix A), and to respond to issues identified during scoping. The alternatives are designed to meet the purpose and need for action, conform to existing land use plans, and satisfy the legal and regulatory requirements for rangeland management.

Actions Common to All Action Alternatives

The following actions apply to each of the three action alternatives below.

Arizona Standards for Rangeland Health

All the alternatives were designed to meet the following objectives, as described in the Rangeland Health Standards:

1. Upland soils exhibit infiltration, permeability, and erosion rates that are appropriate to soil type, climate, and landform (ecological site);
2. Riparian and wetland areas are in properly functioning condition; and
3. Productive and diverse upland and riparian-wetland plant communities of native species exist and are maintained.

Stipulations

No new road construction would be authorized under any of the alternatives. Routine maintenance would be performed on existing range improvements as required.

2.1 Proposed Action

The Proposed Action is to renew the Complex permits for a period of 10-years with the following terms and conditions (Table 7). These terms and conditions represent a recalculation of the percent (%) public land based on the current BLM and Arizona State Land Department permitted stocking rates. AUMs on public lands remain the same as the prior permits and leases.

Table 7. Gable Complex Terms and Conditions

Allotment	Allotment Number	Livestock Number	Livestock Kind	Percent Public Land	Type Use	Authorized AUMs
A Lazy T	03002	0	Cattle	100	Ephemeral	0
Dendora Valley	03024	0	Cattle	95	Ephemeral	0
Gable-Ming	03032	350	Cattle	100	Perennial/Ephemeral (Active)	4,200
Jagow-Kreager	03044	0	Cattle	100	Ephemeral	0

Layton	03049	0	Cattle	100	Ephemeral	0
Ward	03086	150	Cattle	82	Perennial/Ephemeral (Active)	1,476

Other Terms and Conditions

A Lazy T, Dendora Valley, Gable-Ming, Jagow-Kreager, and Layton Allotments:

Standard terms and conditions are found on Grazing Permit/Lease Form 4130-2a. In addition to the mandatory terms and conditions, other terms and conditions would be added to the lease under the Proposed Action:

1. When forage conditions warrant, livestock grazing may be authorized upon application to utilize an ephemeral forage crop pursuant to federal grazing regulations, special management requirements and other guidance.
2. The permittee/lessee must properly complete, sign and date an Actual Grazing Use Report Form (BLM Form 4230-5) annually. The completed form(s) must be submitted to the BLM, Lower Sonoran Field Office (LSFO) within 15 days from the last day of authorized annual grazing use (43 CFR 4130.3-2 9d)).

Ward Allotment:

Standard terms and conditions are found on Grazing Permit/Lease Form 4130-2a. In addition to the mandatory terms and conditions, other terms and conditions would be added to the permit under the Proposed Action:

1. When forage conditions warrant, livestock grazing may be authorized upon application to utilize an ephemeral forage crop pursuant to federal grazing regulations, special management requirements and other guidance.
2. The permittee/lessee must properly complete, sign and date an Actual Grazing Use Report Form (BLM Form 4230-5) annually. The completed form(s) must be submitted to the BLM, LSFO within 15 days from the last day of authorized annual grazing use (43 CFR 4130.3-2 9d)).
3. Within 30 days of gathering and processing of cattle at Twin Tanks Well, remaining cattle must be moved from the area and distributed amongst other livestock waters.

Range Improvements

The BLM portion of the A Lazy T Allotment would be fenced to exclude livestock to improve conditions for upland vegetation near livestock water sources and in major drainages and washes through allowing increased flexibility in livestock rotation and reducing soil erosion. Approximately 4.8 miles of fencing would be installed per BLM Standards in BLM Handbook 1741-1 (BLM 1989) (Map 2). Fencing would be constructed using a combination of 4-strand barbed and barbless wire. If encountered during the construction of the proposed fence, the discovery of human remains, funerary objects, sacred objects or objects of cultural patrimony will

be reported to the authorized officer and all ongoing operations in the area will be halted until notified by the authorized officer that operations may resume.

Adaptive Management

Adaptive Management helps resource managers maintain flexibility in their decisions, knowing that uncertainties exist and is about taking action to improve progress towards desired outcomes. Following the implementation of the Proposed Action, areas not meeting rangeland health Standards would be monitored to ensure an upward trend in rangeland health is occurring. The following adaptive management actions would occur if the following areas currently not meeting Standards do not exhibit an upward trend:

A Lazy T Loamy Swales

If the proposed A Lazy T fence fails to assist with the improvement of Standard 1 on the Loamy Swale ecological site, the number of ephemeral AUMs authorized on the BLM portion of the Allotment would be reduced below the best management practices recommended level until an upward trend is observed.

Gable-Ming Limy Uplands Deep

If the Limy Upland Deep ecological site fails to show an improvement and excessive OHV use is observed in the area, signage and/or barriers may be necessary to educate and/or prevent OHV users from further degrading the area. The area would be periodically monitored for other potential impacts to the area.

Ward Loamy Swales

If the proposed term and condition requiring livestock be moved from Twin Tanks well within 30 days following gathering fails to show an improvement of Standard 3 for the Loamy Swale ecological site, fencing may be required to prevent livestock from loitering on the Loamy Swales south of Twin Tanks. This fencing would be subject to separate environmental review, which could include in the use of a Determination of NEPA Adequacy and Decision Record if the analysis in this EA is considered sufficient.

2.2 No Action Alternative

A No Action Alternative is developed for two reasons. First, the No Action Alternative represents a viable and feasible choice in the range of management alternatives. Second, because a No Action Alternative represents the continuation of current management actions, it provides a benchmark of existing impacts continued into the future against which to compare the impacts of the other proposed management alternatives.

The No Action Alternative would renew the A Lazy T, Dendora Valley, Gable-Ming, Jagow-Kreager, Layton, and Ward allotments permits for a period of 10-years with the same terms and conditions as shown in Tables 1-6. A Lazy T Allotment fencing would not be authorized and constructed. No requirement to move cattle out of the Loamy Swales following weaning on the Ward Allotment would be issued. Actual use reporting would not be required.

2.3 No Grazing Alternative

This alternative was developed to address unresolved conflicts concerning alternative uses of available resources, in this case, alternative uses of forage (40 CFR 1501.2(c)). Under the No Grazing Alternative, the BLM would not authorize grazing in the A Lazy T, Dendora Valley, Gable-Ming, Jagow-Kreager, Layton, and Ward allotments for a 10-year term and all Animal Unit Months (AUMs) for active preference would be unavailable for livestock grazing on public lands (i.e., livestock grazing would be deferred for the 10-year permit period). No new range improvement projects would be constructed and no modifications would be made to existing projects. Livestock grazing would still potentially occur on State and private lands adjacent to BLM-administered lands within this Complex.

2.4 Ephemeral Only Grazing

Under this alternative, all allotments within the Complex would be authorized for ephemeral use only under the special ephemeral rule Published in the *Federal Register* Vol. 33, No. 238, Page 18245. This alternative would change the type of use of the Gable-Ming and Ward allotments to ephemeral use only for a 10-year term. All allotments currently authorized for ephemeral use would remain ephemeral and be issued permits for a 10-year term. The A Lazy T Allotment fence and the additional terms and conditions would still be considered as described in the proposed alternative. Perennial livestock grazing would still potentially occur on State lands adjacent to BLM-administered lands within this Complex.

2.5 Alternatives Considered but Eliminated From Detailed Analysis

Reduced Grazing Alternative

The BLM considered a “reduced grazing” alternative. The purpose of the alternative was to consider whether reducing the livestock stocking rate on an allotment presented a viable means of meeting the purpose and need for this action. Four of the six allotments in the Complex are authorized for ephemeral use only. A desired stocking rate cannot be calculated for ephemeral Allotments because average utilization cannot reliably be calculated. The Gable-Ming Allotment, authorized for perennial/ephemeral use, is managed in an ephemeral manner where the permittee only uses the Allotment when ephemeral forage is available and billed accordingly. The Ward Allotment is also authorized for perennial/ephemeral use and is the only Allotment that is occupied by livestock year long. The BLM generally uses a “desired stocking rate analysis”¹ to estimate the livestock carrying capacity of allotments. This would only be applicable to the Ward Allotment, however, the desired stocking rate analysis assumes utilization patterns are completely uniform. This is not the case on the Ward Allotment where the majority of grazing exists on State and private lands. Eighty-five percent of the Allotment’s perennial waters and loading/gathering corrals are located on State or private lands where livestock remain the majority of the year. Due to this and the majority of the allotments in the Complex being authorized for ephemeral use only, a desired stocking rate analysis was not conducted.

¹ Desired stocking rate analysis is in conformance with TR-4400-07, “Analysis, Interpretation, and Evaluation”, as given in Appendix 2 of the Technical Reference.

3.0 Affected Environment & Environmental Consequences

This chapter identifies and describes the current condition and trend of elements or resources in the human environment which may be affected by the Proposed Action or alternatives. The Affected Environment is the same for all alternatives.

This chapter describes the potential direct, indirect, and residual effects to resources that may result from the Proposed Action or alternatives, as well as identifies the potential monitoring needs associated with the specific resources.

3.1 Types of Effects

This chapter describes the potential direct, indirect, and residual effects to resources that may result from the Proposed Action or Alternatives, as well as identifies the potential monitoring needs associated with the specific resources. In this document, the word “adverse” is used in characterizing minor (non-significant) detrimental effects to a resource, and “negligible” is used in characterizing minor (non-significant) detrimental effects to a resource that are generally undetectable. “Beneficial” effects would have a positive effect on the resource. In this document, the terms “effect” and “impact” are used synonymously. Assessment of effects can be for short-term (generally considered during Project implementation) or the long-term. Effects fall into two categories, direct (caused by the action, same time and place) and indirect (caused by the action, but later in time or further in distance).

3.2 General Setting

The Complex is comprised of six contiguous Allotments administered by the BLM. The Complex is located in the Lower Sonoran desert northeast 20 miles northwest of the town of Gila Bend, Arizona. The Complex is roughly contained by Interstate 10 to the north, Interstate 8 to the south, and State Highway 85 to the west. The Complex is also roughly bisected by Agua Caliente Road, which runs west/southwest between Arlington and Hyder, Arizona. The Complex covers approximately 252,208 acres in Maricopa County. The BLM-administered portion of the Complex is approximately 212,657 acres. The remaining acreage is Arizona State Trust Lands (15,563 acres), other federal lands (1,463 acres) and privately owned (22,525 acres). The Allotments are located in Maricopa County. The terrain is gently rolling to steep hills and mountains that are bisected by numerous drainage ways, including the Centennial Wash and Fourth of July Wash. The legal descriptions of the Allotments are given in Table 8, below.

Table 8. Legal Descriptions of permitted and leased public lands

Allotment	Township	Range	Sections
A Lazy T	2S	6W	1, 2, 3, 4, 9 and portions of 10, 11, 12
Dendora Valley	3S	8W	14, 22, 23, 24, 25, 26, 27, 33, 35, 36 and portions of 11, 13, 15, 21, 28, 29, 31, 32
	3S	7W	31 and portions of 19, 29, 30, 32, 33
	4S	7W	5, 6, and portions of 4, 7, 8
	4S	8W	1, 3, 4, 5, 7, 8, 9, 10, 11, 17, 18, 19, 20, 22, 30, 29 and portions of 6, 13, 14, 15, 24, 25, 27, 28, 31
Gable-Ming	2S	10W	Portions of 1, 12, 13, 24, 25, 36
	2S	8W	3-10, 15-36 and portions of 13 and 14
	2S	9W	All
	3S	9W	1 – 20 and portions of 21, 22, 23, 24
	3S	8W	1-9, 16, 17, 18, 19, 20, 30 and portions of 10, 11, 12, 13, 15, 29, 31
	2S	7W	11-15, 19-36 and portions of 1, 2, 10, 16, 17, 18
	3S	7W	1-18, 20-28, and portions of 19, 29, 32, 33, 34, 35, 36
	1S	6W	Portions of 31
	2S	6W	5, 6, 7, 8, 17, 18, 19, 29, 30, 31, 32 and portions of 20, 28, 33
	3S	6W	5, 6, 7, 8, 18 and portions of 16, 17, 19, 20, 30
Jagow-Kreager	3S	5W	Portions of 6
	2S	6W	25, 26, 27, 28, 33, 34, 35, 36 and portions of 24
	2S	5W	30 and portions of 29 and 31
	3S	6W	2, 3, 10, 11 and portions of 1, 4, 9, 12, 13, 14, 15, 16
Layton	2S	6W	13, 14, 15, 16, 21, 22, 23 and portions of 24
	2S	5W	19 and portions of 20
Ward	1N	8W	24, 25, and portions of 13, 23, 26, 35
	1N	7W	28-35 and portions of 19, 20, 25, 26, 27, 36
	1S	8W	1, 35, 36 and portions of 11, 12, 23, 25
	1S	7W	3-10, 16, 17, 27, 29, 35 and portions of 1, 11, 12, 18, 19, 20, 21, 26, 28, 30, 31, 33, 24
	2S	7W	4-8, and portions of 1, 2, 3, 9, 10, 17, 18
	2S	8W	1, 2, 11, 12, and portions of 13, 14

Supplemental Authorities

Appendix 1 of BLM’s NEPA Handbook (H-1790-1) identifies supplemental authorities that are subject to requirements specified by statute or executive order and must be considered in all BLM environmental documents (BLM 2008). Table 9 lists the Supplemental Authorities and their status in the Project Area. Supplemental authorities that may be affected by the Proposed Action or No Action Alternative are further described in this EA.

Table 9. Supplemental Authorities*.

Resource	Present Yes/No	May be Affected Yes/No	Rationale for Resources Dismissed from Detailed Analysis
Air Quality	Yes	No	The Complex is located within an air quality basin that is in attainment for all regulated pollutants. Under the Proposed Action, during construction of the A Lazy T fence, there would negligible and short-term increases in particulates (fugitive dust) and emissions from vehicles and equipment. Under the Proposed Action, livestock grazing in the Complex would continue. Livestock operations, by use of motorized vehicles and equipment, would continue to contribute to negligible amounts particulates (fugitive dust) and emissions. Livestock would continue to contribute negligible amounts of methane. No additional analysis is warranted.
Areas of Critical Environmental Concern	No		Resource Not Present.
Cultural Resources	Yes	No	Under the Proposed Action, the continuation of livestock grazing would have no adverse effect to historic properties in the Complex. The BLM has completed a Class III cultural resources inventory for the proposed A Lazy T fence and determined no historic properties would be affected.
Environmental Justice	No		There are no disproportionately low income or minority populations on BLM-administered lands within the Complex.
Farm Lands (prime or unique)	No		There are no U.S. Department of Agriculture designated prime or unique farmlands on BLM-administered lands within the Complex.
Floodplains	No		Resource Not Present.

Resource	Present Yes/No	May be Affected Yes/No	Rationale for Resources Dismissed from Detailed Analysis
Noxious and Invasive Weeds	Yes	No	Although noxious and invasive weeds are present in the Complex, none of the Proposed Action would significantly increase the potential spread of existing weed populations. Should new populations be discovered, the BLM would address them through the Phoenix District Integrated Weed Management Plan, which is hereby incorporated by reference. No additional analysis is warranted.
Migratory Birds	Yes	Yes	Carried Forward for Analysis. See Section 3.2.3.
Native American Religious Concerns	No		Resource Not Present.
Threatened or Endangered Species	No		Resource Not Present.
Wastes, Hazardous or Solid	No		Resource Not Present.
Water Quality (Surface/Ground)	No		Resource Not Present.
Wetlands/Riparian Zones	No		Resource Not Present.
Wild and Scenic Rivers	No		Resource Not Present.
Wilderness	Yes	No	Portions of the Gable-Ming, Dendora Valley, and Jagow-Kreager allotments lie within the Woolsey Peak Wilderness. The Signal Mountain Wilderness is entirely within the Gable-Ming Allotment. Under all alternatives, no changes to wilderness management will occur. The proposed A Lazy T fence is outside of wilderness areas and will not affect livestock use patterns within wilderness due to their locations. No additional analysis is warranted.

**See H-1790-1 (January 2008) Appendix I Supplemental Authorities to be Considered.*

Supplemental Authorities determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document.

Supplemental Authorities determined to be Present/May Be Affected may be carried forward in the document.

Resources or Uses Other Than Supplemental Authorities

BLM specialists have evaluated the potential impact of the Proposed Action or No Action Alternative on these resources and documented their findings Table 10. Resources or uses that may be affected by the Proposed Action or No Action Alternative are further described in this EA (BLM 2008).

Table 10. Resources or Uses Other Than Supplemental Authorities.

Resource or Issue**	Present Yes/No	May be Affected Yes/No	Rationale for Resources Dismissed from Detailed Analysis
BLM Sensitive Species (animals)	Yes	Yes	Carried Forward for Analysis. See Section 3.2.3.
BLM Sensitive Species (plants)	No		Resource Not Present.
Fire Management	Yes	No	Under the Proposed Action, the continuation of livestock grazing in the Complex would have no impact on fire suppression activities.
Forest Resources	No		Resource Not Present.
General Wildlife	Yes	Yes	Carried Forward for Analysis. See Section 3.2.3.
Lands and Realty	Yes	No	Although existing rights-of-way occur in the Complex, under the Proposed Action, the continuation of livestock grazing and installation of the A Lazy T fence would have no impact on existing or consideration of future authorizations. No additional analysis is warranted.
Lands with Wilderness Characteristics	No		Resource Not Present.
Livestock Grazing	Yes	Yes	Under the No Grazing Alternative, livestock grazing would not be permitted within the Complex. This would be negligible, adverse and long-term impact to the current permittees.
Minerals	No		Resource Not Present.
Paleontological	No		Resource Not Present.
Recreation	Yes	No	Although dispersed recreation occurs throughout the Complex, under the Proposed Action the continuation of livestock grazing and installation of the A Lazy T fence would have no effect on these activities. No additional analysis is warranted.
Socioeconomics	Yes	No	Under the No Grazing Alternative, the removal of permitted livestock grazing from the Complex would have an adverse impact and long-term to the grazing permittees, and the negligible contribution to economic input in the county. No additional analysis is warranted.
Soils	Yes	Yes	Carried Forward for Analysis. See Section 3.2.5.
Travel Management	Yes	No	Although routes exist in the Complex for public access, under the Proposed Action the continuation of livestock grazing and installation of the A Lazy T fence would have no impact to travel through the Complex. No additional analysis is warranted.

Resource or Issue**	Present Yes/No	May be Affected Yes/No	Rationale for Resources Dismissed from Detailed Analysis
Vegetation Resources	Yes	Yes	Carried Forward for Analysis. See Section 3.2.1.
Visual Resource Management	Yes	No	Although portions of the Complex are designated as VRM Class I, II, III or IV, under the Proposed Action the continuation of livestock grazing and installation of the A Lazy T fence would not alter the visual character of the Complex. Under the Proposed Action, the A Lazy T fence would be constructed in VRM Class III, which allows for moderate changes to the visual character of the BLM-administered lands. No additional analysis is warranted.
Wild Horses and Burros	No		Resource Not Present.

***Resources or uses determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document.*

Resources or uses determined to be Present/May Be Affected may be carried forward in the document.

Resources Considered for Analysis

The following resources are or may be present in the Project Area and may be affected by the Proposed Action or No Action Alternative.

3.2.1 Vegetation Resources – Affected Environment

This section discloses the impacts of livestock grazing on upland vegetation within the Complex. This section also responds to the following issues identified in Chapter 1:

Issue 1- How would continued livestock grazing affect the levels of annual plant species given the BLM's current monitoring methods?

The BLM develops LHEs to determine whether Standards are being achieved on a grazing Allotment and to determine if livestock grazing is a causal factor for not achieving, or failing to make significant progress toward achieving, land health Standards. Land Health Standard 3 is specific to upland vegetation and is evaluated based on vegetation monitoring within the Complex. In general, the BLM reported that the Complex exhibited a positive plant community structure in the Sonoran desert environment. The most dominant plant species found across the Complex are creosote bush (*Larrea tridentata*), palo verde (*Parkinsonia sp.*), and bursage (*Ambrosia sp.*).

Key areas were established and monitored between 2013 and 2015 to determine whether indicators of ecological processes conform to the Arizona Standards for Rangeland Health. A Key Area is an indicator area that represents a larger ecological site. Key Areas reflect the current grazing management over similar areas in the unit and serve as representative samples of range condition, trend, use and production. A total of 28 key areas have been established across the Complex.

Desired Plant Community (DPC) objectives were established for each Key Area on the Complex (Map 3). These objectives are based on the potential vegetation community on each ecological site, as limited by factors such as rainfall regime, drought effects, and the potential for the

ecological site to produce forage for wildlife. DPC objectives are the measurement of attainment for Standard 3 for each Key Area. DPC objectives are designed to meet or exceed habitat requirements for wildlife species such as mule deer, desert bighorn sheep, and Sonoran desert tortoise when the ecological site has the potential to do so.

The Final LHE determined that Standard 3 was achieved on the Complex. All DPC objectives are being achieved at A Lazy T Key Areas 1 and 2, Dendora Valley Key Area 1, Gable Ming Key Areas 1, 5, and 9, Jagow-Kreager Key Areas 1, 2, 3, and 4, Layton Key Area 1, and Ward Key Areas 2, 3, and 4. DPC objectives are partially achieved at all other key areas.

Perennial grass composition objectives are not achieved at Dendora Valley Key Area 3. Vegetative canopy cover objectives are not met at Dendora Valley Key Areas 2 and 4, Gable-Ming Key Area 2, 4, 6 and 7, Layton Key Areas 2 and 3, and Ward Key Area 2 and 6. Bare ground cover class objectives are not met at Ward Key Area 1. Creosote bush density objectives are not met at Gable-Ming Key Areas 2. Tree composition objectives are not met at Gable-Ming Key Area 8 and Ward Key Areas 1 and 5 (Appendix A).

Utilization data and livestock sign observations assist with the determination of whether the current level of livestock use is or is not the causal factor for not achieving the DPC objectives. Utilization levels on Key Areas where perennial forage species are available did not exceed the “light” use category of 21-40 percent utilization except on one Loamy Swale site on the Ward Allotment (Appendix A). Utilization of annual forage species is not collected due to its dependence on precipitation. However, livestock use of an area without perennial forage can be indicated by cattle trails, droppings, and hoof prints. These types of impacts are recorded while assessing Standard 1 (soil/site stability, hydrologic function, and biotic integrity).

Overall, the Final LHE reported that the Complex is meeting all Rangeland Health Standards in the upland areas. Twenty-seven of the twenty-eight key areas in the Complex are consistent with ecological site descriptions (ESDs) in soil/site stability, hydrologic function, and biotic integrity and meet Standard 1. Twenty-six sites of the twenty-eight sites in the Complex are consistent with DPC objectives and meet Standard 3.

Due to their ephemeral nature, annual plant species are not measured as part of composition on the long-term trend sites. Properly managed ephemeral grazing, which features stocking rates set through BLM’s best management practices and exclude the use of perennial species, has been shown to not significantly impact the diversity and reproductive ability of annual forage species (Enright and Miller 2007). Indian wheat (*Plantago ovata*) and pepper weed (*Lepidium lasiocarpum*) comprise the vast majority (>80 percent) of annual plant species in Sonoran desert ecosystems (Waser and Price 1981) and are the primary forage species for ephemeral cattle grazing in this area. The production and growth potential of these and other annual plants are assessed prior to ephemeral authorizations according to the guidance set forth in BLM Instruction Memorandum No. AZ-94-018 Ephemeral Grazing Authorizations, the 2012 Lower Sonoran Field Office RMP, and the Candidate Conservation Agreement for the Sonoran desert tortoise in Arizona. This guidance takes both Sonoran desert tortoise and other wildlife, including bighorn sheep into consideration to limit potential impacts livestock grazing may have on these species’ habitat and forage requirements.

3.2.2 Vegetation Resources – Environmental Consequences

Proposed Action

The Proposed Action was designed to address the areas of potential concern noted in the Final LHE, specifically the impacts livestock grazing has on the Loamy Swales of the A Lazy T and Ward allotments. The proposed A Lazy T fence would limit livestock use of ephemeral vegetation on the BLM-administered lands of the A Lazy T Allotment to levels determined by the BLM through ephemeral authorizations. This would potentially allow the establishment of new perennial vegetation and allow for the appropriate level of use of annual plants. The proposed term and condition requiring livestock to be moved from Twin Tanks no more than 30-days following gathering would allow for the recovery of the Loamy Swales on the Ward Allotment. Monitoring would occur and adaptive management would take place if an upward trend in rangeland health is not observed.

The Proposed Action's "Other Terms and Conditions" refer to the Special Ephemeral Rule stating that "When forage conditions warrant, livestock grazing may be authorized upon application to utilize an ephemeral forage crop pursuant to federal grazing regulations, special management requirements and other guidance" allows livestock to graze an ephemeral crop only according to federal grazing regulations, special management requirements and guidance as set forth in the Arizona Standards for Rangeland Health and Guidelines for Grazing Administration 1997. These regulations, requirements and guidance are established to limit the impacts livestock may have on all plant and animal species including annual plants.

The current authorized AUMs on the Gable-Ming and Ward allotments would be maintained under this alternative. The permittees of these allotments have the flexibility to add or remove livestock based on available forage and range condition, within the terms and conditions of the permits.

Under the Proposed Action, Rangeland Health Standards for upland vegetation would continue to be met and make progress towards meeting Land Health Standards. DPC objectives at most of the key areas would continue to be met, with improvements expected due to periodically moving livestock from high use areas and fencing that would limit livestock use only when ephemeral forage is available.

Under the Proposed Action, the A Lazy T fence would be constructed where crushing and clearing of vegetation along the proposed fence line would cause short term impacts to vegetation resources. To the greatest extent possible existing roads will be used during construction. Long term benefits to vegetation are expected due to limiting grazing to ephemeral use only on BLM lands.

No Action Alternative

Currently, the Gable Complex meets applicable Arizona Standards for Rangeland Health for upland vegetation. Twenty-seven of the twenty-eight sites are consistent with ESDs in soil/site stability, hydrologic function, and biotic integrity and meet Standard 1. Twenty-six of the twenty-eight sites meet the DPC objectives of Standard 3.

Under this alternative, no requirements would be made to move livestock following gathers on the Ward Allotment and no additional fencing would be installed on the A Lazy T Allotment. Under the No Action Alternative prolonged loitering would continue on the Loamy Swales of the Ward Allotment, which would limit recruitment of vegetation cover and trees. There would be continued perennial use of the ephemeral only portion of the A Lazy T Allotment, which would impact the hydrologic function of the Loamy Swales and result in the continuation to not achieve Standard 1.

No impacts associated with the construction of the A Lazy T fence would occur because the new fencing would not be authorized.

No Grazing Alternative

Upland vegetation would have the most rest and recovery under a No Grazing Alternative. This would be expected to be most evident on the Gable-Ming and Ward allotments, which are currently authorized for perennial livestock use. Vegetative recovery would be limited due to the low rainfall regimes and frequent droughts that occur on the Complex. Because no livestock grazing would occur, plants would remain ungrazed by livestock, with the only use of browse coming from wildlife. Grasses would benefit the most compared to the other alternatives because grazing pressure would not impede their ability to fix carbon and produce and set seed.

The plants that would most benefit from the No Grazing Alternative are shrub species. Current year's growth – the leaves and young stems that are important for photosynthesis – is the most digestible part of the plant and is the portion generally removed by browsing animals. The buds are especially important to protect from grazing because they would be the source of new stems. Under this alternative, upland vegetation would improve the most in productivity, vigor, species composition, and formation of new stems compared to the other alternatives.

No impacts associated with the construction of the A Lazy T fence would occur because the new fencing would not be authorized.

Ephemeral Grazing Only Alternative

Livestock use would be limited to ephemeral grazing only on all allotments. Palatable perennial vegetation would be allowed to rest the majority of the year and have limited use during times of authorized ephemeral use. Warm season grass species, such as big galleta (*Pleuraphis rigida*), would likely benefit the most as ephemeral authorizations rarely occur outside the winter rains. However, livestock would still likely have access to much of the Ward Allotment from the unfenced private and State lands within the Allotment. Palatable perennial forage would likely improve on the Ward and Gable-Ming allotments but only marginally. The palatable annual and perennial forage on the BLM-administered lands within the A Lazy T Allotment would have the same impacts under this alternative as in the Proposed Action. The vegetation within all other allotments currently authorized for ephemeral use only would likely go unchanged under this alternative when compared to current management.

Under the Proposed Action, the A Lazy T fence would be constructed where crushing and clearing of vegetation along the proposed fence line would cause short term impacts to vegetation resources. To the greatest extent possible existing roads will be used during construction. Long

term benefits to vegetation are expected due to limiting grazing to ephemeral use only on BLM lands.

3.2.3 Wildlife Resources – Affected Environment

This section discloses the impacts of livestock grazing on wildlife resources within the Complex Allotments. This section also responds to the following issues identified in Chapter 1:

Issue 5: How does livestock grazing compete with Sonoran Desert Tortoise and Big Horn Sheep?

General Wildlife Species

Wildlife species that occur within the Complex are typical and representative of the vegetative communities and topography present in the area. Species present include, but are not limited to: mule deer, coyote (*Canis latrans*), javelina (*Pecari tajacu*), mountain lion (*Puma concolor*), bobcat (*Lynx rufus*), gray fox (*Urocyon cinereoargenteus*), desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbits (*Lepus californicus*), Gambel's quail (*Callipepla gambelii*), great horned owls (*Bubo virginianus*), and various reptiles, small mammals, bats, and migratory birds. Desert bighorn sheep, occupy steep, rugged habitat in the Big Horn and Belmont Mountains as well as Saddle Mountain (Map 4).

Migratory Birds

Migratory birds found within the Complex are typical of Sonoran desert habitat. Species present include, but are not limited to: Gila woodpecker (*Melanerpes uropygialis*), Bendire's thrasher (*Toxostoma bendirei*), Costa's hummingbird (*Calypte costae*), prairie falcon (*Falco mexicanus*), ash-throated flycatcher (*Myiarchus cinerascens*), curve-billed thrasher (*Toxostoma curvirostre*), loggerhead shrike (*Lanius ludovicianus*), white-winged dove (*Zenaida asiatica*) and mourning dove (*Zenaida macroura*).

Special Status Species

Special status species include federally listed, candidate and proposed species as well as BLM sensitive species. Sonoran desert tortoise, a BLM sensitive species, is known to occur on the Complex. Sonoran desert tortoises occupy much of the upland areas in the Complex. The desert tortoise distribution within the Complex is not uniform (Map 5). Tortoises tend to occupy hillsides and ridges with outcrops of large boulders as well as areas with incised washes and caliche caves, but may be found in lower densities throughout the area. Tortoises generally use natural and excavated cover sites between or under boulders and in caliche caves along washes wherever they occur. Their diet consists of annual forbs (30.1 percent), perennial forbs (18.3 percent), grasses (27.4 percent), woody plants (23.2 percent) and prickly pear fruit (1.1 percent) (Van Devender, et al. 2002). These forage species are available for Sonoran desert tortoise throughout the Complex.

The Complex contains category II and category III Sonoran desert tortoise habitat. Category II habitat is defined as: 1) habitat that may be essential to the maintenance of viable populations; 2) habitat where most conflicts are resolvable; and 3) habitat that contains medium to high densities of tortoises or low densities contiguous with medium or high densities. Category III habitat is defined as: 1) habitat that is not considered essential to the maintenance of viable populations; 2) habitat where most conflicts are not resolvable; and 3) habitat that contains low to medium

densities of tortoises not contiguous with medium or high densities. Table 11 below shows the approximate acreages of desert tortoise habitat within the Complex.

Table 11. Acreage of Sonoran desert tortoise habitat.

Allotment	Category II	Category III
A Lazy T	0	0
Dendora Valley	5,933	3,640
Gable-Ming	98,235	4,115
Jagow-Kreager	10,909	0
Layton	1,308	0
Ward	14,789	0

3.2.4 Wildlife Resources - Environmental Consequences

Proposed Action

Wildlife and Migratory Birds

Both cattle and wildlife utilize herbaceous vegetation. Various wildlife species (e.g., bighorn sheep, mule deer, some migratory birds) depend on forbs and shrubs for forage and concealment. Insectivore species such as bats or some migratory birds are indirectly dependent on herbaceous vegetation to support their insect population diet or to provide a substrate for nesting, roosting, or concealment. Larger predator species are also indirectly dependent on herbaceous vegetation to provide forage and cover for prey species such as small mammals and birds. The presence and movement of livestock between areas can result in the direct disturbance or displacement of individual wildlife species from areas providing cover and forage. Competition between livestock and a variety of wildlife species can occur in areas with low perennial grass composition where livestock and wildlife are more likely to utilize the same browse forage species. Competition for perennial browse is often less on ephemeral grazing allotments where livestock, when authorized to graze a portion of an ephemeral crop, are more likely to graze the annual forage in the uplands between ephemeral wash communities. This also reduces the frequency of livestock/wildlife interactions in ephemeral wash communities that serve as forage areas and movement corridors.

Presently, Rangeland Health Standards for upland habitat are being met, and DPC objectives at most (26 out of 28) of the Key Areas are being met across the Complex. The Proposed Action is designed to improve conditions for upland vegetation near livestock water sources on the Ward allotment by requiring cattle be moved following weaning and on the ephemeral BLM-administered lands of the A Lazy T allotment through the construction of a pasture fence limiting grazing to ephemeral authorizations only. This would maintain or improve upland vegetation productivity over current conditions in the vicinity of drainages and washes across the Complex and provide increased forage opportunities and cover for wildlife species in important ephemeral wash habitat. The A Lazy T fence would be built to wildlife friendly standards, as defined in BLM Handbook 1741-1, with low potential for wildlife fence entanglement in the long term but may have the potential to impede wildlife movement in the area. Displacement of wildlife may occur during the installation of the fence. Overall, the Proposed Action would be expected to benefit bighorn sheep, mule deer and a variety of migratory birds. This would also be expected to increase seed production in these areas for seed-eating species and residual forage for insects, providing important prey for bats, insectivorous migratory birds, and raptors.

The required maintenance of existing water sources (tanks and troughs), as assigned in the range improvement cooperative agreements or permits, on the Allotments would continue to benefit wildlife species by providing additional water sources in this arid environment. Some wildlife species could be temporarily displaced when cattle are present at these artificial water sources, but would be expected to return once livestock moved to other locations within the Complex (Bissonette and Steinkamp 1996).

Special Status Species

Desired plant community objectives were developed with the consideration of Sonoran desert tortoise habitat and forage requirements (Appendix A). Perennial grasses are an important year-round food source for desert tortoises (Ofstedal 2002). Objectives for perennial grasses were achieved at 2 out of the 3 Key Areas in the Complex where perennial grass objective were set (Appendix A). For those Key Areas that were located within Category II and III Sonoran desert tortoise habitat, objectives for perennial grasses were met at one of the two Key Areas where perennial grass objectives were set. At the Key Area where tortoise forage objectives were not met, it is unlikely that current livestock grazing is the causal factor because livestock utilization was none to slight at the Key Area (Appendix A). The Proposed Action is designed to improve conditions for upland vegetation near livestock water sources and Category II Sonoran desert tortoise habitat through fencing and livestock movement requirements. Displacement of wildlife may occur during the installation of the fence. There is a low potential for wildlife fence entanglement in the long term. This would maintain or improve upland vegetation productivity in the vicinity of important habitat features across the Complex, providing increased forage opportunities and cover for desert tortoises in these areas.

No Action Alternative

Wildlife, Special Status Species and Migratory Birds

The No Action Alternative would not provide the additional benefits to key wildlife forage species expected under the Proposed Action. Rangeland Health Standards and DPC objectives would continue to be met at most Key Areas, but the improvements in upland vegetation condition and wildlife habitat expected in the Proposed Action would not be expected to occur in this alternative. Overall, livestock distribution would not be expected to change, because no new range improvements would be authorized.

No Grazing Alternative

Wildlife, Special Status Species and Migratory Birds

In the absence of livestock grazing, competition for wildlife forage vegetation would be reduced, providing more forage for wildlife and insect populations. The absence of livestock grazing could result in cover canopy increasing over time, benefiting cover-dependent species. Water developments would not be maintained or could be turned off, reducing water availability for wildlife in the Allotments over time. Livestock disturbance/displacement effects would not occur, benefiting nesting migratory birds and other wildlife. With the absence of grazing year round, improvements in vegetative cover conditions would be expected to occur more rapidly. Recruitment of herbaceous species cover and composition would be expected to be greater under this alternative. No new range improvements would be authorized.

Ephemeral Only Grazing

Wildlife, Special Status Species and Migratory Birds

The Ephemeral Grazing Only alternative would provide additional benefits to key wildlife forage species on the Gable-Ming and Ward allotments compared to the Proposed Action. Rangeland Health Standards and DPC objectives would continue to be met at most Key Areas and possibly improve on the A Lazy T, Gable-Ming, and Ward allotments. Fewer wildlife/livestock interactions would occur because cattle would be moved from water sources more frequently and only be present when ephemeral grazing is authorized. The A Lazy T fence would be built to wildlife friendly standards, as defined in BLM Handbook 1741-1, with low potential for wildlife fence entanglement in the long term but may have the potential to impede wildlife movement in the area. Displacement of wildlife may occur during the installation of the fence.

3.2.5 Soil Resources – Affected Environment

The BLM develops LHEs to determine whether Standards are being achieved on a grazing Allotment and to determine if livestock grazing is a causal factor for not achieving, or failing to make significant progress toward achieving land health Standards. Land Health Standard 1 is specific to specific to soils and hydrology and is evaluated based on monitoring within the Complex.

This section addresses the impacts livestock have on soil resources within the Complex and responds to:

Issue 2: How can the BLM attribute a site's land health failures to livestock if no palatable species are present?

The erosional context across the Complex is stable. Historical erosion from land use practices on private lands within the Complex over the past century has produced high erosion rates with shifts in vegetation along with soil redistribution and loss by wind and water. The result of these practices left a barren shrub land in many of the low lands and soils with gravel and rock surfaces armored against erosion in the uplands.

Water erosion within the Complex occurs during heavy summer thunderstorms. Most soils present are well drained but heavy rainfall over a short period of time can overwhelm soil infiltration capacity and create overland flow. The intense monsoon rainfall can produce overland flow in part due to dry soils forming crusts that resist percolation. Overland flow transports soil particles along erosion pathways from runoff surfaces to run-on areas, typically formed by vegetation patches or topographic breaks. Compaction and trailing from cattle, as observed during monitoring of allotments, can exacerbate erosion when trails align with water flow pathways when soils are wet. This effect is mostly localized around livestock water sources on the Complex.

For the majority of the key areas, the LHE findings did not note substantial departure from expected abiotic and biotic conditions as outlined in the ESDs. Twenty-seven of the twenty-eight key areas showed only slight sign of active surface erosion suggesting stable soils. These areas showed either a none to slight or slight to moderate departures from the reference state, with the exception A Lazy T Key Area 1 showing a Moderate Departure for soil site stability and hydrologic function.

Desert soils have known contributions from biological soil crusts, also called cryptogamic crusts, for soil biologic function. Cryptogamic crusts and their filamentous growth forms binds soil particles aiding is soil aggregation by cementing particles together, which increases resistance to wind and water erosion (BLM 2001). The Complex has a hyperthermic temperature regime, which is expected to favor cyanobacteria with a smooth, rather than rough, appearance. Cryptogamic crusts with a smooth surface generally reduces infiltration more so than cryptogrammic crusts with rough surfaces (BLM 2001).

Cryptogamic crusts are a good indicator of compressional soil disturbance such as livestock grazing or off-road vehicle use. Cryptogamic crusts were observed at twenty of the twenty eight key areas. These cryptogamic crusts were included as a DPC objective for the Limy Fan 3-7” p.z. ecological site on the A Lazy T Allotment and was achieved.

Livestock grazing does affect soil productivity by removing a portion of the standing crop. Annually produced biomass serves both a physical and biological role. Litter physically works to insulate soils from evaporation and contributes as protective groundcover. Decomposition of litter provides substrate for soil microbes that increases available nutrients.

The litter on the Complex is primarily produced from shrubs. The rocky soils favor shrubs and cacti that compose 29 percent to 100 percent of the total vegetation. Litter from grasses and forbs are sparse since the soils and climatic setting do not favor their production. Grasses and some forbs rely on fine soil textures since rooting concentrates in the top four inches. Since grazing targets primarily herbaceous species, the impact of the grazing on a shrub’s annual crop is difficult to detect. The litter from plant communities consists of shrub and herbaceous leaves, twigs and roots. Grasses and herbs which livestock target are a minor part component of the plant community on most of the ecological sites within the Complex. Monitoring measured litter to be 1 percent to 56 percent total groundcover at the key areas. The litter fraction of groundcover was found to be within expected conditions with the exception of a moderate departure on three key areas.

The majority of the ecological sites in the Complex can only support sparse desert shrublands with no palatable perennial species which can make it difficult to attribute land health failures to livestock. However, land health failures in regards to Standard 1 can be attributed to livestock if certain rangeland health indicators depart from reference conditions due to the presence of livestock sign, such as trails and loitering areas, and utilization exceeding recommended levels. For example, rills and compaction layers can both be attributed to livestock if rills are extending off livestock trails or compaction layers are observed in loitering areas.

3.2.6 Soil Resources - Environmental Consequences

Proposed Action

The Proposed Action would improve soil conditions by limiting the time livestock loiter in the loamy swales of the Ward Allotment and by restricting the livestock grazing to ephemeral use only on the loamy swales of the A Lazy T Allotment. The Proposed Action would reduce concentrated grazing pressure that affects soil and vegetation communities in the areas not meeting Standards. The proposed fencing on the A Lazy T Allotment and the relocation of cattle following weaning on the Ward Allotment would allow the Loamy Swales not achieving Standards to make progress towards achieving Standards.

Current stocking rates would likely have a limited effect on erosion since palatable vegetation comprises a small fraction of the overall canopy cover. Canopy cover intercepts and disperses rainfall and limits overland flow. Canopy cover ranges from 7 percent to 77 percent and bare ground ranges from 0 percent to 28 percent. This is largely due to a high percentage of gravel cover, 0 percent to 83 percent, on many of the key areas. Given the armored soils and considering the stable conditions suggested by the monitoring, the Proposed Action would not result in further degradation from erosion.

Use of any motorized vehicles would be kept on existing roads to minimize soil disturbance during the installation of the fencing. The fence is not expected to have any direct long term adverse impacts to soils.

No Action Alternative

The No Action and Proposed Action would result in similar effects to soil resources. The primary difference is that the no action alternative would not restrict or move livestock from areas not meeting Standards on the Complex. Livestock would not be restricted from grazing the Loamy Swales on the A Lazy T and Ward allotments year long. These areas would continue to become eroded due to the frequent trailing and loitering by livestock. However, continuing current livestock management practices on the rest of the Complex would not result in impaired soil conditions, given the findings of the Final LHE.

No new fencing would be authorized. Therefore, no new impacts from additional fencing to soils would occur.

No Grazing Alternative

The removal of livestock from the Complex would increase litter and reduce compaction and bare soil exposure from livestock trampling. Benefits would be the greatest at and near former livestock congregation areas.

The beneficial impacts to vegetation and soils across the range would be slow and depend on the level of forage that livestock grazing previously impacted. The response from livestock removal would be low since palatable forage makes up a small percentage of the annual crop. Changes would be highest where grasses and forbs naturally thrive.

Using Michunas's (2006) review of plant community response to livestock grazing, a very slow vegetation response to livestock removal would be expected in arid and semi-arid environments. This may be due to the small proportion of vegetation communities being comprised of desirable forage species and the unpalatability of the larger shrub component of the vegetation communities. Some quantitative studies of the effects of grazing on Sonoran desert ecosystems have shown that species composition has gone unchanged but species density did decline in grazed areas when compared to ungrazed areas (Michunas 2006).

Finally, the response from no grazing may be small since less change is associated with reductions from moderate compared to heavy grazing levels. A seven year study near Flagstaff found

significant reductions in vegetation cover and plant community composition only in the heavily grazed areas when compared to the moderate and no grazing areas (Loesser et al. 2006).

No new fencing would be authorized and existing range improvements would no longer be maintained.

Ephemeral Only Grazing Alternative

The Ephemeral Grazing Only alternative would likely result in similar soil impacts as the Proposed Action alternative as described above. However, livestock loitering areas and paths on the Ward Allotment would be limited to areas around and paths between waters on private and State land. On the Ward Allotment, fence lines would be required to separate the ephemeral BLM-administered lands from the perennial State and private lands.

Use of any motorized vehicles would be kept on existing roads to minimize soil disturbance during the installation of the fencing. The fence is not expected to have any direct long term adverse impacts to soils.

3.3 Residual Effects

Residual effects are effects to the environment that remain after the implementation of the alternatives and mitigation.

Proposed Action

Under the Proposed Action, no residual effects are expected on the Allotments within the Complex.

No Action Alternative

Under the No Action Alternative, no residual effects are expected on the Allotments within the Complex.

No Grazing Alternative

Under the No Grazing Alternative, maintenance of water sources within the Allotments would cease. Water availability for wildlife would be reduced, changing wildlife use patterns within the Complex.

4.0 CUMULATIVE EFFECTS

A cumulative effect is defined under NEPA as “the change in the environment which results from the incremental impact of the action, decision, or project when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other action”. “Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR Part 1508.7). Past, present, and reasonably foreseeable future actions are analyzed to the extent that they are relevant and useful in analyzing whether the reasonably foreseeable effects of the Proposed Action and/or Alternatives may have an additive and significant relationship to those effects.

4.1 Geographic Scope

The geographic scope of the cumulative effects study area is the Complex, comprising approximately 252,208 acres of public, private, and State trust lands.

4.2 Timeframe of Effects

The timeframe evaluated for direct and indirect effects of livestock grazing and range improvement is 10-years, the lifespan of the grazing authorization.

4.3 Past and Present Actions

Livestock grazing has been present on the Complex since the 1800s and continues to this day. Early range improvements consisted of dirt stock tanks located along drainages and fencing of the Complex boundaries. Much of the Complex boundary fencing dates from the early to mid 1900s, and requires ongoing maintenance. Additional water sources in the form of wells were installed beginning in the 1940s. Most utilize windmills to pump water and require periodic maintenance. Dirt tanks located within the Complex require periodic clean outs to remove accumulated sediment.

4.4 Reasonably Foreseeable Future Actions

Under the No Action Alternative and Proposed Action, livestock grazing would continue to occur for a 10-year period under the renewed grazing authorizations. Maintenance would continue to occur as necessary on range improvements located within the Complex.

4.5 Analysis by Resource

Only those resources directly or indirectly affected by the Proposed Action or No Action Alternative are considered for cumulative effects.

Vegetation Resources

Proposed Action

Under the Proposed Action, livestock grazing would continue at existing levels. Fencing would restrict livestock from grazing on ephemeral portions of the A Lazy T Allotment outside of ephemeral authorizations. A requirement to move livestock following weaning at Twin Tanks would improve help make progress towards achievement of Standards on the Ward Allotment. This would have a beneficial cumulative effect on vegetation resources through reduced utilization and increased vegetative growth potential.

No Action Alternative

Under the No Action Alternative, livestock grazing would continue at existing levels. Fencing would not be constructed, and current vegetation trends would continue. This would have a negligible cumulative effect on vegetation resources.

No Grazing Alternative

Under the No Grazing Alternative, livestock grazing would not be authorized on the public lands within the Complex for a period of 10-years. Reduced utilization levels on vegetation would have a negligible cumulative effect on vegetation resources due to grazing continuing on State and private lands within the Complex.

Ephemeral Only Grazing Alternative

Under the Ephemeral Only Grazing Alternative, livestock grazing would only occur during years with above average precipitation and when authorized following a BLM ephemeral inspection. The reduced utilization of perennial species on the Gable-Ming and Ward allotments would have negligible cumulative effect on vegetation resources on the Complex as a whole.

Wildlife Resources

Proposed Action

Under the Proposed Action, livestock grazing would continue to be authorized at existing levels. Competition for forage between wildlife and livestock would continue; however, competition would be reduced on the A Lazy T Allotment and on areas surrounding Twin Tanks on the Ward Allotment.

No Action Alternative

Under the No Action Alternative, livestock grazing would continue at existing levels. Additional fencing would not be constructed and livestock would not be required to be moved following weaning. Competition for forage between wildlife and livestock would continue, without the beneficial effects of the range improvements associated with the Proposed Action.

No Grazing Alternative

Under the No Grazing Alternative, livestock grazing would not be authorized on public lands within the Complex. In the absence of livestock grazing, competition for wildlife forage vegetation would be eliminated on BLM-administered lands, which would have a beneficial cumulative effect by providing more forage for wildlife and insect populations. The absence of livestock grazing could result in cover canopy increasing over time, a beneficial cumulative effect for cover-dependent species. Livestock disturbance/displacement effects would not occur, benefiting nesting migratory birds and other wildlife individuals. Water developments would not be maintained or could be turned off, reducing water availability for wildlife in the Complex over time.

Ephemeral Grazing Only Alternative

Under the Ephemeral Only Grazing Alternative, grazing would only be authorized on an ephemeral basis for all allotments within the Complex. The majority of the allotments are currently authorized for ephemeral use. The conversion of two perennial/ephemeral to ephemeral only

grazing would have negligible beneficial effects on wildlife due to the seasonal use of livestock waters where livestock/wildlife interactions are most likely to occur.

Soil Resources

Proposed Action

Under the Proposed Action, livestock grazing would continue to be authorized at existing levels. Construction of a fence on the A Lazy T Allotment would improve soil conditions on the BLM portion of the Allotment due to limiting grazing to ephemeral authorizations only. Soil conditions would also improve on the Loamy Swales of the Ward Allotment where livestock would be required to be moved from Twin Tanks within 30 days of weaning.

No Action Alternative

Under the No Action Alternative, livestock grazing would continue at existing levels. Range improvements would not be constructed and no additional terms and conditions would be implemented to control accelerated erosion within the Complex. This would have a minor adverse cumulative effect on soils.

No Grazing Alternative

Under the No Grazing Alternative, livestock grazing would not be authorized on the public lands within the Complex. Removal of livestock from public lands would have a beneficial effect on soils due to the reduced compaction of soils in livestock congregation areas and the increase of litter and vegetation cover to protect soils from raindrop impact.

Ephemeral Only Grazing Alternative

Under the Ephemeral Only Grazing Alternative, grazing would only be authorized on an ephemeral basis for all Allotments within the Complex. The majority of the allotments are currently authorized for ephemeral use. Compared to the Proposed Action, the conversion of two perennial/ephemeral to ephemeral only grazing would have negligible beneficial effects on soils due to the seasonal use of congregation areas by livestock.

5.0 PERSONS, GROUPS, AND AGENCIES CONSULTED

5.1 List of Preparers

The following individuals were involved in the preparation of this EA:

Bureau of Land Management

Name	Title	Project Expertise
Doug Whitbeck	Rangeland Management Specialist	Livestock Grazing, Vegetation and Soil Resources
Michael Daehler	Wildlife Biologist	Wildlife Resources
Brian Buttazoni	Planning & Environmental Specialist	NEPA

5.2 Public Review

The draft Gable Complex LHE was sent to interested parties for review and comment between November 24 and December 24, 2015.

5.3 Tribes, Individuals, Organizations or Agencies Consulted

The following tribes, individuals, organizations or agencies were contacted during public scoping in 2015:

Tribes

Ak-Chin Indian Community
Cocopah Indian Tribe
Colorado river Indian Tribes
Fort McDowell Yavapai Nation
Fort Mojave Indian Tribe
Fort Yuma-Quechan Tribe
Gila River Indian Community
Hopi Tribe
Salt River Pima-Maricopa Indian Community
Tohono O'odham
Yavapai-Apache Nation
Yavapai-Prescott Indian Tribe

Individuals

Carter Gable
Craig Kreager
Mary Eileen Kreager
Peggy Jagow Kreager
David and Lisa Landford

Organizations

Arizona Cattlemen's Association
Center for Biological Diversity

The Wilderness Society
Western Watersheds Project

Agencies

Arizona Game and Fish Department Region 4

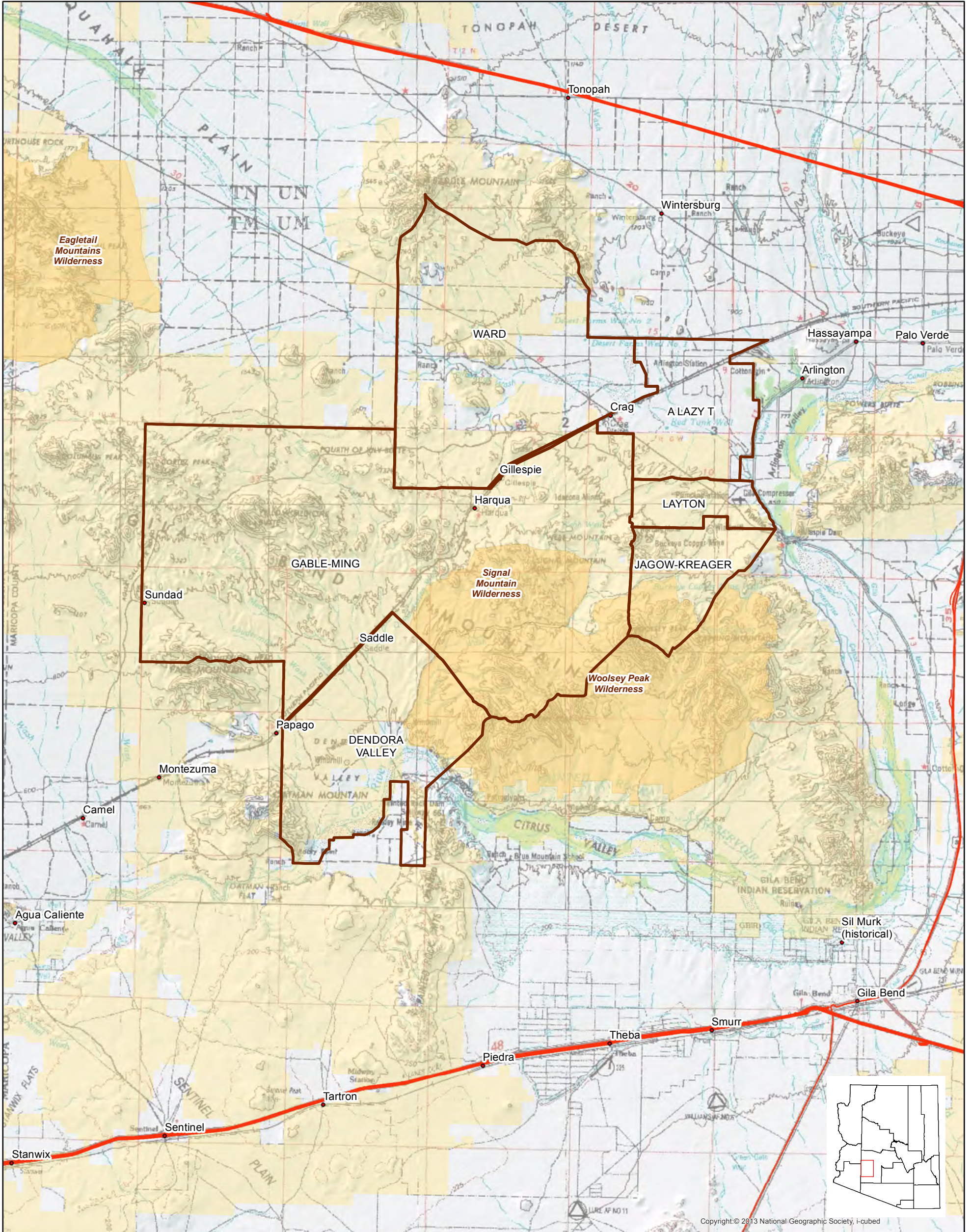
Arizona Game and Fish Department Region 6

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Gable Allotment Complex Project Vicinity



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Source: BLM GIS, ADOT, USGS, BOC, USDA

Coordinate System: NAD 1983 UTM Zone 12N
Projection: Transverse Mercator
Datum: North American 1983

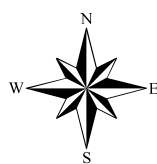
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Map 1. Project Vicinity.

- Allotments
- Towns
- Interstate
- State Route
- Bureau of Land Management Wilderness
- Bureau of Land Management



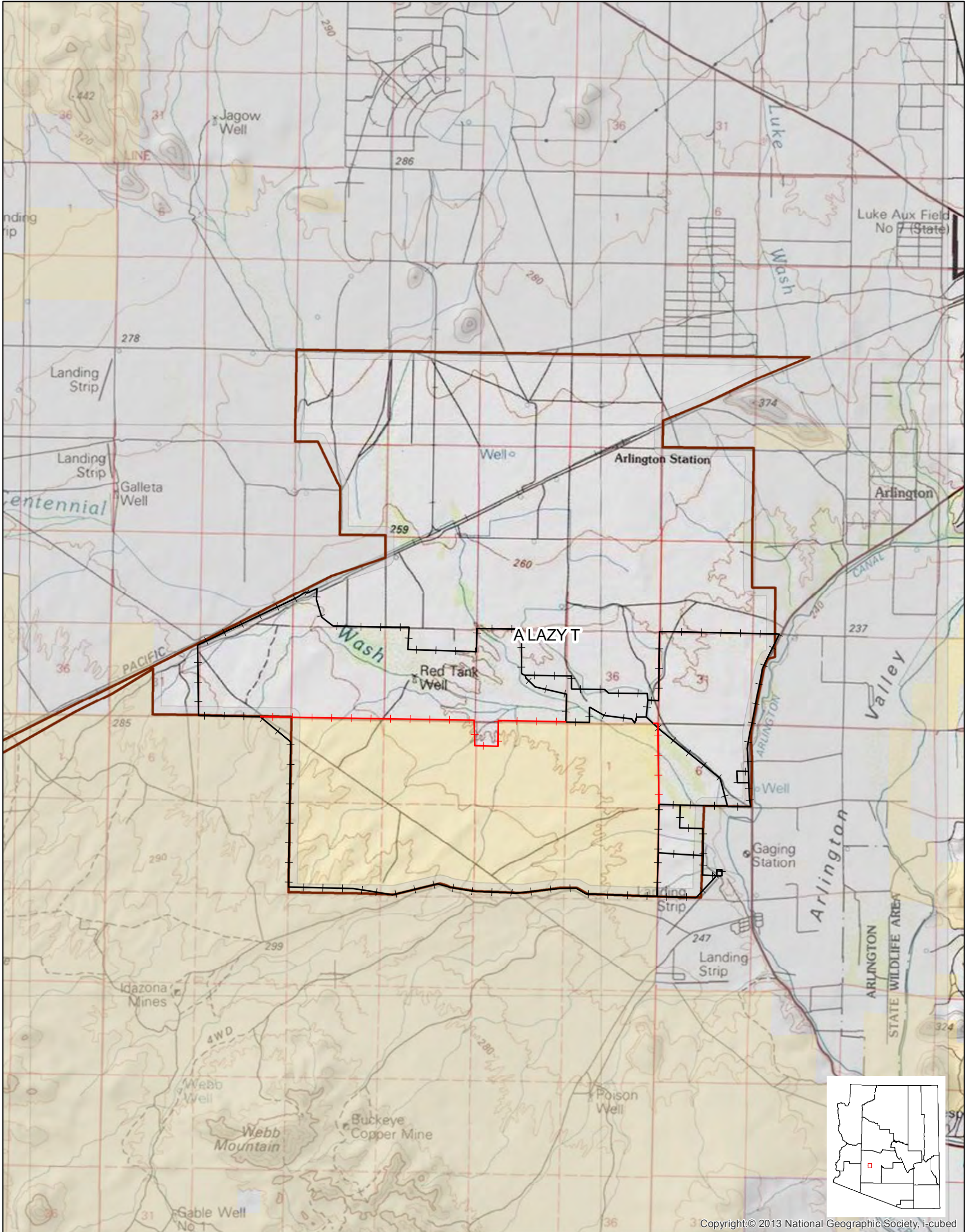
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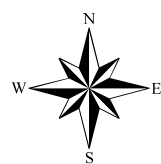
Map Prepared by
Author: bbuttzoni
Date: 10/4/2018

A Lazy T Allotment Fences

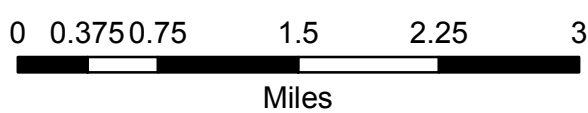


Map 2. Existing & Proposed Fencing

- - - Proposed Fences
- Existing Fences
- Allotment
- Bureau of Land Management



SCALE 1:65,000



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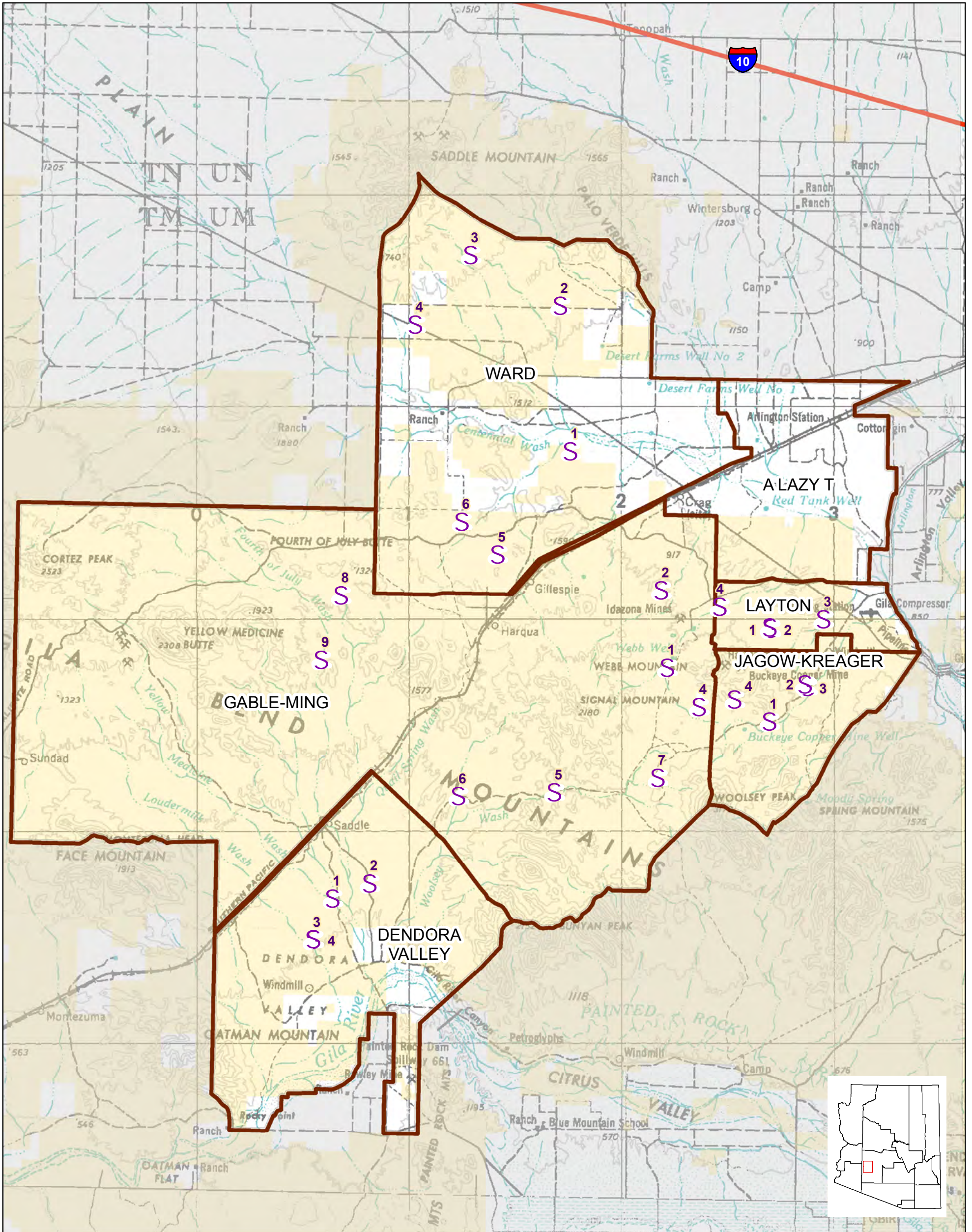
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 Date: 9/11/2018

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Key Areas



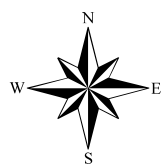
Map 3. Key Areas

Source: BLM GIS, ADOT, USGS, BOC, USDA

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- S Key Areas
- Allotments
- Interstate
- Bureau of Land Management



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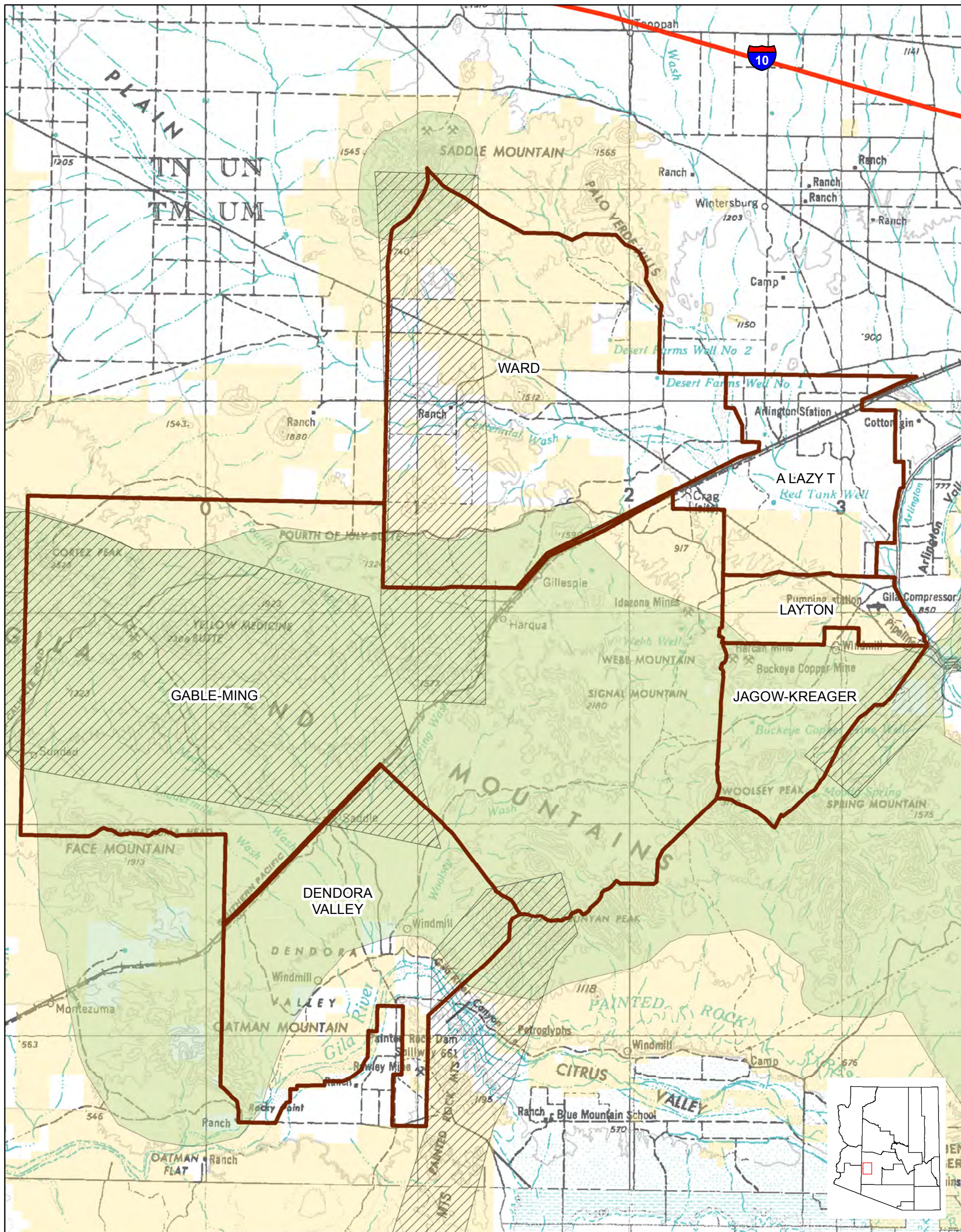
Miles

Map Prepared by
 Author: bbuttaioni
 Date: 9/11/2018



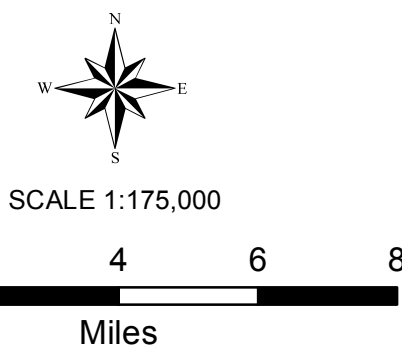
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Wildlife Movement Corridors & Bighorn Sheep Habitat



Map 4. Wildlife Habitats

-  Allotments
-  Wildlife Movement Corridors
-  Bighorn Sheep Habitat
-  Interstate
-  Bureau of Land Management



Source: BLM GIS, ADOT, USGS, BOC, USDA
 Coordinate System: NAD 1983 UTM Zone 12N
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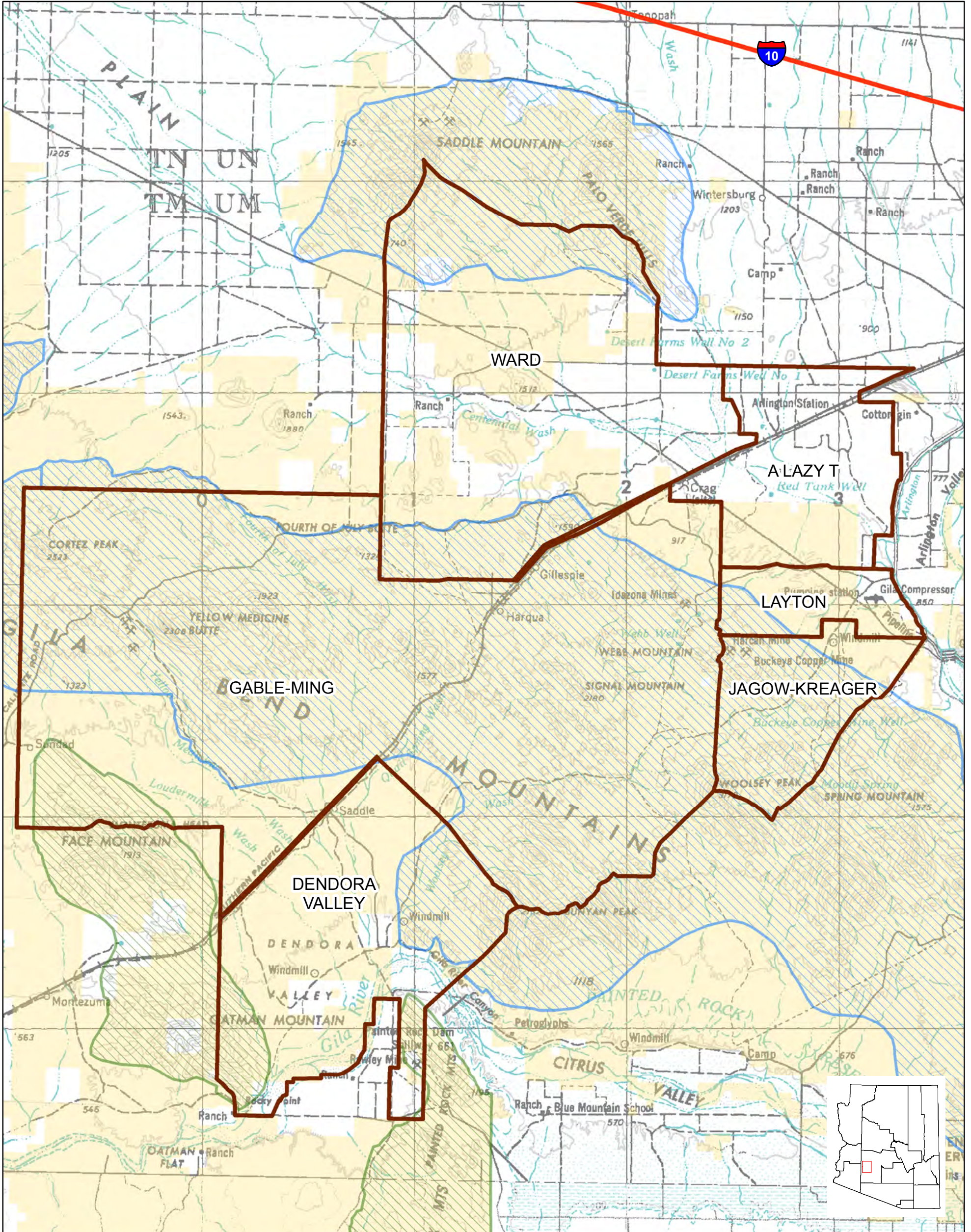
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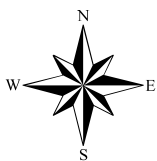
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Sonoran Desert Tortoise Habitats



Map 5. Tortoise Habitats



SCALE 1:175,000



Miles

- Allotments
- Category 2
- Category 3
- Interstate
- Bureau of Land Management

Source: BLM GIS, ADOT, USGS, BOC, USDA

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