



**United States Department of the Interior
Bureau of Land Management
Lower Sonoran Field Office
Phoenix District**



**Hazen-Shepard Allotment
Grazing Permit Renewal
Environmental Assessment**

DOI-BLM-AZ-P020-2013-0027-EA

Prepared for:
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Environmental Assessment No. DOI-BLM-AZ-P020-2013-0027-EA
Hazen-Shepard Allotment Grazing Permit Renewal EA**

1. INTRODUCTION

Livestock grazing on public lands is a federally authorized activity with potential for environmental consequences. As part of the grazing permit renewal process for the Hazen-Shepard Allotment, a Rangeland Health Evaluation (RHE) was conducted on the allotment under the Arizona Bureau of Land Management (BLM) *Standards for Rangeland Health and Guidelines for Grazing Management* (S&Gs). The evaluation determined: 1) if standards are being met, not met, or if significant progress is being made towards meeting Arizona's S&G's and Resource Management Plan (RMP) objectives 2) if existing terms and conditions remain valid and 3) if additional terms and conditions or management actions are warranted.

Analyses within the RHE indicate resource conditions are meeting the potential natural community (PNC). As a result, it was determined by the Interdisciplinary Assessment Team (ID Team) during the assessment process, that resource conditions on the Hazen-Shepard Allotment are meeting all applicable Standards for Rangeland Health (i.e., Standard 1 and Standard 3; Standard 2 does not apply) at the key areas.

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental consequences of the proposed grazing permit renewal for the Hazen-Shepard Allotment. The National Environmental Policy Act (NEPA) of 1969 requires that Federal agencies disclose to the public information about those projects or activities authorized by the agencies that have the potential to impact the human environment. The EA evaluates the technical recommendations of the RHE (i.e. the "Proposed Action") and reasonable alternatives to those recommendations. This is done in an effort to balance demands placed on the resources by various authorized uses within the allotment.

On March 7, 2014, a "Notice of Proposed Decision for the Grazing Lease Renewal of the Hazen-Shepard Allotment (#03043) for A Tumbling T Ranches" was issued to the permittee, with an Environmental Assessment (DOI-BLM-AZ-P020-2013-0027-EA) and a Finding of No Significant Impact (FONSI) analysis of the proposed action. In accordance with BLM regulations, "Any applicant, permittee, lessee, or other interested public may protest the proposed decision under Sec. 4160.1 of this title."

On April 30, 2014, Western Watersheds Project submitted a timely (due to postal service problems) "Protest of the Proposed Grazing Decision for the Hazen-Shepard Allotment." Several protest points were deemed substantive, and led to slight modifications to the proposed terms and conditions of the grazing permit and reanalysis of impacts of the Proposed Action in this Environmental Assessment. *Substantive revisions to this EA are highlighted in gray.*

1.1 Project Area Description

The Hazen-Shepard Allotment is located just south of Arlington, Arizona, a small town 40 miles west of Phoenix (Figure 1). The allotment lies directly west of the Gila River between Buckeye and Gila Bend, Arizona. The allotment boundary encompasses 34,178 acres, of which approximately 23,129 acres is administered by BLM (see Table 1 and Figure 2 below). The BLM-administered part of the allotment encompasses most of Township 3 South (T3S), Range 5 West (R5W), and portions of the following: T2S, R5W; T3S, R6W; T3S, R4W; T4S, R5W; and T4S and R4W. The entire portion of the allotment east of the Gila River is privately owned and is used primarily for agricultural crops and wildlife habitat.

The allotment's north-most apex originates at the Gillespie Dam, which was constructed in the 1920s for irrigation purposes. The Gillespie Dam Bridge, completed in 1927, was incorporated into the U.S. Highway System as Route 80. The bridge was added to the National Register of Historic Places in May 1981. In 1993, a portion of the Gillespie Dam failed during an unusually heavy precipitation event but remnants of the dam remain in place. Enterprise Road is the main road running north-to-south through the allotment that is accessed off old U.S. Highway 80. Citrus Valley Road runs west off of Enterprise Road within the allotment boundary. Several other cherry stem roads branch off of Enterprise Road, many of which turn toward the west and turn into 4-wheel drive roads or die off completely before they reach the Gila Bend Mountain Range.

In 2012, approximately 9,955 acres within the allotment were designated as the Lower Gila Terraces and Historic Trails Area of Environmental Concern (ACEC), of which 5,574 acres are administered by the BLM. The ACEC was created by BLM to provide additional protection of cultural resources in the floodplains and bluffs along the Gila River. The Fred J. Weiler Greenbelt, which encompasses 1,504 acres of heavy xeroriparian habitat, is located within the ACEC, and was designated as a Resource Conservation Area (RCA) in 1970 for wildlife habitat. The "Greenbelt" is closed to livestock grazing and most mineral exploration and extraction.

The Hazen-Shepard Allotment is located in Sonoran shrub mix desert and the terrain is gently rolling to steep hills and mountains that are bisected by numerous drainage ways flowing toward the Gila River to the east. Except for Moody Spring, a small spring located near the western boundary of the allotment in the Woolsey Peak Wilderness Area, there is no water available on the western half of the allotment. Moody Spring is a very small spring utilized by wildlife, including desert bighorn sheep and mule deer. Available water sources on the east side of the allotment include those fed by the Gila River (e.g., the Enterprise Canal and associated reservoirs). Water is available yearlong on the east side of the allotment in the Enterprise Canal, which is used for agricultural purposes and is currently used by wildlife. This canal runs north-to-south within the allotment and serves as a general divider between the private land to the east and BLM-administered land to the west. Although limited sections of the canal could be available for livestock when permitted under the No Action Alternative, existing fencing would prevent cattle from accessing the Gila River and agricultural fields east of the canal.

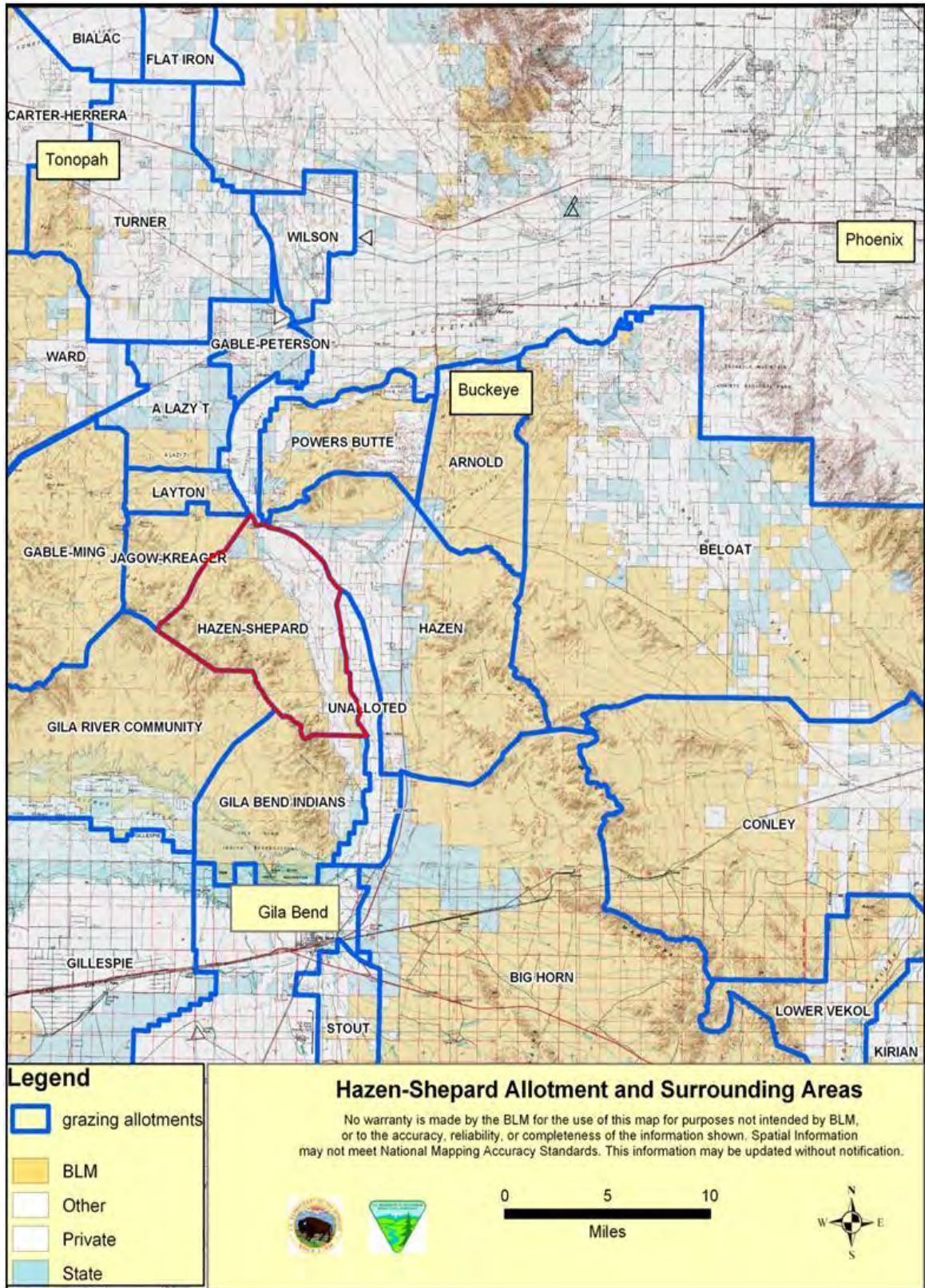


Figure 1 Hazen-Shepard Allotment and Surrounding Areas

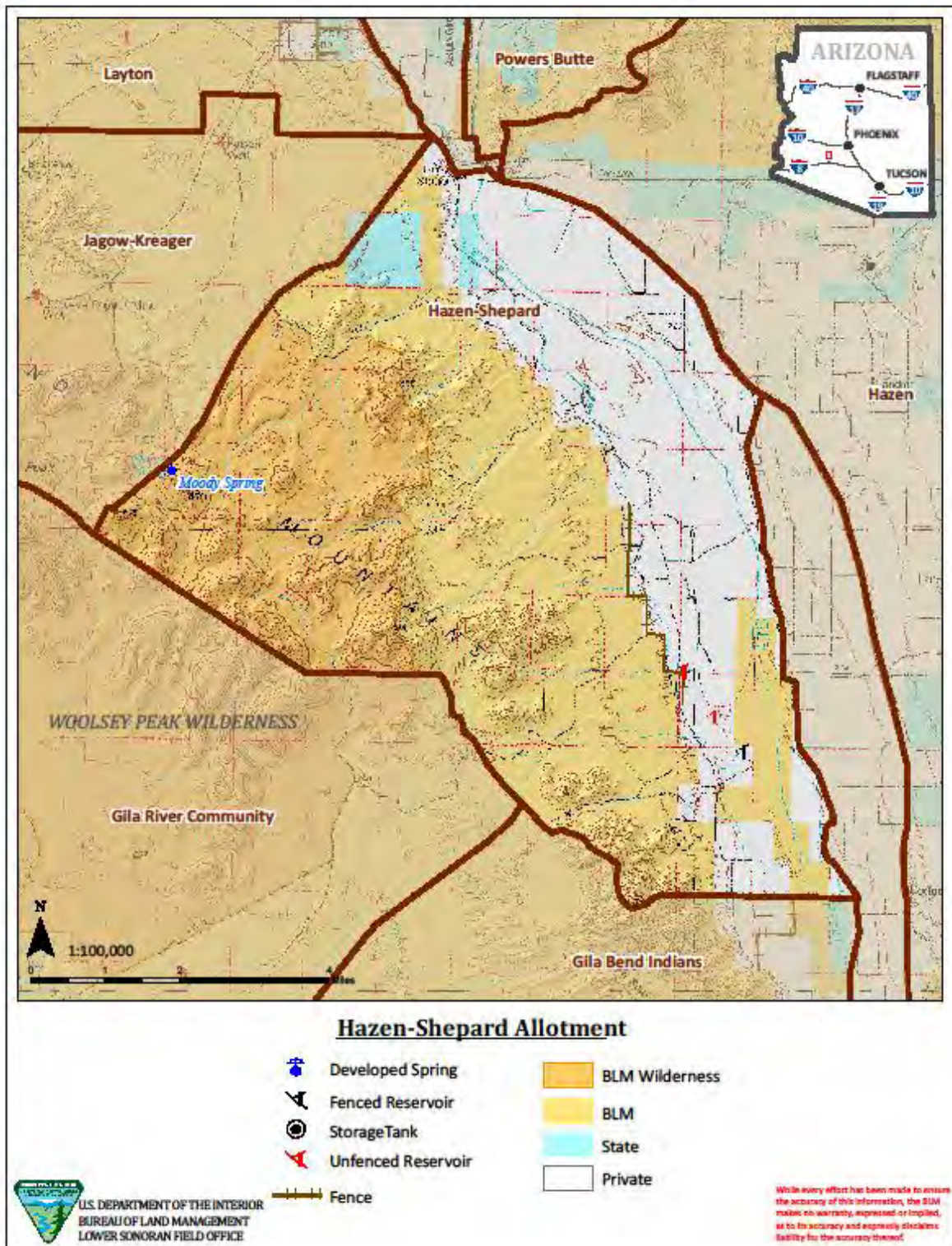


Figure 2. Land status and base waters of the Hazen-Shepard Allotment

Table 1. Land status within the Hazen-Shepard Allotment.

Management/Ownership	Size	Additional Information
BLM-administered lands	23,129 acres	None
State lands	640 acres	Grazing lease not controlled by user
State agricultural lands	160 acres	Agricultural lease not controlled by user
Private agricultural	3,000 acres	Controlled by user for agriculture
Patented	120 acres	Controlled by user for livestock
Private	7,129 acres	Not controlled by user
TOTAL:	34,178 acres	None

Annual precipitation for the Hazen-Shepard area for the period 1980-2008 is 7.13 inches, as averaged from the three nearest weather stations – Gila Bend, Tonopah, and Buckeye –ranging from approximately 3 to 14 inches (WRCC 2010). Forty percent of the precipitation falls in the winter with the remaining 60 percent falling in summer, from July to September. Summer rains originate in the Gulf of Mexico and are usually brief intense thunderstorms. The intensity of this precipitation is moderate to heavy, but rarely lasts more than half an hour. Cool season moisture tends to be frontal, originates in the Pacific and Gulf of California, and falls in widespread storms with long duration and low intensity. The two rainy periods bring about their respective production of either winter or summer annual grasses and forbs, but the winter-spring precipitation is the most dependable on the site. Snow is very rare and falls normally only at the higher mountain elevations. Average temperatures for the hottest (July) and coldest (January) months are 93°F and 53°F, respectively. Extreme temperatures of 125°F and 10°F have been recorded. Because of the low precipitation levels, the public lands in the allotment are not very productive, even in years of high precipitation.

1.2 Purpose of and Need for Action

The BLM is proposing to fully process the term grazing permit on the Hazen-Shepard Allotment in accordance with all applicable laws, regulations, and policies. Because Grazing Permit No. 03043 expired on February 28, 2008, the BLM renewed the permit with the same terms and conditions pursuant to Section 416 of Public Law 111-88, pending compliance with applicable laws and regulations. Compliance with all applicable laws and regulations includes consultation, coordination and cooperation with affected individuals, interested publics, States, and Indian Tribes; completion of the applicable level of National Environmental Policy Act (NEPA) review; consultation with the United States Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act; and ensuring that allotments are achieving or making significant progress toward achievement of land health standards.

Purpose and Need

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

The need for this action is established by the Taylor Grazing Act (TGA), the Federal Land Policy and Management Act (FLPMA), and the Lower Sonoran Resource Management Plan (LS RMP) (USDI BLM, 2012), which require that the BLM respond to applications to fully process and renew permits to graze livestock on public land. In detail, the analysis of the actions identified in the applications for grazing permit renewals and the alternative actions is needed because:

- BLM Arizona adopted the Arizona Standards for Rangeland Health (Land Health Standards) and Guidelines for Livestock Grazing Management in all Land Use Plans (Arizona S&Gs) in 1997 (Appendix A). Land Health Standards and Guidelines for Grazing Administration were also incorporated into the LS RMP (2012). Land Health Standards for Rangelands should be achieving or making significant progress towards achieving the standards and to provide for proper nutrient cycling, hydrologic cycling, and energy flow. Guidelines direct the selection of grazing management practices and, where appropriate, livestock facilities to promote significant progress toward, or the attainment and maintenance of, the standards. Rangeland health assessments and evaluation reports completed for the Hazen-Shepard Allotment identified Standards 1 and 3 as being fully achieved. Standard 2 was not applicable, as there are no riparian areas within the BLM-administered portions of the allotment.
- The LS RMP 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 LS RMP allocated public lands within the Hazen-Shepard Allotment as available for domestic livestock grazing. Where consistent with the goals and objectives of the RMP and Land Health Standards, allocation of forage for livestock use and the issuance of grazing permits to qualified applicants are provided for by the Taylor Grazing Act (TGA) and the Federal Land Policy and Management Act (FLPMA).

Decision to be made

The Lower Sonoran Field Manager is the authorized officer responsible for the decisions regarding management of public lands within this allotment. Based on the results of the NEPA analysis, the authorized officer will issue a determination of the significance of the environmental effects and whether an environmental impact statement (EIS) would be required. If the authorized officer determines that it is not necessary to prepare an EIS, the EA will provide information for the authorized officer to make an informed decision whether to renew, renew with modifications, or not renew the permit, and if renewed, which management actions, mitigation measures, and monitoring requirements will be prescribed for the Hazen-Shepard Allotment to ensure continued achievement of management objectives and Arizona Standards for Rangeland Health.

1.3 Land Use Plan Conformance

The Lower Sonoran RMP and Record of Decision (ROD) were approved by the Arizona State Director for the BLM in September 2012. This RMP guides the overall management of activities, as well as the use and protection of BLM-administered resources within the planning area. It outlines provisions for the BLM Lower Sonoran Field Office to administer grazing

authorizations within the grazing allotment boundaries and provide management actions applicable to livestock use on public lands:

“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)

Additionally, the Lower Sonoran RMP (BLM 2012) classified the Hazen-Shepard Allotment under its previous ephemeral use designation. An ephemeral designation institutes a grazing system in accordance with the Special Ephemeral Rule (Federal Register, Vol. 33, No. 238, December 7, 1968):

“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 (Best Management Practices and Standard Operating Procedures), based upon the Special Rule through which allotments can be classified and managed as ephemeral.”

All existing fences would have to be repaired and maintained before allowing livestock in the allotment. The Proposed Action would conform to the Lower Sonoran RMP, Appendix A, Best Management Practices and Standard Operating Procedures:

- Fences constructed will comply with applicable wildlife fence standards (Fences – BLM Manual Handbook H-1741-1). Existing fences that impede big game movement or that otherwise conflict with wildlife may be modified to comply with applicable wildlife fence standards on a case-by-case basis.
- Grazing on designated ephemeral (annual and perennial) rangeland may be authorized if the following conditions are met:
 - Ephemeral vegetation is present in draws, washes, and under shrubs and has grown to useable levels at the time grazing begins.
 - Sufficient surface and subsurface soil moisture exists for continued plant growth.
 - Serviceable waters are capable of providing for proper grazing distribution.
 - Sufficient annual vegetation will remain on site to satisfy other resource concerns, (i.e., watershed, wildlife, wild horses and burros).
 - Ephemeral use will be authorized up to March 31 when conditions warrant. After April 1, authorizations will be limited to 30 days, subject to further evaluation. This

will ensure maintenance for habitat for special status species (e.g. Sonoran desert tortoise).

- Monitoring is conducted during grazing to determine if objectives are being met.

1.4 Relationship to Statutes, Regulations, or other Plans

The BLM's objectives for rangeland management are to carry out the intent of the Taylor Grazing Act of 1934, as amended and supplemented, FLPMA of 1976, and the Public Rangelands Improvement Act of 1978. The Taylor Grazing Act and FLPMA recognize grazing as a valid use of the public lands and require BLM to manage livestock grazing in the context of multiple use. Additionally, Title 43 CFR Part 4100 regulations govern grazing administration for public rangelands. Among other things, the regulations require the implementation of the Fundamentals of Rangeland Health (43 CFR 4180), and be in accordance with the Guidelines for Grazing Administration while continuing to achieve Arizona Standards for Rangeland Health (1997).

The proposed action complies with 43 CFR 4100.0-8 which 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." The proposed action also complies with 43 CFR 4130.2(a) which 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 following documents also provide program constraints, general management practices, and land use objectives to achieve desired resource conditions and provide direction for public lands within the Hazen-Shepard Allotment.

- ***Strategy for Desert Tortoise Habitat Management on Public Lands in Arizona, 1990.***

This strategy requires the following:

- Manage livestock to allow adequate and suitable native forage and cover for tortoises throughout the year.
- Where ecological site potential permits, manage livestock grazing to increase native perennial grasses, forbs and shrubs that are required by tortoises.
- Allotment Management Plans or other grazing systems in tortoise habitat will incorporate tortoise habitat values in their objectives, to assist in attaining appropriate category goals and objectives.
- Within desert tortoise habitats, grazing on ephemeral allotments will not be authorized unless adequate ephemeral forage exists or there is a high probability (based on rainfall accumulation prior to turn-out) that sufficient ephemeral forage will be produced.
- Short-term supplemental use authorizations may be allowed only if abundant forage remains, and provided other rangeland resources and use needs are fully ensured.
- Ephemeral ranges are managed for the protection of perennial vegetation and dependent wildlife species.
- When acting on ephemeral grazing applications for either ephemeral or ephemeral/perennial permits, the Manager must consider the requirements for

protection of vegetation, soil, and wildlife. The length of authorized grazing period should not extend into normally dry months.

Additionally, the proposed action would comply with the following pertinent laws, among others:

- *National Environmental Policy Act (NEPA) of 1969;*
- *Endangered Species Act (ESA) of 1973, as amended;*
- *Section 106 of the National Historic Preservation Act of 1966, as amended; and*
- *Native American Graves Protection and Repatriation Act of 1990 (25 United States Code [USC] 3001-3013; 104 Stat. 3048-3058).*

1.5 Scoping and Issue Identification

Scoping is a process to identify the resources that may be affected by a proposal, and to explore possible alternatives for achieving the purpose and need. The BLM Lower Sonoran Field Office conducted both internal scoping with appropriate BLM staff and external scoping with the public and interested/affected groups and agencies in order to identify issues for this analysis (see Table 2 for a list of those parties included in the development of this EA).

Internal scoping was conducted by an ID Team of professionals from the Lower Sonoran Field Office to discuss the purpose and need of the project; various alternatives; potential environmental impacts; past, present, and reasonably foreseeable projects that may have cumulative effects; and possible mitigation measures. Refinements to the proposal were made over the course of this project to address conflicts and issues identified as part of this process.

External scoping was initiated with the distribution of Consultation, Coordination and Cooperation (CCC) letters to inform the permittee, interested public, and other stakeholders of the proposal. The letter requested allotment-specific resource data that would assist BLM in analyzing resource conditions on the allotment(s). No comments were received in response to these letters. (See Chapter 5, *Consultation and Coordination*, for more information regarding this process).

On August 18, 2010 a letter was sent to the permittee inviting them to participate in discussions regarding permit renewal on the Hazen-Shepard Allotment. On September 18, 2010, BLM range staff met with the permittees to tour the allotment and discuss any issues or plans both parties (A Tumbling T Ranches and/or BLM) might have for the allotment. These details are discussed below in Chapter 2, *Description of the Alternatives*.

On March 8, 2013, LSFO sent the RHE out to the permittee and interested publics for a 30-day comment period. Western Watersheds Project (WWP) provided comments, **received on March 28, 2013**. Substantive comments were incorporated into an Environmental Assessment and/or Proposed Decision, as applicable. Table 2 lists issues identified by WWP, other interested publics, and the BLM interdisciplinary team, as needing to be fully addressed in this Environmental Assessment.

As a result of data and information compiled from the rangeland health evaluation, allotment tours, consultation with the permittee and interested publics, and coordination and consultation among BLM resource specialists on the ID Team, a number of issues were identified to be

carried forward for analysis. Several resources considered were not present or were determined to be not impacted to a degree that would require detailed analysis. These resources are described briefly below in Section 3.1 *Critical Elements and Other Resources Considered in the Analysis*, along with the rationale for why they were dismissed from further analysis. The remaining resources that were considered and that have the potential to be impacted by the proposal are described in Chapter 3 and analyzed in Chapter 4. These include: cultural resources and Native American religious concerns; grazing management; special status species including threatened and endangered and BLM sensitive species; general wildlife; soils; vegetation; and wetland and riparian areas.

Table 2. Issues identified during scoping

What is the Issue Identified?	Who Identified this Issue?	How has this Issue been Addressed?
How can the livestock operators more effectively manage livestock so that livestock don't damage resources along the canal and river?	The allotment lessee, Western Watershed Project, and the BLM ID team	This issue is examined under the Proposed Action and the No Action Alternatives of this EA.
Where would livestock grazing likely occur on the allotment, given the parameters of the proposed terms and conditions and locations of water sources, including the proposed water haul sites, the Enterprise Canal and the allotment's base waters?	The allotment lessee, Western Watersheds Project and BLM ID team	To analyze potential effects from ephemeral livestock grazing on the allotment under each alternative, a GIS model was developed to delineate a likely "Area of Expected Livestock Use." Maps show the names of roads and the location of proposed water haul sites.
The Enterprise Canal and the base waters provide important fish, wildlife, and migratory bird habitat. How would wildlife species and habitats--particularly Threatened, Endangered, and Special Status Species-- be protected from impacts from livestock grazing throughout the allotment? Specifically, how would species such as the Yuma clapper rail, southwestern willow flycatcher, yellow-billed cuckoo, desert bighorn sheep and Sonoran desert tortoise be effected by ephemeral livestock grazing?	Western Watersheds Project, US Fish and Wildlife Service, and the BLM ID team	The proposed action provides mechanisms to minimize the impacts from livestock grazing on T&E and Special Status Species. Direct, indirect, and cumulative impacts from each alternative on wildlife species, including T&E and Special Status Species, have been analyzed in Chapter 4 of this EA.

<p>How would ephemeral livestock grazing impact the resource values for which the Lower Gila River Terraces and Historic Trails ACEC, the Fred J. Weiler Greenbelt, and the Woolsey Peak Wilderness Area were designated?</p>	<p>The allotment lessee, Western Watersheds Project, US Fish and Wildlife Service, and the BLM ID team</p>	<p>The proposed action provides mechanisms to minimize the impacts from livestock grazing on the resources of concern and proposes temporary water hauls during ephemeral use.</p>
<p>How will forage allocations be set for ephemeral grazing?</p>	<p>The allotment lessee, Western Watersheds Project</p>	<p>The number of livestock authorized during an ephemeral year is discussed in the Proposed Action Alternative of this EA. Ephemeral grazing would be authorized in accordance with the Special Ephemeral Rule and the Standard Operating Procedures (LS RMP and ROD, 2012).</p>
<p>How would ephemeral livestock grazing effect resources such as soils (including cryptogamic soil crusts) and vegetation?</p>	<p>Western Watersheds Project and the BLM ID team</p>	<p>Potential impacts from livestock grazing to soils and vegetation resources have been fully analyzed in this EA.</p>
<p>How does BLM plan to address the cumulative impacts of OHV use on the allotment, as it applies to increased vehicular traffic on Citrus Valley Road for the purposes of hauling water for livestock?</p>	<p>The allotment lessee, Western Watersheds Project, and the BLM ID team</p>	<p>Direct, indirect, and cumulative impacts of each of the alternatives have been analyzed in Chapter 4. of this EA</p>
<p>In light of the solar developments in the area, particularly the Gillespie Solar Energy Zone north of the allotment, wouldn't livestock non-use be a better option for mitigating local solar impacts?</p>	<p>Western Watersheds Project and the BLM ID team</p>	<p>A No Grazing Alternative has been analyzed in this EA.</p> <p>All resources that are present and have the potential to be affected by livestock grazing have been fully analyzed in Chapter 4 of this EA.</p> <p>Resources that are not present, or that are present but not likely to be affected by any of the alternatives, are described in Section 3.2.</p>

2. DESCRIPTION OF THE ALTERNATIVES

Development of alternatives for this EA was based on the results of rangeland health assessments conducted by the BLM for the Hazen-Shepard Allotment in July 2009, June 2010, and January 2011 and from ID Team discussions in September 2011. The field assessments indicated that the allotment is currently meeting rangeland health objectives and standards as defined by the S&Gs (BLM 1997); however, additional rangeland improvements could be implemented that would improve distribution of livestock in years of ephemeral grazing use. As a result the action alternatives were developed to describe the conditions for authorized use and to address the range improvements. The current grazing system is described under the No Action Alternative and includes the standard terms and conditions applied to all BLM grazing permits. The Proposed Action Alternative describes additional terms and conditions that would be implemented prior to grazing use. Under the No Grazing Alternative, the BLM grazing permit would be cancelled and livestock grazing would not be authorized for the BLM portions of the Hazen-Shepard Allotment.

2.1 No Action Alternative – Continue Current Grazing Management

The Hazen-Shepard Allotment covers 34,178 acres, with BLM managing 23,129 acres and State and private land comprising the remainder (see Table 1 above). Under the No Action Alternative current grazing management would continue with the preference shown in Table 3. The current permit for the Hazen-Shepard Allotment was issued to A Tumbling T Ranches in accordance with the Appropriations Act of 2004 (Public Law 108-108) and renewed under Section 402 of the Federal Land Policy and Management Act of 1976, as amended (7 USC 1010 et seq.). The current permit has a term of 03/01/2008 to 02/28/2018. If this alternative is selected, a new 10-year (2014-2024) grazing permit would be issued to A Tumbling T Ranches with the same terms and conditions as currently exist. Because this is an ephemeral use allotment, livestock number and duration of use are authorized only when forage conditions warrant (i.e., only in years of adequate precipitation that cause a flush in annual production). Consequently, no animal unit months (AUMs) or livestock number are specified.

Table 3. Grazing preference.

Allotment	Percent Public Land Billed	Number and Kind of Livestock	Season of Use	Total AUMs
Hazen-Shepard (#03043)	97	0 Cattle ¹	03/01 - 03/31	0*

* Pursuant to the special ephemeral rule, when forage becomes available, the lessee must file an application and include the desired number of livestock and period of use. BLM staff will monitor the rangeland condition and potential for continued soil moisture and forage growth before permitting livestock use.

Under the No Action Alternative, during ephemeral grazing use, livestock could access the base waters and a few locations along the Enterprise Canal for water, and potentially use ephemeral pools that may persist during high rainfall events in some of the larger washes. Continuing the current grazing management described under this alternative would result in cattle being turned out along Citrus Valley Road only during years of sufficient rainfall and forage production, at

numbers determined by BLM staff, at durations not to exceed one month, and subject to standard terms and conditions.

If ephemeral grazing use occurs over the 10-year term of the grazing permit, BLM resource specialists would periodically monitor the allotment to ensure that the desired conditions of rangeland health are being met within the allotment, in accordance with 43 CFR 4180 and the Lower Sonoran RMP Standard Operating Procedures.

2.2 Proposed Action Alternative – Modify Current Grazing Management

The results of the RHE indicate that the allotment is currently meeting rangeland health objectives and standards. Nevertheless, implementation of new Terms and Conditions would improve viability of this permit and distribution of livestock in years of ephemeral grazing use and preclude unintended impacts to resources.

The Proposed Action Alternative would issue a new 10-year grazing permit (2014-2024) to A Tumbling T Ranches with the same preference as the No Action Alternative (Table 2 above). In addition to the standard terms and conditions and the special rule related to ephemeral allotments, the following terms and conditions would be added to the grazing permit:

- a. The Hazen-Shepard Allotment was designated for ephemeral grazing use by agreement dated December 1968. As such, when an ephemeral application is submitted, BLM resource specialists will monitor the allotment to ensure that rangeland conditions are meeting Arizona Standards for Rangeland Health and are adequate to meet the forage needs of the number of cattle requested in the grazing application and for wildlife use in the area.
- b. When ephemeral grazing is authorized, it is the responsibility of the permittee to prevent livestock from accessing the Fred J. Weiler Greenbelt or the Gila River.
- c. In order to improve livestock distribution on the public lands, all feed supplements (e.g., salt, minerals, vitamins, protein cake, etc.) must be placed a minimum of 1/8 mile upslope from drainages/dry washes and watering facilities (either permanent or temporary) unless stipulated through a written agreement or decision in accordance with 43 CFR 4130.3-2 (c). Supplements must be removed when livestock are removed from the public lands.
- d. In accordance with the *Strategy for Desert Tortoise Habitat Management on Public Lands in Arizona* (BLM 1990) which identified Category II desert tortoise habitat across much of the western extent of the Hazen-Shepard Allotment, the following condition will apply:

“On ephemeral allotments with interim Category I or II tortoise habitat, use based on reasonable potential for feed to make can be authorized for one 30-day period only. Thereafter, forage would have to be present before extending the use. Ephemeral use after March 31 would be subject to a determination by the BLM. Use after this date will be authorized in increments of 15 to 30 days, if it is determined that adequate feed is available for both tortoise and livestock.”
- e. The permittee shall provide temporary watering facilities (30 to 60-day limit) for cattle

along the southern portion of the allotment along Citrus Valley Road during ephemeral grazing use. The facilities shall be placed in the uplands at least 1 mile west of the Enterprise Canal to prevent cattle from using the canal as a water source. Temporary water troughs shall be placed in previously disturbed areas and must be surveyed and approved by BLM staff prior to placement to assure no inadvertent impact to resources would occur.

- f. Standard language included in every grazing permit or lease states: “As required by the Native American Graves Protection and Repatriation Act regulations at 43 CFR 10.4(g) ‘If in connection with allotment operations under this authorization, any human remains, funerary objects, sacred objects or objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (P. L. 101-601; 104 Stat. 3048; 25 U.S.C. 3001) are discovered, the permittee shall stop operations in the immediate area of the discovery, protect the remains and objects, and immediately notify the Authorized Officer of the discovery. The permittee shall continue to protect the immediate area of the discovery until notified by the Authorized Officer that operations may resume’.”

2.3 No Grazing Alternative

Under this alternative, the grazing permit would be cancelled and livestock grazing would not be authorized for the Hazen-Shepard Allotment. A process would be initiated in accordance with the 43 CFR 4100 regulations to make the allotment unavailable for grazing. The BLM would amend the current Lower Sonoran RMP in accordance with 43 CFR parts 4100 and 1600 to eliminate grazing on this allotment.

2.4 Alternatives Considered But Eliminated From Further Analysis

All issues that were brought up during internal and external scoping are addressed and analyzed under the above alternatives. No other alternatives were considered.

3. AFFECTED ENVIRONMENT

Chapter 3 describes the baseline condition of the environmental resources in the allotment that have the potential to be affected by implementation of the alternatives. The affected environment was considered and analyzed by the ID Team.

3.1 Critical Elements and Other Resources Considered in the Analysis

The BLM is required to consider many authorities when evaluating a Federal action. Those elements of the human environment that are subject to the requirements specified in statute, regulation, or executive order, have been considered by BLM resource specialists on the ID Team to determine whether they would be potentially affected by any of the alternatives. Because the intent of a NEPA document is to concentrate on the issues that are *truly significant* to the action in question, rather than amassing needless detail (40 CFR 1500.1(b)), elements that are not present or would not be affected are not carried forward for analysis in the EA; elements determined to be potentially affected are carried forward for detailed analysis in this EA.

3.2 Resources Considered but not Carried Forward for Analysis

Air Quality: The Hazen-Shepard is within a Class 2 Airshed, which allows a moderate change in air quality due to industrial growth while still maintaining air quality that meets National

Ambient Air Quality Standards (*LS RMP*, p. 2-5, AQ-1.1). Moving livestock could produce small amounts of fugitive dust in the short term, but this would cause negligible and localized impacts on air quality. Neither the No Action Alternative nor the Proposed Action Alternative would measurably impact air quality standards. The No Grazing Alternative would eliminate the potential for localized temporary fugitive dust. However, because of the infrequency of ephemeral turn-out, and short duration of use imposed by the 1990 Sonoran Desert Tortoise Strategy (Permit Term and Condition #4), the differences between the three alternatives with regard to air quality is expected to be negligible.

BLM Natural Areas: There are no designated Natural Areas within the allotment boundaries. Therefore, there would be no effects to this resource from any of the alternatives.

Climate Change: The U.S. Geological Survey (USGS) has reviewed the latest science on greenhouse gas emissions and concluded that it is currently beyond the scope of existing science to identify a specific source of greenhouse gas emissions or sequestration (storage) and designate it as the cause of specific climate impacts at a specific location (May 14, 2008 Memorandum to the U.S. Fish and Wildlife Service [USFWS]). The effects that infrequent, ephemeral livestock grazing on the Hazen-Shepard Allotment may contribute to climate change are currently unknown, but are expected to be negligible under the proposed action and alternatives.

Cultural Resources and Native American Concerns: Cultural resources are present within the Hazen-Shepard Allotment. The Lower Gila Terraces and Historic Trails ACEC, which encompasses eastern portions of the allotment, was created by BLM in 2012 to provide additional protection of cultural resources in the floodplains and bluffs along the Gila River. The Fred J. Weiler Greenbelt RCA and Woolsey Peak Wilderness Area contain Native American habitation sites of “major historic or cultural significance” (43 CFR 2071.2 1971). Therefore, cultural resources are incorporated into the “Special Designations” sections of this EA.

The SHPO, the Advisory Council on Historic Preservation, and Indian tribes having historical ties to Arizona public lands were consulted during the preparations of the Lower Sonoran RMP and ROD (2012). To date, no Native American religious concerns have been identified in relation to livestock grazing during consultations conducted by the Lower Sonoran Field Office with the Native American Tribes that claim cultural affiliation to the area.

Environmental Justice: There are no low-income or minority populations located within the allotment boundaries. No environmental justice effects are anticipated from implementation of any of the alternatives.

Floodplains: Floodplains are only present on private lands along the Gila River; there are no floodplains on public lands within the allotment that would be affected by livestock grazing under either the No Action or Proposed Action Alternatives. Similarly, selection of the No Grazing Alternative would have no impact on the function of the floodplains.

Invasive Species/Noxious Weeds: The Gila River, which traverses private lands on the east side of the allotment, once was lined with native cottonwoods, willows, and mesquite bosques, but now contains only small pockets of native vegetation. The majority of it has been replaced with non-native salt cedar or tamarisk, a shift encouraged by changes in functionality and water flow from water impoundments, agriculture, and groundwater pumping. Likewise, the Fred J. Weiler Greenbelt consists mainly of tamarisk and other invasive species brought about by past

disturbance and cultivation. This issue is being addressed in an Integrated Programmatic EA currently being developed by the Phoenix District Office and in a Gila River Weed Management Plan. Management of these invasive plant species is dependent upon landowners' consultation and cooperation.

No noxious or invasive species were found at the key areas on the allotment or observed at other locations in the uplands of the allotment (refer to the RHE). It is possible that seeds could be introduced from cattle coming into the area proposed for cattle grazing. However, properly managed livestock grazing is designed to cause minimal impacts to rangeland resources and proper range practices can help prevent the spread of undesirable plant species (Sheley 1995). Sprinkle et al (2007) found that grazing exclusion does not make vegetation more resistant to invasion by exotic annuals. Reasons for this may include: 1) grazing that results in a more diverse age classification of plants due to seed dispersal and seed implementation by grazing herbivores, and 2) grazing that removes senescent plant material, and if not extreme, helps open up the plant basal area to increase photosynthesis and rainfall harvesting (Holechek 1981). Loeser et al. (2007) reported that moderate grazing was superior to both grazing exclusion and high-impact grazing in maintaining plant diversity and in reducing exotic plant recruitment in a semiarid Arizona grassland.

Livestock will be prevented from foraging east of Enterprise Road where tamarisk and other invasive species exist. Therefore, it is anticipated that neither the No Action nor Proposed Action Alternatives would increase the presence of invasive species. The No Grazing Alternative would not increase invasive species in the area.

Lands/Access: From "Issues identified during scoping," (Table 2 above): *In light of the solar developments in the area, particularly the Gillespie Solar Energy Zone north of the allotment, wouldn't livestock non-use be a better option for mitigating local solar impacts?*

The Gillespie Solar Energy Zone (SEZ) (BLM and DOE 2012), would be located northeast and outside of the boundaries of the Hazen-Shepard Allotment. No solar applications exist for the SEZ at this time (Cowger, personal communication, 2014). Other solar farms located between Buckeye and Gila Bend, Arizona, are primarily located on private lands and are not affected by the Proposed Action or alternatives. Furthermore, no impacts to this allotment are anticipated from energy developments because, in accordance with the Lower Sonoran RMP, renewable energy development will be prohibited in the Special Designations of the Fred J. Weiler Greenbelt, the Lower Gila Terraces and Historic Trails ACEC, and the Woolsey Peak Wilderness Area. All other areas within the allotment boundaries are in "Utility-Scale Renewable Energy Development Avoidance Areas" because of the presence of Class II desert tortoise habitat and important wildlife corridors. No impacts to or from livestock grazing on this allotment are anticipated to impact or be impacted by this SEZ.

No access issues have been identified in connection with any of the alternatives. Existing utility corridors for the El Paso Natural Gas Pipeline and Section 368 Corridor traverse the north end of the allotment approximately 4 miles from the Proposed Action's expected livestock use area (see Chapter 4). Livestock would be able to graze along the utility corridor under the No Action Alternative, but no impacts are expected from their presence. Access to the public land parcels would not be altered by continued livestock grazing under any of the alternatives.

Mineral Resources/Mining: There are potential mineral resources in the allotment and a red sand mineral material pit is located on public lands adjacent to the allotment. Continuing livestock grazing under the Alternatives would not alter geological features or mineral resources or affect the current surface or subsurface mining operations within the area.

Paleontological Resources: There are no known paleontological resources located in the allotment and soil compositions present are not the types that tend to support them. Therefore, none of the alternatives considered in this analysis would affect this resource.

Prime and Unique Farmlands: There are no prime and unique farmlands on public lands within the allotment. However, fencing would prevent livestock from entering existing private farmlands on the allotment. There would be no effects to this resource from any of the alternatives.

Recreation: All areas in the Hazen-Shepard Allotment are considered “Backcountry” except for Citrus Valley Road, which is considered “Front Country.” Areas within the allotment east of Enterprise Road fall within the Lower Gila Historic Trails Extensive Recreation Management Area (ERMA), and areas within the allotment west of Enterprise Canal fall within the Gila Bend Mountains ERMA. ERMAs provide primitive facilities for resource protection, visitor safety, and improvements or increases in recreational opportunities. Recreational activities in the area are seasonal and dispersed; there are no developed recreation sites in the allotment. Hunting occurs within the allotment including on some of the private land. None of the alternatives would affect existing recreational activities.

Socio-economic Values: Grazing use in this allotment is so infrequent that it does not have a measurable socioeconomic impact. Both the No Action and Proposed Action Alternatives would have a negligible overall effect on the economy. The difference in effects between those alternatives and the No Grazing Alternative would be negligible.

Transportation/Travel: From “Issues identified during scoping,” (Table 2 above): *How does BLM plan to address the cumulative impacts of OHV use on the allotment, as it applies to increased vehicular traffic on Citrus Valley Road for the purposes of hauling water for livestock?*

Except for the Woolsey Peak Wilderness Area, which is closed to motorized vehicles, the Hazen-Shepard Allotment falls within the Gila Bend Mountain/ Sentinel Travel Management Area (TMA), which limits travel to designated routes. The two main roads in the allotment, Enterprise Road and Citrus Valley Road, are maintained by the permittee and the operators of the gravel pit. Other private roads are maintained for access by the permittee. No roads would be created or closed as a result of grazing under either the No Action or Proposed Action Alternatives. Activities related to ephemeral grazing use such as placement of temporary water and/or hauling cattle would not require creation of new roads or any non-routine maintenance. The increase in trips on Citrus Valley Road would not be noticeable. Although no additional trips beyond the baseline would occur under the No Grazing Alternative, the difference between the alternatives would be negligible.

Visual Resources: The allotment contains areas designated as Visual Resource Management (VRM) Classes I, III, and IV. The Woolsey Peak Wilderness Area is categorized as VRM Class I with the objective to preserve the existing character of the landscape and provides for natural

ecological changes; however, it does not preclude very limited management activity or livestock grazing. In Class I, the level of change to the characteristic landscape should be very low and must not attract attention. All areas of the allotment outside of the wilderness area fall within either VRM Class III or IV. The objective for Class III is to partially retain the existing character of the landscape, and the level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. The objective for Class IV is to provide for management activities that could require major modification of the existing character of the landscape, and the level of change to the characteristic landscape can be high.

Continuing livestock grazing would continue to meet VRM objectives for all classes. No new projects or changes are proposed for the wilderness area. Potential impacts to visual resources in VRM classes III and IV could occur from the presence of temporary water holding facilities and maintenance of fence lines proposed under the Proposed Action. These facilities would not change the existing character of the landscape and would meet the VRM objectives for the area. Except for necessary fence repairs or removal, neither the No Grazing Alternative nor the No Action Alternative would result in any changes to visual resources and all VRM objectives would continue to be met.

Wastes, Hazardous or Solid: No known hazardous or solid waste issues occur in this allotment. No hazardous wastes would be created by the implementation of any of the alternatives.

Water Quality: The Hazen-Shepard Allotment is located within the Gila Bend Water Basin, and within the Lower Gila-Painted Rock Reservoir SubBasin watershed. The Gila River from Sand Tanks to the Painted Rock Reservoir is on the Arizona Department of Environmental Quality (ADEQ) 303(d) list for “impaired” water quality stream segments (ADEQ 2008, USDI BLM 2012a, p. 3-37,38). This segment of the river has pollutants including DDT, toxaphene, and chlordane, but is not listed as impaired for organic matter. The river segments above the Gila River Indian Community (which includes the segment flowing through the Hazen-Shepard Allotment) are designated for aquatic and wildlife use, ephemeral and partial body contact, and livestock watering (ADEQ 2008, USDI BLM 2012b, p. 2-26).

Water placement and fence repairs required under the Proposed Action Alternative would provide water in the uplands away from the Enterprise Canal and Gila River, and discourage livestock from grazing in those areas. There is a higher potential for livestock to affect water quality under the No Action Alternative if water is not provided in alternate locations away from the river and canal. Adverse impacts to water quality are not expected under any of the alternatives. Impacts from livestock grazing to water quality would not result from the No Grazing Alternative.

Wetlands and Riparian Areas: There are no riparian areas located within BLM-administered portions of the Hazen-Shepard Allotment, and the USFWS National Wetland Inventory system does not indicate the presence of any wetlands in the allotment. Although riparian deciduous woodlands are located within privately-owned areas of the allotment below the Gillespie Dam, no areas in the BLM-administered portions of the Hazen-Shepard Allotment fit the description of riparian areas (BLM Technical Reference 1737-16). Therefore, Arizona Standard 2, riparian-wetland areas (*riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform*) does not apply to this allotment.

The Fred J. Weiler Greenbelt consists of vegetation consistent with xeroriparian (Sandy Wash and Loamy Bottom) ecological sites. Some dry wash areas (i.e., washes and bottomlands) exist near the river, as well as in the washes flowing from the uplands. Although these areas comprise a very small portion of the Hazen-Shepard Allotment, proportionately more browsing and loafing by cattle and wildlife would typically occur on these sites than upland sites. Therefore, xeroriparian areas are included in the vegetation analysis in Chapter 4 and the RHE (Appendix A).

Allocation of surface and groundwater resources for agricultural, commercial, and residential purposes has re-defined habitat quantity and quality along the Gila River corridor and occurs outside the auspices of the BLM. Because these conditions would persist in the absence of BLM-authorized grazing, the proposed action is not expected to affect riparian areas within the privately-owned portions of the allotment.

Wild and Scenic Rivers: There are no designated or eligible-for-designation wild and scenic rivers within the allotment. Therefore there would be no potential for effects to this resource from any of the alternatives.

Wild Horses and Burros: There are no wild horse or burro herd areas or herd management areas in the allotment. Therefore there would be no potential for effects to this resource from any of the alternatives.

Wildland Fire Management/Fuels: The uplands west of the Enterprise Canal are categorized as Fire Regime Group V, meaning that fires occur more than 200 years apart, but have high severity in stand replacement after a fire. These areas typically consist of creosotebush/ bursage, paloverde/ mixed cactus, and salt desert scrub. Areas east of the Enterprise Canal, including the Fred J. Weiler Greenbelt, are categorized as Fire Regime Group IV, in which fires occur every 35-100+ years, with a high departure from “normal” vegetation communities and fire frequency. Because of the infrequency and short duration of ephemeral grazing, fuels and wildland fire management would not be affected by any of the alternatives.

3.3 Resources Brought Forward for Analysis

The following sections contain descriptions of the elements that were determined to be potentially impacted by the alternatives and were therefore carried forward for detailed analysis in this document. The description of the resources identified below provides the baseline for comparison of impacts described in Chapter 4.

3.3.1 Grazing Management

- *How will forage allocations be set for ephemeral grazing?*
- *How can the livestock operators more effectively manage livestock so that they don't damage resources along the canal and river?*
- *Where would livestock grazing likely occur on the allotment, given the parameters of the proposed terms and conditions and locations of water sources, including the proposed water haul sites, the Enterprise Canal and the allotment's base waters?*

Current permit terms and conditions are described above in Section 2.1, *No Action Alternative*. Because this allotment is an ephemeral allotment, grazing would be approved pursuant to the Special Ephemeral Rule, which states that when forage becomes available, the lessee must file an

application and include the desired number of livestock and period of use. BLM staff would monitor the rangeland condition and potential for continued soil moisture and forage growth before permitting livestock use. The BLM would be responsible for determining the appropriate levels and management strategies for livestock grazing in this allotment. Livestock grazing would be authorized in a manner that maintains achievement of land health standards, and to achieve resource condition objectives, in conformance with the Lower Sonoran RMP.

The BLM does not control adjacent private lands owned by the permit holders or State Trust Lands. Arizona is an Open Range and “fence out” state, meaning that private landowners are responsible for fencing their own property to prevent livestock from trespassing. Except for some private inholdings along Enterprise and Pierpoint Roads, the majority of private lands in the allotment are held by the grazing lessee.

Under the terms and conditions of the Proposed Action, it is the lessee’s responsibility to repair and maintain fences before turning livestock onto the allotment. Further, a grazing permit is permitted with the intent that the lessee 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. If inappropriate grazing should occur, then the BLM would work with the permittee to identify and prescribe actions to be taken that would return the allotment to compliance.

The rangeland health evaluation for the Hazen-Shepard Allotment (Appendix A) indicates that the allotment is currently meeting rangeland health objectives and standards as defined by the S&Gs (BLM 1997); however, the proposed temporary water hauls would change livestock distribution away from sensitive areas near the Gila River and ACEC and into less sensitive uplands in years of ephemeral grazing use.

Chapter 2 describes the Proposed Action, including the placement of temporary waters and permitted stocking rates during ephemeral authorization. Two potential water haul sites along Citrus Valley Road were visited and discussed during the allotment tour with the permittee as being the most feasible locations for placement of troughs to which to haul water because these sites are adjacent to a well-established road and are already disturbed. Furthermore, they are centrally located in the part of the allotment best-suited for livestock grazing. Chapter 4 delineates the areas of expected livestock use under the Proposed Action and No Action Alternatives and the potential impacts from the three alternatives.

3.3.2 Wildlife and Special Status Species

- *The Enterprise Canal and the base waters provide important fish, wildlife, and migratory bird habitat. How would wildlife species and habitats, particularly Threatened, Endangered, and Special Status Species, be protected from impacts from livestock grazing throughout the allotment? Specifically, how would species like the Yuma clapper rail, southwestern willow flycatcher, yellow-billed cuckoo, desert bighorn sheep and Sonoran desert tortoise be effected by ephemeral livestock grazing?*
- *How would ephemeral livestock grazing impact Special Designations in the allotment, such as the Lower Gila River Terraces and Historic Trails ACEC, the Fred J. Weiler Greenbelt, and the Woolsey Peak Wilderness Area, and the natural resource values for which they were designated?*

This section describes special status wildlife species including federally-listed, BLM sensitive, and State sensitive species that have the potential to be present within the Hazen-Shepard Allotment. General wildlife also is discussed in the context of management actions that could be taken to prevent impacts to them or their habitat should ephemeral grazing be permitted on the allotment.

- **Wildlife Habitat Area:** The 255,700-acre Gila Bend Mountains Wildlife Habitat Area (WHA) was established in the 2012 RMP “to encourage habitat availability and diversity for wildlife resources so habitats are maintained and/or improving within WHAs, where priority species would receive focus when analyzing activities and projects” (USDI BLM 2012b, p. 2-40). A WHA is an area that offers feeding, roosting, breeding, nesting, and refuge areas for a variety of wildlife species native to an area. The WHA encompasses 21,923 acres of the Hazen-Shepard Allotment (see Figure 3).
- **Wildlife Corridors:** The 2012 Lower Sonoran RMP established parameters and objectives to develop and protect the wildlife corridors in the resource area” (USDI BLM 2012b, p. 2-49). Approximately 3,893 acres of the Gila Bend-Sierra Estrella Wildlife Corridor is present within the Hazen-Shepard Allotment (see Figure 3). It provides a corridor between the Gila Bend Mountains, eastward across the Gila River, to the North Maricopa Mountains. Although not within allotment boundaries, other wildlife corridors link the Gila Bend Mountains to other neighboring mountain ranges, as well.

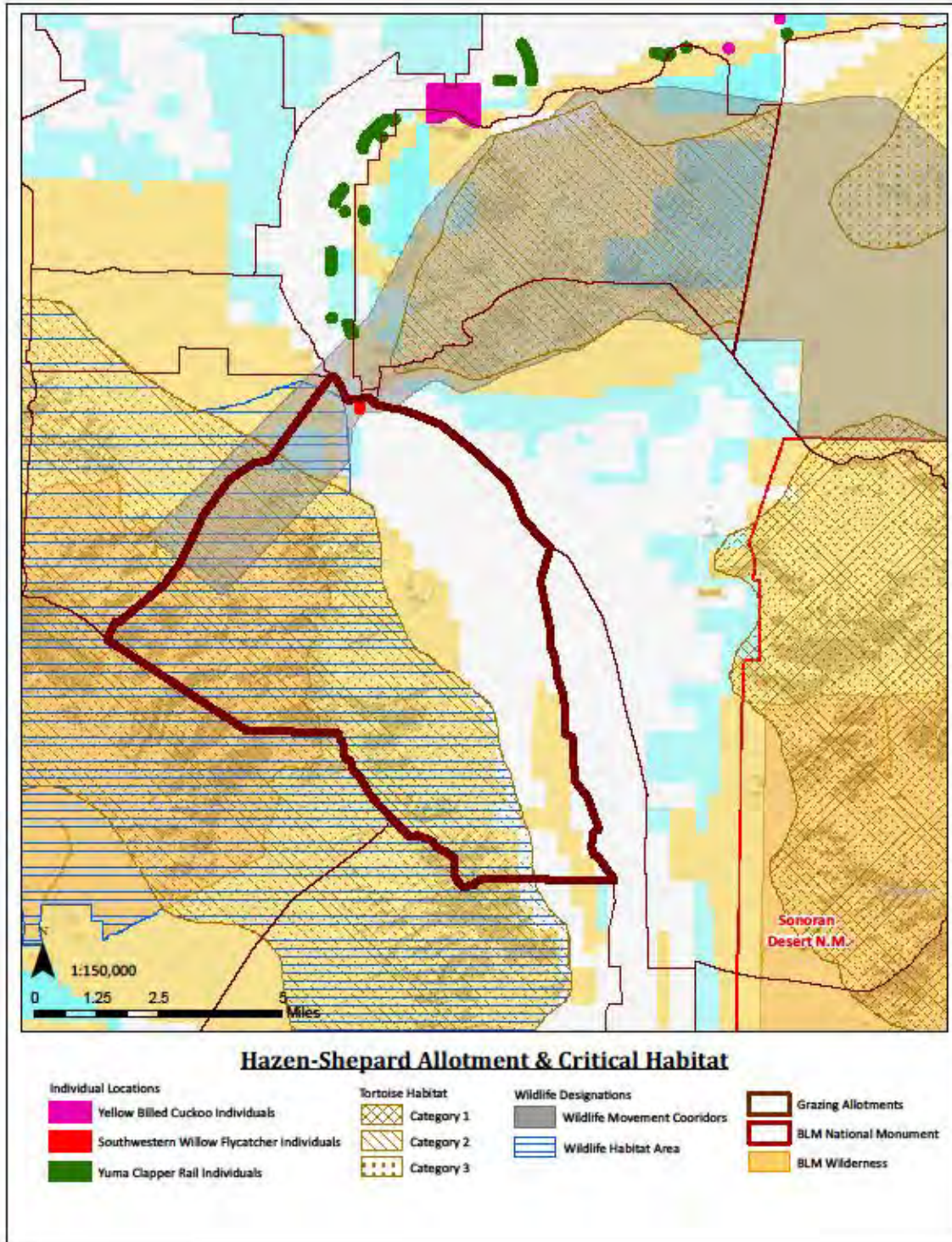


Figure 3. Recorded wildlife locations, critical habitat, and wildlife corridors

- **USFWS Listed or Candidate Species**

Wildlife species that are listed, or candidates for listing, as threatened or endangered by the USFWS under the provisions of the Endangered Species Act (ESA) and that occur or potentially occur within the Hazen-Shepard Allotment were identified through the USFWS Arizona Ecological Service Office website on September 14, 2011 (USFWS 2011). These include the southwestern willow flycatcher (*Empidonax traillii extimus*), and the Yuma clapper rail (*Rallus longirostris yumanensis*). Two candidate species also occur or potentially occur within the allotment and include the yellow-billed cuckoo (*Coccyzus americanus*) and the Sonoran desert tortoise (*Gopherus agassizii*).

A Biological Assessment was conducted in July 2013 to analyze the effects of the Proposed Action on listed or candidate species. A determination was made that the Proposed Action or the alternatives would have “No Effect” on individuals or designated critical habitat of the following ESA species:

- **Southwestern Willow Flycatcher.** The southwestern willow flycatcher is a small (5.75 inches), olive-colored or grayish-brown, neotropical migratory bird that is federally listed as an endangered species. This flycatcher is a riparian obligate species found throughout the Southwest, where it breeds in dense riparian habitats along rivers, streams, or wetland areas where trees and shrubs are adjacent to or near surface water.

Throughout its range, the southwestern willow flycatcher has shown both historic and recent population declines. The most significant factor in the cause of these declines is the extensive loss, fragmentation, and adverse modification of riparian breeding habitat, particularly cottonwood-willow associations (Katibah 1984; Johnson et al. 1987; Unitt 1987; USFWS 1995b). These losses have occurred in connection with urban and agricultural development, fire, water diversion and impoundment, channelization, livestock grazing, off-road vehicle use and recreation, replacement of native habitats by introduced plant species, and hydrological changes resulting from these and other land uses (USFWS 1993; Tibbitts et al. 1994). Brood parasitism by the brown-headed cowbird (*Molothrus ater*) is another major threat to the southwestern willow flycatcher (Brown 1988; Sogge 1995a and 1995b; USFWS 1993 and 1995; Whitfield and Strong 1995).

Currently, there are approximately 430 pairs of southwestern willow flycatchers documented at 37 sites within Arizona. The Arizona Game and Fish Department (AGFD) has conducted periodic flycatcher surveys along the Gila River since 2002. One flycatcher was detected once in 2002 in a thin strip of salt cedar that was judged to be marginal habitat. No southwestern willow flycatchers have been detected in the area since that time (AGFD unpublished). Potential southwestern willow flycatcher habitat occurs on private land and approximately 125 acres of public land near the Gillespie Dam on the northern end of the Hazen-Shepard Allotment (Figure 3). No critical habitat for the southwestern willow flycatcher occurs in the allotment.

- **Yuma Clapper Rail.** The Yuma Clapper Rail is a chicken-sized bird about 14 inches long. It was listed as endangered (32 FR 4001, March 11, 1967) without critical habitat. It is a marsh bird with long legs and a short tail. Its bill is long, slender, and curved downward slightly. Its anterior coloration is mottled brown with a gray background. Its

flanks and underside are dark gray with narrow vertical white stripes that produce a barred effect.

Associated with dense riparian and marsh vegetation, the Yuma Clapper Rail inhabits freshwater or brackish stream sides and marshlands under 4,500 feet in elevation. It requires a wet substrate, such as a mudflat, sandbar, or slough bottom that supports cattail and bulrush stands of moderate to high density adjacent to shorelines.

The Yuma Clapper Rail is known to occur along the Colorado River (Yuma, La Paz, and Mohave counties, Arizona), from Lake Mead to Mexico; on the Gila and Salt rivers upstream to the area of the Verde confluence (Maricopa and Pinal counties, Arizona); at Picacho Reservoir (Pinal County, Arizona); and on the Tonto Creek arm of Roosevelt Lake (Gila County). Potential rail habitat occurs on private land near the Gillespie Dam on the northern end of the Hazen-Shepard Allotment (Figure 3).

- **Yellow-Billed Cuckoo.** The western yellow-billed cuckoo is a medium sized neotropical migratory bird considered a proposed species by the USFWS. On October 3, 2013, the species was proposed for listing as threatened.

As recently as the 1990s, cuckoo pairs were observed along the Gila River in Maricopa County (Corman 2005). In 1999, 168 pairs and 80 single birds were located in Arizona, based on preliminary results from a statewide survey that covered 265 miles of river and creek bottoms (USFWS 2004). From these results, it is evident that cuckoo numbers in 1999 are substantially less than some previous estimates for Arizona, including a 1976 estimate of 846 pairs for the lower Colorado River and five major tributaries (Groschupf 1987). According to information in the Heritage Data Management System (HDMS), there has not been a single detection of yellow-billed cuckoos in the Lower Sonoran RMP Planning Area. Nevertheless, historical observations on the northern portions of the Hazen-Shepard Allotment, on private lands, near the Gillespie Dam suggest that this species could be present in or near the allotment in the river corridor.

The yellow-billed cuckoo historically ranged from southern British Columbia to northern Mexico (Bent 1940). Arizona is believed to contain the largest remaining population of yellow-billed cuckoos. Breeding pairs are found in south, central, and extreme northeast Arizona. Within the allotment, cuckoos may be found in riparian woodlands, particularly along the Salt and Gila rivers (Corman 2005).

Habitat loss, degradation, and fragmentation from groundwater pumping, surface-water impoundment, agricultural and urban conversion, invasive species, and overgrazing are the main threats to survival of the western yellow-billed cuckoo (USFWS 2001).

Fragmentation effects include the loss of patches large enough to sustain local populations, leading to local extinctions and the potential loss of migratory corridors affecting the birds' ability to recolonize habitat patches (Hunter 1996). Losses have been greatest at lower elevations (below about 3,000 feet) along the Lower Colorado River and its major tributaries, which have been strongly affected by upstream dams, flow alterations, channel modification, and clearing of land for agriculture (Groschupf 1987).

- **Sonoran Desert Tortoise.** The Sonoran population of desert tortoise includes tortoises south and east of the Colorado River in Arizona and extends south into Mexico. In

December 2010, the Sonoran population was added to the USFWS's candidate species list (FR Vol. 75, No. 239, page 78094). The Sonoran population is vulnerable to habitat loss and degradation, habitat fragmentation, genetic contamination, collection, and disease (AGFD 1996). The BLM has a disproportionate responsibility for the conservation of desert tortoise because the agency manages the majority of desert tortoise habitat across the species' entire range (BLM 1990). To address its management responsibilities, the BLM has developed a management plan for desert tortoise on public lands and a strategy for carrying out the plan in Arizona, *Strategy for Desert Tortoise Habitat Management on Public Lands in Arizona: A Rangewide Plan* (BLM 1990).

The BLM characterizes tortoise habitat on their managed lands into three categories. Category I desert tortoise habitat includes habitat that is necessary to maintain populations with the highest densities, which are stable or increasing, and experiences the fewest conflicts with current land uses. Category II habitats may support stable populations and/or are contiguous with medium to high-density habitat. Category III habitats are the least manageable and contain medium to subpar habitats; however, these areas do exist between Category I and II habitats and should be managed for dispersal between Category I and II habitats. The goal of the BLM is to maintain stable and viable populations with no net loss of habitat in Category I and II habitats and to limit population declines to the extent possible in Category III habitats by mitigating impacts.

The habitat preference for the Sonoran populations of the desert tortoise consists of palo verde-mixed-cacti vegetation communities on rocky or bouldery slopes below 4,000 feet in elevation. Approximately 20,726 acres have been identified Category II desert tortoise habitat across much of the western extent of the Hazen-Shepard Allotment (Figure 3 above). The majority of this habitat occurs on the rugged and rocky slopes that comprise the Woolsey Peak Wilderness Area where tortoises are free from most human impacts and associated disturbance. The rugged terrain and lack of water in this area also limits livestock use in the area during ephemeral grazing events.

Surveys of minor washes and upland key areas within the area of expected use during spring and summer 2013 did not detect individuals, caliche caves, or other burrow features of sufficient depth likely to be used by tortoises. Based on physical terrain attributes, the most suitable tortoise habitat on the Hazen-Shepard Allotment is associated with the Woolsey Peak Wilderness.

- **BLM Sensitive Species and General Wildlife**

BLM sensitive species require special management consideration to avoid potential future listing under the ESA. State sensitive species, that is, "species of greatest conservation need" as identified by the AGFD, are species that are critically imperiled, imperiled, or vulnerable to rangewide extinction or extirpation. All of the State sensitive species in this report are also BLM sensitive species and thus are discussed together. General wildlife species are also present within the Hazen-Shepard Allotment and may be impacted by the action alternatives. In most cases, actions that impact sensitive species may also impact general wildlife species and thus are not discussed separately from BLM sensitive species. With the exception of the federally listed, proposed, and candidate species discussed above, the main groups of priority and general wildlife species are discussed below and include birds, reptiles and amphibians, game and other

species of interest, bats, and fish. Wildlife linkage areas, specifically the Gila Bend – Sierra Estrella Wildlife Corridor, are also discussed.

- **Migratory Birds.** All migratory birds receive protection under the Migratory Bird Treaty Act, while Executive Order (EO) 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds, signed in January 2001) requires the BLM to evaluate the effects of Federal actions on migratory birds. In addition, Instruction Memorandum (IM 2008-050 (Migratory Bird Treaty Act: Interim Management Guidance) provides interim guidance to enhance coordination and communication toward meeting the BLM's responsibilities under the Migratory Bird Treaty Act and EO 13186. Such guidance establishes a consistent approach for addressing migratory bird populations and habitats when adopting, revising, or amending land use plans and when making project-level implementation decisions until a national Memorandum of Understanding (MOU) with the USFWS is established.

There are approximately 450 non-game bird species native to Arizona, with about 291 species documented as breeding in the State. Of the breeding species, 237 are neotropical migrants, or birds that breed in the United States or Canada and winter to the south, from Mexico to South America. While a migratory bird inventory has not been completed, 163 of Arizona's neotropical migrants are known to nest in the Lower Sonoran RMP Planning Area regularly or irregularly (AGFD 2001). Such species depend on quality habitats containing adequate substrate and cover for nesting purposes, as well as diverse vegetation to supply food for brood rearing. The Lower Sonoran RMP Planning Area contains breeding, nesting, brood rearing, and wintering areas, as well as migration routes that are important for migratory birds. The agricultural and irrigated lands on the private lands on the east side of the Hazen-Shepard Allotment provide suitable habitat for a number of migratory birds including the BLM sensitive great egret (*Ardea alba*) and the snowy egret (*Egretta thula*) which use the irrigated areas for foraging.

- **Reptiles and Amphibians**

In addition to desert tortoise, a variety of other reptiles may be present in or near the Hazen-Shepard Allotment including rosy boas (*Lichanura trivirgata*), chuckwallas (*Sauromalus ater*), sidewinders (*Crotalus cerastrus*), and desert iguanas (*Dipsosaurus dorsalis*). The general lack of open water in the allotment, except along the Gila River in the eastern portion of the allotment or at Moody Spring on the western portion, severely limits habitat for amphibians, which require wetland sites or ponds for at least part of their life cycle. These areas support priority amphibian species such as the Sonoran green toad (*Bufo retiformis*), Great Plains narrow-mouthed toad (*Gastrophryne olivacea*), and Sonoran Desert toads (*Bufo alvarius*). Some portions of the Gila River are perennial and provide habitat for amphibians, including the non-native bullfrog.

Amphibian populations have seen dramatic declines worldwide. Disease, drought, environmental pollution, invasive species, and habitat loss appear to be the primary contributors to the decline of amphibians. Reptile populations are subject to habitat loss, direct mortality from vehicle traffic, drought, disease, and collection. Specific

trend information for reptiles and amphibians is not available for the Hazen-Shepard Allotment. Protection of valley bottoms, vegetation structure, and rocky substrates could potentially maintain healthy reptile and amphibian populations.

- **Game and Other Species of Interest**

The Hazen-Shepard Allotment lies in AZGF Game Management Unit 39 of the Middle Gila Watershed. There are no Public Land Order (PLO) 1015 lands within the allotment. The following species are present in varying numbers in the Lower Sonoran RMP Planning Area and may be present in or near the Hazen-Shepard Allotment.

- **Small Game Species.** In Arizona, small game species include but are not limited to small mammals, upland game birds, and migratory game birds. Common small-game species on public lands in the Lower Sonoran RMP Planning Area include cottontail rabbits (*Sylvilagus audubonii*), Gambel's quail (*Callipepla gambelii*), mourning dove (*Zenaida macroura*), and white-winged dove (*Z. asiatica*).
- **Furbearers and Predators.** Furbearers in the Lower Sonoran RMP Planning Area include but are not limited to raccoons (*Procyon lotor*), ringtail cats (*Bassariscus astutus*), and bobcats (*Lynx rufus*). Bobcats are also grouped with predators along with coyotes (*Canis latrans*), gray foxes (*Urocyon cinereoargenteus*), striped and spotted skunks (*Mephitis mephitis* and *Spilogale putorius*), and badgers (*Taxidea taxus*).
- **Big Game Animals.** Big game animals found on public lands in the Lower Sonoran RMP Planning Area include desert bighorn sheep (*Ovis canadensis mexicana*), javelina (*Pecari tajacu*), mountain lion (*Puma concolor*), mule deer (*Odocoileus hemionous crooki*), and white-tailed deer (*O. virginianus couesi*). Bighorn sheep, javelina, and mule deer are all hunted in Game Management Unit 39.
- **Bighorn Sheep.** Bighorn sheep typically are found in dry, inaccessible mountainous areas in foothills near rocky cliffs and seasonally available water sources. Bighorn sheep disperse between mountain ranges and most often are observed crossing during cooler weather (Monson and Sumner 1980). Wildlife movement corridors between mountain ranges are an important habitat and genetic diversity component for bighorn sheep and other wildlife in the Lower Sonoran RMP Planning Area. The BLM participates with the AGFD and other agencies in the ongoing effort of identifying appropriate linkage corridors to allow the management of multiple resource uses and fragmented land parcels in such a way as to facilitate movements of wildlife and aid in maintaining genetic diversity.

The BLM published an ecosystem-management strategy for desert bighorn sheep habitat on public lands (BLM 1995). Guidelines set forth in the Rangewide Plan (BLM 1988, 1995) include providing maximum habitat protection to lambing grounds, migration routes, mineral licks, and permanent water sources. The guidelines also propose fencing standards requiring mitigation plans and surface use stipulations, supporting habitat enhancement projects, research, and outreach in bighorn sheep habitat.

- **Bats.** Bat species are considered sensitive species in Arizona and are best protected by conserving roosting sites and foraging areas. Although little information is available specifically for bats, a number of bat species occur on or near public lands in the Lower Sonoran RMP Planning Area. Mines and natural caves, as well as crevices associated with cliffs, provide potential roosting habitat for bats. Bats may also roost on trees, beneath loose tree bark, under bridges, and in open buildings. The big brown bat (*Eptesicus fuscus*), cave myotis (*Myotis velifer*), occult little brown bat (*Myotis lucifugus occultus*), California leaf-nosed bat (*Macrotus californicus*), pallid bat (*Antrozous pallidus*), western pipistrelle (*Pipistrellus hesperus*), and fringed myotis (*Myotis thysanodes*) are most likely to inhabit public lands. Of these, the cave myotis and California leaf-nosed bat are most likely to be found in or near the Hazen-Shepard Allotment.

3.3.3 Soils

- *How would ephemeral livestock grazing effect resources such as soils (including cryptogamic soil crusts) and vegetation?*

The Hazen-Shepard Allotment is located in the Major Land Resource Area (MLRA) 040—Sonoran Basin and Range. The soil survey for this area is the Gila Bend-Ajo Area, Arizona, Parts of Maricopa and Pima Counties (AZ653). Many soils comprise the allotment, but the dominant soils include: Gunsight-Cipriano complex, 1 to 15 percent slopes; Gunsight-Rillito-Carrizo complex, 1 to 15 percent slopes; Quilotosa-Momoli-Carrizo complex, 1 to 15 percent slopes; and Quilotosa-Rock outcrop complex, 15 to 55 percent slopes.

Soils of the Hazen-Shepard Allotment are described in detail in the RHE (Appendix A). As described in the RHE, soils and ecological sites on the Hazen-Shepard Allotment were determined to be achieving Standard 1, Upland Sites: *Upland sites exhibit infiltration, permeability, and erosion rates that are appropriate to the soil type, climate and landform (ecological site)*. Rangeland health assessments indicate that the upland soils at each of the key areas (study sites) exhibit infiltration, permeability, and erosion rates that are appropriate to the soil type, climate and landform (ecological site). Each key area has appropriate canopy cover for its ecological site, and soil-related indicators such as cryptogamic crusts, flow patterns, bare ground, soil and litter movement, and soil compaction, etc. are appropriate for each site.

Ecological sites that are dominant within the Hazen-Shepard Allotment include: Sandy Wash, Limy Upland/Limy Upland Deep, Granitic Hills, Basalt Hills, and Loamy Bottom. The average annual precipitation for the area is 7.09” (see climate information above); some areas of the allotment are in a transition zone between precipitation zones (3-7” p.z. and 7-10” p.z.). Thus, elevation, slope and aspect of individual areas determine the vegetative capability of the soils. For example, at 1,003 feet, the elevation of Key Area 2 gives it characteristics of both the 3-7” p.z. and the 7-10” p.z. ecological sites, while ecological site characteristics at Key Areas 1 and 3 are more indicative of the 3-7” precipitation zone.

Ecological sites and soil delineations, with any areas of potential impacts from livestock grazing, are shown in Chapter 4.

3.3.4 Vegetation

- *How would ephemeral livestock grazing effect resources such as soils and vegetation?*

The BLM-managed portion of the Hazen-Shepard Allotment is generally characterized as a foothills paloverde/creosotebush/ triangle bursage association. These upland areas west of the Gila River are primarily a creosotebush/bursage community, while the more mountainous areas of the western portion of the allotment are predominantly a mixed paloverde/cacti community. Vegetative density is relatively low across the allotment, except in the bottomlands/washes which are dominated by mesquite and catclaw acacia with an understory of annual forbs and grasses (Figure 4). Annuals are also present in the uplands, but they are not as abundant as they are in the bottomlands. The eastern portion of the allotment, which is primarily privately-owned, contains riparian deciduous woodlands and saltbrush communities, as well as large areas that are in agricultural production.

The different vegetation types on the allotment are related to the variety of ecological sites present. An ecological site is a distinctive kind of land with specific physical characteristics that differs from other kinds of land in its ability to produce a distinctive amount and kind of vegetation (NRCS 2003). The distinctive plant communities associated with each ecological site (including the variability which frequently occurs) can be identified and described, and are called ecological site descriptions.

One of the ways the BLM measures range condition, or ecological condition, is by the degree to which the existing vegetation of a site is different from the Potential Natural Community (PNC) for the respective ecological site, as identified in the ecological site description. Key area study sites were selected to monitor the impacts of livestock grazing across a certain area, reflect the current grazing management over similar areas in the allotment, and serve as representative samples of range condition, trend, forage use and plant production. Desired Plant Community (DPC) objectives have been developed for each key area, using the ecological site description as a guide to compare PNC with on-site conditions. DPC objectives then become the objective by which management actions would be measured. Key areas, and corresponding DPC objectives, were established for the Hazen-Shepard Allotment and are described in the RHE.

After consultation with the permittee to determine appropriate locations for water hauls during ephemeral authorizations, it was determined that Key Area 3, located approximately 0.2 miles from either of the two proposed water haul sites, would no longer meet the criteria for a key area (see Hazen-Shepard RHE, p. 35, for key area criteria). Therefore, an alternate Sandy Wash key area would be established for future rangeland monitoring. However, Key Area 3 will be converted to a utilization monitoring site to assess utilization during ephemeral authorizations. At approximately 0.6 miles from the proposed water hauls, Key Area 1 will still serve as a key area to monitor effects of livestock use on uplands within the Area of Expected Use.

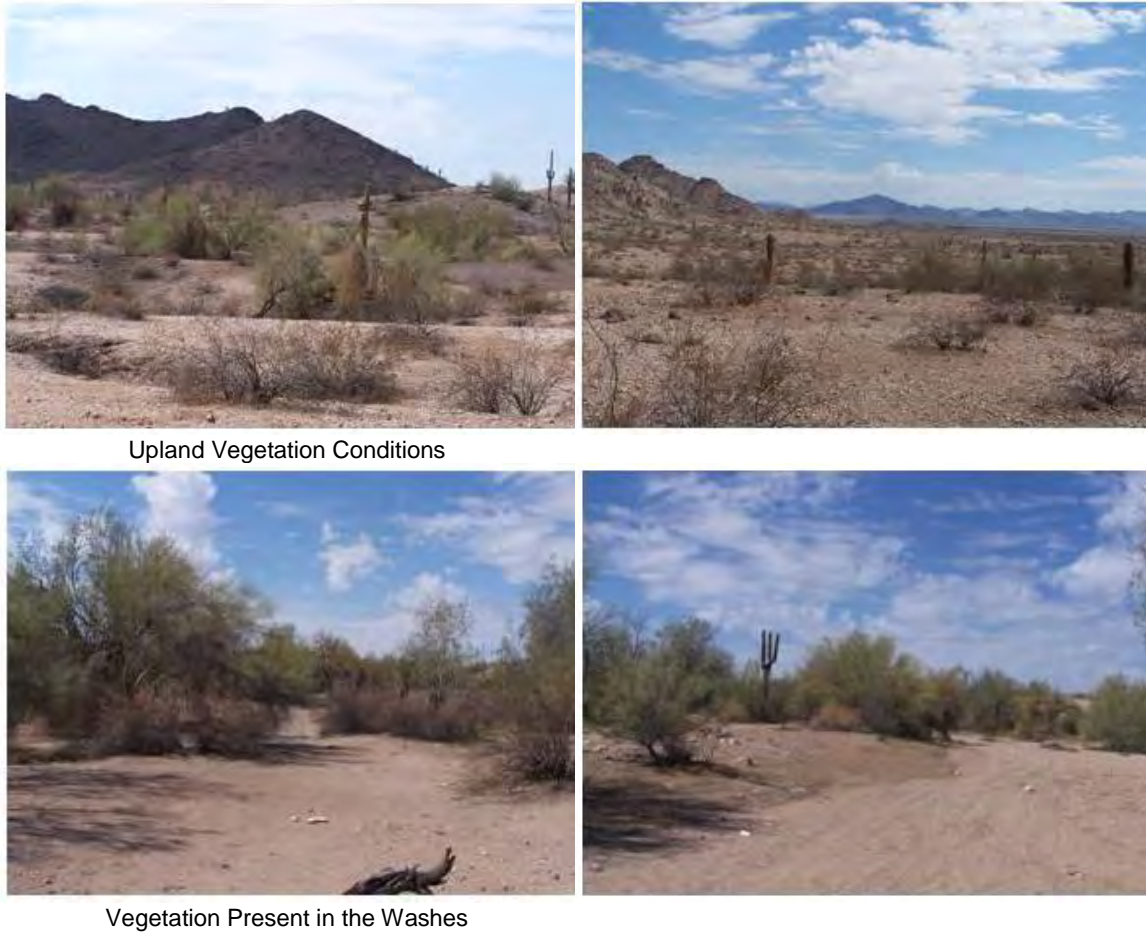


Figure 4. Representative vegetation in areas of expected livestock use

Based on allotment monitoring, all DPC objectives for Hazen-Shepard were achieved, and all key areas appeared to be at or near Potential Natural Community (PNC), which represents the full potential for a vegetation community. Furthermore, all key areas within the allotment were determined to be achieving Standard 3 for upland native plant communities: *Productive and diverse upland and riparian-wetland plant communities of native species exist and are maintained*. Plant community structure and distribution were appropriate for each ecological site. Data collected and analyzed from each study site demonstrated that the areas were productive and diverse. Details of the analysis are found in the RHE (Appendix A)

There are no plants protected under the Endangered Species Act-protected plants known to exist within the allotment boundary.

Vegetative communities of the allotment, and any areas of potential impacts from livestock grazing, are shown in Chapter 4.

3.3.5 Special Designations

- *How would ephemeral livestock grazing impact the resource values for which the Lower Gila River Terraces and Historic Trails ACEC, the Fred J. Weiler Greenbelt, and the Woolsey Peak Wilderness Area were designated?*

3.3.5.1 The Fred J. Weiler Greenbelt Resource Conservation Area (RCA)

The Fred J. Weiler Greenbelt RCA was established in the lands along the Gila River in 1970. These lands were allocated for management of wildlife, recreation, and cultural resources. Within the Lower Sonoran Field Office, there are 45,978 acres of land along the river that are designated as part of the RCA. Approximately 1,500 of those acres are located in the southeast portion of the Hazen-Shepard Allotment. Vegetation within the Fred J. Weiler Greenbelt fits the description of a dry wash area (Figure 5). This area provides habitat for wildlife but is closed to livestock grazing.



Figure 5. The Fred J. Weiler Greenbelt on the Hazen-Shepard Allotment.

3.3.5.2 Lower Gila Terraces and Historic Trails ACEC

Cultural and heritage resources within the Lower Sonoran Field Office area represent evidence of more than 10,000 years of human occupation of the region. The majority of the cultural resources on public lands are archaeological sites reflecting both pre-Columbian and post-contact occupation (USDI BLM 2012a).

The Lower Gila Terraces and Historic Trails Area of Environmental Concern (ACEC), which encompasses eastern portions of the allotment, was created by BLM in 2012 to provide additional protection of cultural and wildlife resources in the floodplains and bluffs along the Gila River. An ACEC is a designated area on public lands where special management attention is required (1) to protect and prevent irreparable damage to fish and wildlife; (2) to protect important historic, cultural, or scenic values, or other natural systems or processes; or (3) to protect life and safety from natural hazards.

On the Hazen-Shepard Allotment, approximately 9,955 acres make up the ACEC, with 5,574 acres on BLM-administered lands. This includes lands within the Fred J. Weiler Greenbelt, which contain Native American habitation sites of “major historic or cultural significance” (43 CFR 2071.2 1971).

Potential effects of livestock grazing in this ACEC are described in Chapter 4.

3.3.5.3 Woolsey Peak Wilderness Area

In 1990, approximately 925,000 acres of wilderness were designated in Arizona as a result of the Arizona Desert Wilderness Act (Public Law 101-628). Approximately 8,485 acres of the 64,456-acre Woolsey Peak Wilderness Area lies within the Hazen-Shepard Allotment. Specific management guidance for this area is provided in the Woolsey Peak Wilderness and Signal Mountain Wilderness Management Plan (BLM 2003). The Wilderness Act allows livestock grazing and necessary facility maintenance to support a livestock operation to continue when established prior to the Wilderness designation.

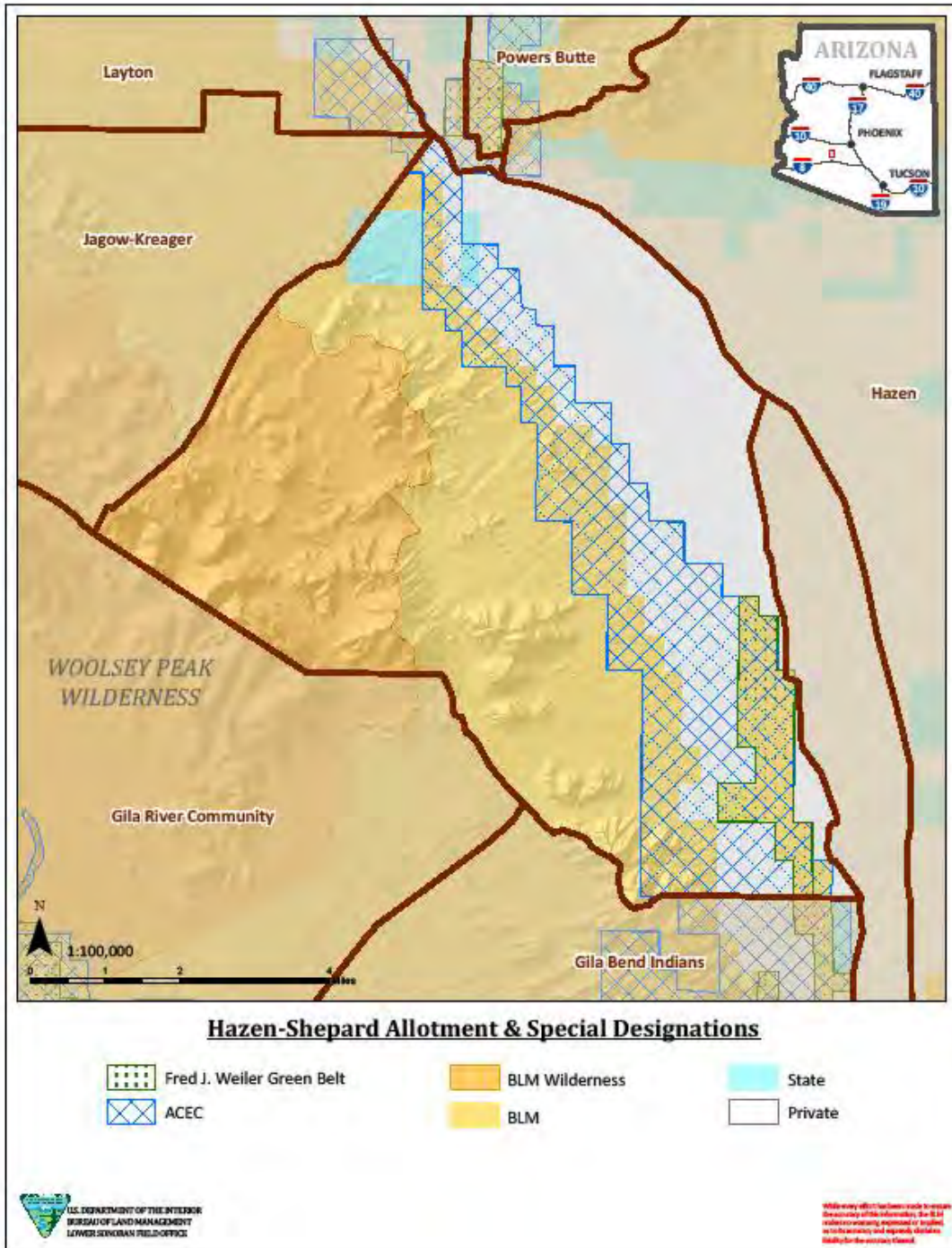


Figure 6. Special Designations on the Hazen-Shepard Allotment

4. ENVIRONMENTAL IMPACTS

The potential direct, indirect, and cumulative environmental consequences or effects of the alternatives are discussed in this chapter. Direct and indirect effects are discussed first by resource and cumulative effects are discussed at the conclusion of this chapter.

Methodology for analysis:

To quantify potential effects of the Proposed Action and the No Action Alternatives on various resources, an “area of expected livestock use” polygon was created for both alternatives using a Geographic Information System (Figures 7 and 8). Studies by Ganskopp (2006), Bailey et al. (2004), Holochek et al. (2001), and Bailey (2004) indicate that livestock tend to range between 0.25 and 0.75 miles from water sources in arid environments and prefer slopes between 0 and 30% (Bailey et al. 2004). Due to a lack of site-specific information, we conservatively expanded our area of expected use by 2.5 times the greatest distance (0.75 mile). By expanding our “area of expected use” polygon to 2.5 times that of the greatest distance observed in arid environments we expect it to; a) encompass the area of environmental effects related to livestock grazing on the Hazen-Shepard Allotment on an ephemeral basis; b) address effects at key areas, which are typically established approximately 1 mile from a water source to monitor livestock effects on resources; and c) provide a sufficient buffer to account for the potential increase in livestock distribution during relatively cool winter season use. The “expanded” area of use, with rounding, is 2.0 miles.

In GIS, the 2-mile buffer was digitally delineated around the water sources to determine the area of expected use and potential impacts from livestock grazing. The buffer factors in fence lines along Enterprise Road, the allotment boundary fence, and slopes greater than 30% that form natural barriers to livestock movement. While in some years of ephemeral use cattle may wander further than the 2 mile area of expected use, the buffer is expected to generally demarcate grazing effects on the Hazen-Shepard Allotment.

For the Proposed Action Alternative, the area of expected livestock use is a 2-mile buffer centered on 2 potential water haul sites along Citrus Valley Road. These sites were discussed during the allotment tour with the permittee as being the most feasible locations for placement of troughs to which to haul water because these sites are along a well-established road and are already disturbed. Furthermore, they are centrally located in the part of the allotment best-suited for livestock grazing. For the Proposed Action Alternative, this creates an area that encompasses 4,224 acres, or 12% of the entire allotment, in which potential impacts from livestock grazing are most likely to occur. Impacts from livestock grazing would be expected to occur most heavily within 0.25 miles from the water haul sites out to approximately 0.75 miles from the water source (Holechek 2001, Bailey et al 2004). Impacts from livestock would decrease with increased distance from the troughs and an increase in slope. Because this buffer is 2.5 times that of the greatest distance from water traveled by cattle studied in arid environments, it is expected that any impacts to resources outside of that 2-mile buffer would be negligible.

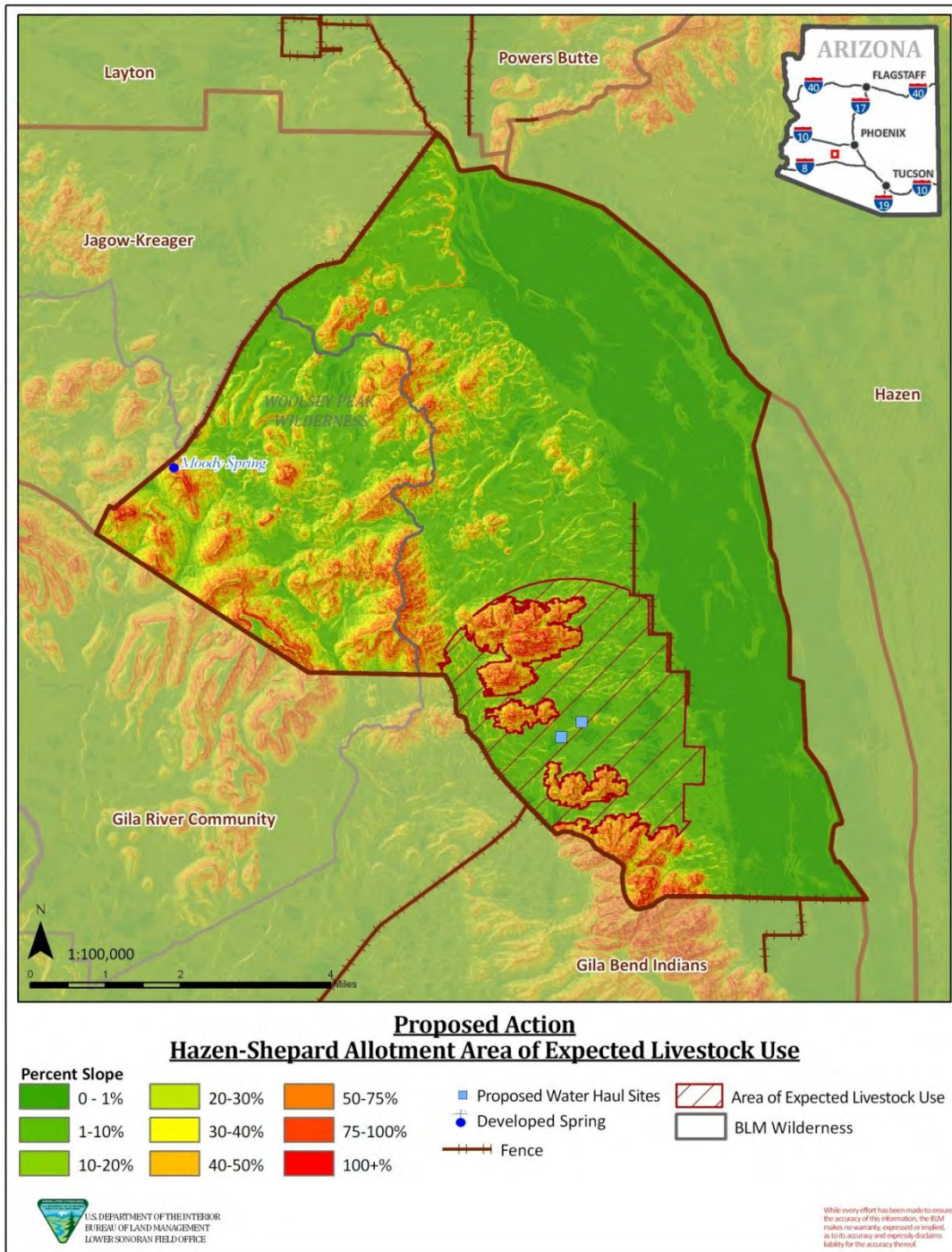


Figure 7. Area of Expected Livestock Use for the Proposed Action Alternative

For the No Action Alternative, the area of expected use is adjacent to and west of the Enterprise Canal, which would serve as the water source for livestock. Under the No Action Alternative, the area of expected use encompasses 9,557 acres, or 28% of the entire allotment, in which potential impacts from livestock grazing are most likely to occur. Impacts would be expected to occur

most heavily along the length of the canal and in the bottomlands along Enterprise Road out to approximately 0.75 miles from the water source (Holechek 2001, Bailey et al 2004). Impacts from livestock would decrease with increased distance from the canal and an increase in slope.

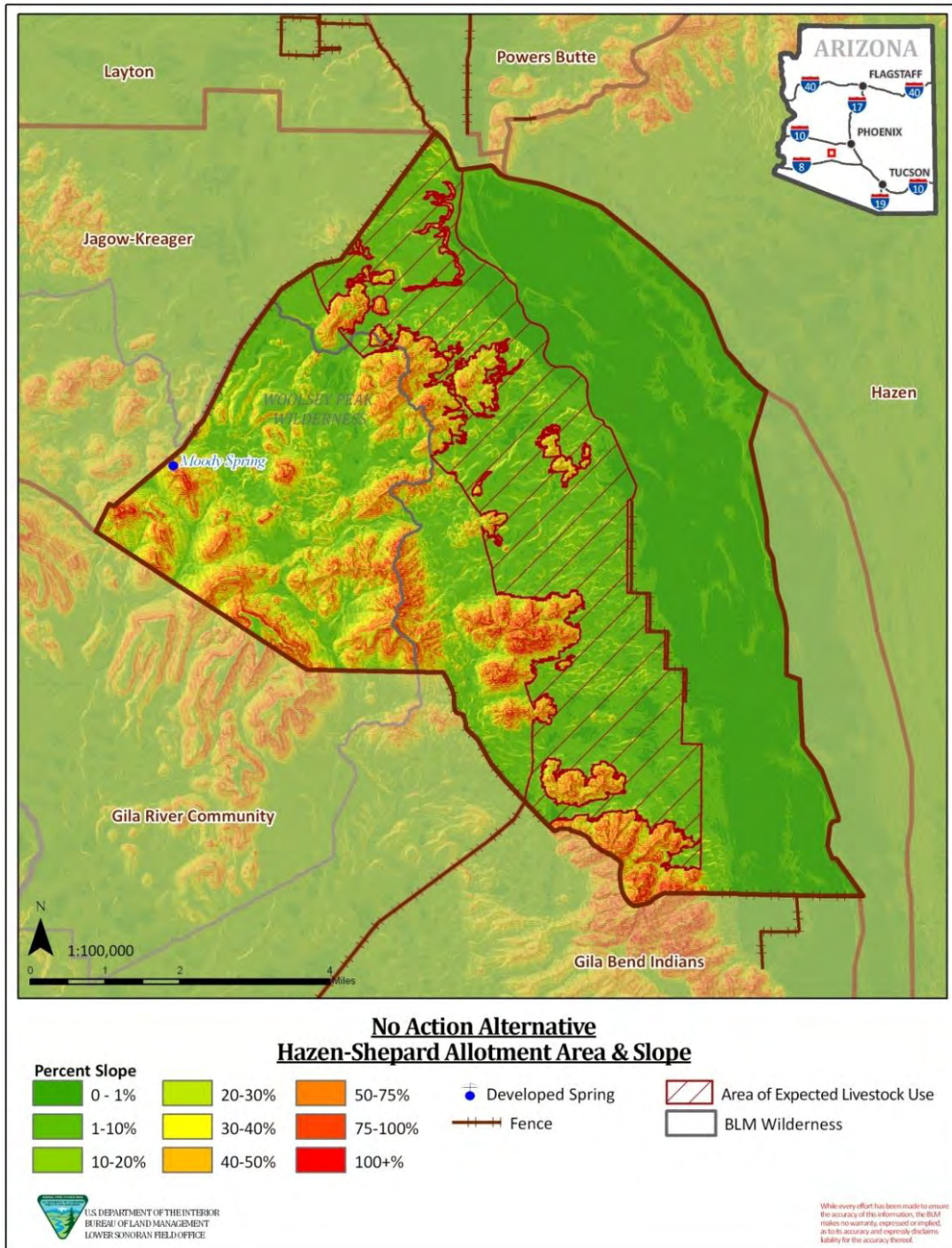


Figure 8. Area of Expected Livestock Use for the No Action Alternative

There would be no area of expected livestock use with the No Grazing Alternative because livestock would not be permitted to graze on the allotment. Therefore, there are no tables or figures depicting this alternative.

4.1 Grazing Management

- *How would forage allocations be set for ephemeral grazing?*
- *How can the operators more effectively manage livestock so that livestock don't damage resources along the canal and river?*
- *Where would livestock grazing likely occur on the allotment, given the parameters of the proposed terms and conditions and locations of water sources, including the proposed water haul sites, the Enterprise Canal and the allotment's base waters?*

4.1.1 No Action Alternative

The No Action Alternative would renew the 10-year ephemeral grazing permit to A Tumbling T Ranches from 2014 to 2024, with current livestock grazing terms and conditions. Grazing would be subject to Special Ephemeral Rule and Standard Operating Procedures (USDI BLM 2012, Appendix A). Under these guidelines, cattle would only be turned only during years of sufficient rainfall and forage production, at numbers determined by BLM staff. The permittee would be required to repair and maintain existing fencing along Enterprise Road to prevent cattle from accessing the Fred J. Weiler Greenbelt and the Gila River. This would prevent any impacts from livestock grazing in those areas.

Under this alternative, although the number of livestock authorized for ephemeral use would be based on BLM staff monitoring, there is potential for a large percentage of the livestock to loiter around Enterprise Canal for forage, water, and cover. The potential areas of livestock use would also expand northward along the canal and Enterprise Road to the allotment's northern boundary where there is currently no fence or gate to prevent them from entering Old Highway 80. A fence and gate would have to be installed at the entrance to Enterprise Road to prevent public safety conflicts with livestock on the road. A separate BLM decision, requiring additional NEPA analysis, would be required if new fencing is needed on public lands. Livestock would be allowed to water at the allotment's base waters as long as the base waters are adequately fenced to prevent livestock from accessing the Greenbelt or private property and agricultural fields.

Figure 9 delineates the Area of Expected Livestock Use under the No Action Alternative. The amount of fence maintenance and active livestock management along the Enterprise Road and Canal would be far more intensive than under the Proposed Action Alternative.

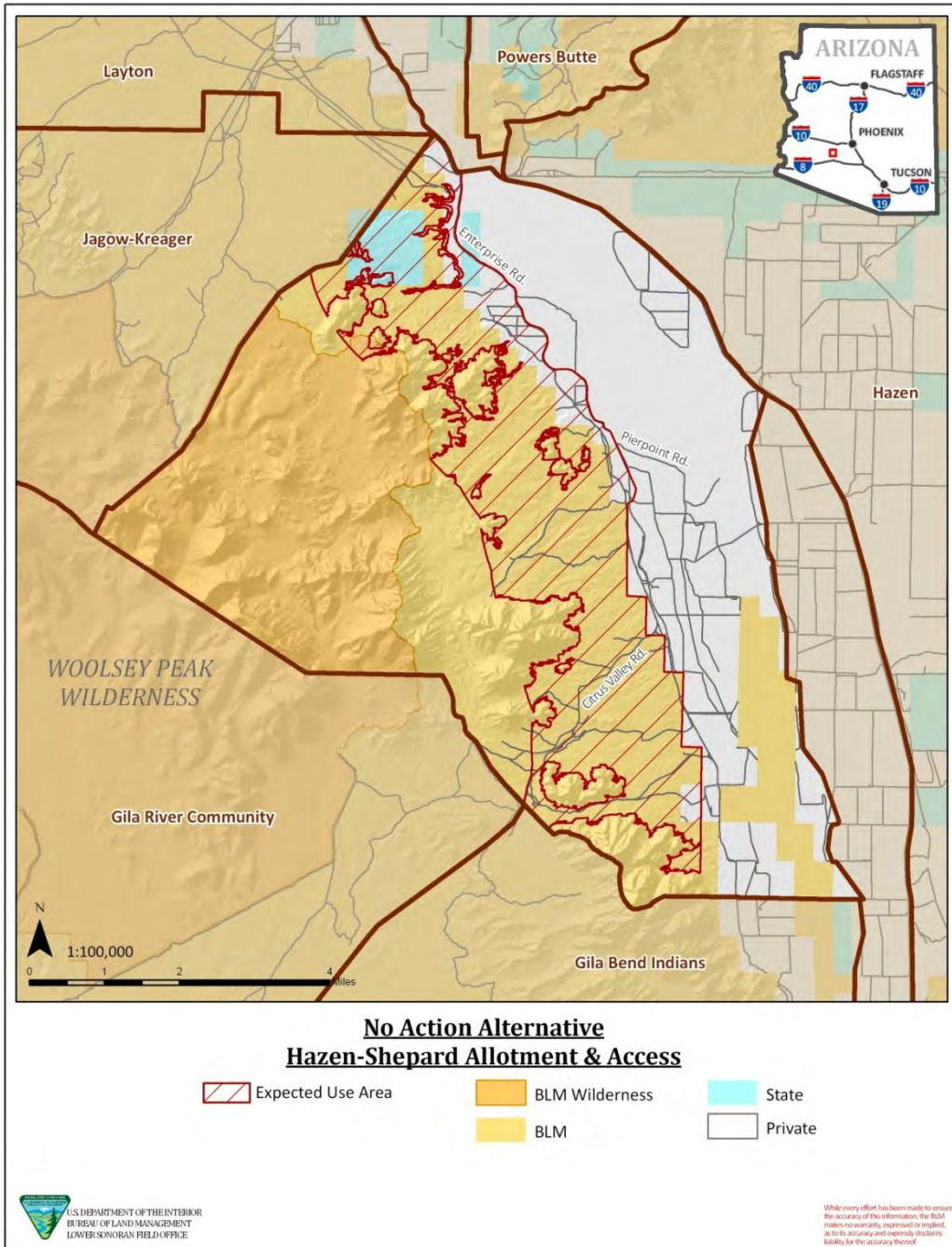


Figure 9. Expected Distribution of Livestock under the No Action Alternative

4.1.2 Proposed Action Alternative

Under the Proposed Action Alternative, BLM would renew the 10-year ephemeral grazing permit to A Tumbling T Ranches from 2014 to 2024, with additional terms and conditions applied. As with the No Action Alternative, the permittee would be required to repair and

maintain existing fencing along Enterprise Road to prevent cattle from accessing the Fred J. Weiler Greenbelt and the Gila River.

However, this fencing would also restrict livestock access to base waters. As required the Special Ephemeral Rule, serviceable waters must be available before livestock can be turned out on the allotment. An aspect that is foreseeably more difficult under the Proposed Action than under the other alternatives is the need for the livestock operator to haul water from the base waters near the Enterprise Farms to water troughs that would be positioned along Citrus Valley Road. However, consultation with the lessees has ensured that this is not difficult, and worth the effort to minimize impacts of livestock grazing to natural resources located along the Enterprise Road and Canal.

The Proposed Action Alternative is more conducive to livestock distribution across areas with less concentration of critical natural resources than is the No Action Alternative. Table 4 shows that under the Proposed Action, 98.3% of the Area of Expected Use is $\leq 30\%$ slope, allowing the livestock to forage across the approximately 4,224 acres. Moreover, grazing management would be simplified for the lessee in the Proposed Action Alternative when compared to the No Action Alternative because livestock would be distributed on 4,224 acres around one centralized water source, rather than spread throughout 9,557 acres along the Enterprise Canal.

In another method to improve livestock distribution on the public lands, a condition has been added to the standard terms and conditions: "All feed supplements (e.g., salt, minerals, vitamins, protein cake, etc.) shall be placed a minimum of 1/8 mile upslope from drainages/dry washes and watering facilities (either permanent or temporary) unless stipulated through a written agreement or decision in accordance with 43 CFR 4130.3-2 (c)." This condition aids in livestock distribution by drawing the livestock out of the drainages and washes and farther into the uplands, thereby lessening impacts to resources near the water source and in the washes.

The allotment, which is currently achieving Arizona Standards for Rangeland Health, is expected to continue to do so under this alternative. Impacts of livestock grazing on rangeland resources, such as vegetation and soils, can easily be resolved by having the lessee remove the livestock immediately. Ephemeral monitoring would measure available forage and the potential for additional growth prior to grazing authorization (USDI BLM 2012, Appendix A). Any residual evidence of impacts, such as hedging of perennial vegetation or deep-cut livestock trails, could warrant no or reduced authorizations the following ephemeral year.

Overall, management of livestock would be more difficult under the No Action Alternative than under the Proposed Action Alternative because the proximity of livestock near the fence lines would require more fence maintenance to prevent livestock from entering private farm fields and the Fred J. Weiler Greenbelt, and for the safety of the public from livestock loitering near the Enterprise Road and Canal. Under the No Action Alternative, 9,557 acres, or 28% of the allotment, would likely see effects of livestock grazing. This is more than twice the area of expected use under the Proposed Action because of the availability of water along the length of the allotment. However, only 57.0% of the lands in those 9,557 acres have slopes $\leq 30\%$. While this would greatly reduce the overall area affected by livestock grazing, steep slopes would cause cattle to congregate in the remaining 5,442 acres along the canal, and thus compress impacts to various resources in those areas.

In contrast, the Proposed Action Alternative is more conducive to livestock distribution. Table 4 shows that under the Proposed Action, 98.3% of the Area of Expected Use has $\leq 30\%$ slope, and allows livestock to forage across approximately 4,224 acres. Although this is a difference of only 1,218 of foraging acres, natural resources, such as cultural, wildlife, and vegetation, are more concentrated within the No Action Alternative's Area of Expected Use because of the proximity to the Gila River.

Table 4. Expected distribution of livestock under the two grazing alternatives

<u>Percent Slope</u>	No Action Alternative		Proposed Action Alternative	
	<u>BLM Acres within the Area of Expected Use</u>	<u>% Area of Expected Use</u>	<u>BLM Acres within the Area of Expected Use</u>	<u>% Area of Expected Use</u>
0-1%	1,078	11.3%	335	7.9%
1-10%	941	9.8%	2,660	63.0%
10-20%	1,915	20.0%	846	20.0%
20-30%	1,508	15.8%	312	7.4%
30-40%	1,072	11.2%	52	1.2%
40-50%	1,389	14.5%	13	0.3%
50-75%	429	4.5%	5	0.1%
75-100%	793	8.3%	-	0.0%
100+%	431	4.5%	-	0.0%
TOTAL WITHIN AREAS OF EXPECTED USE	9,555	100.0%	4,224	100.0%

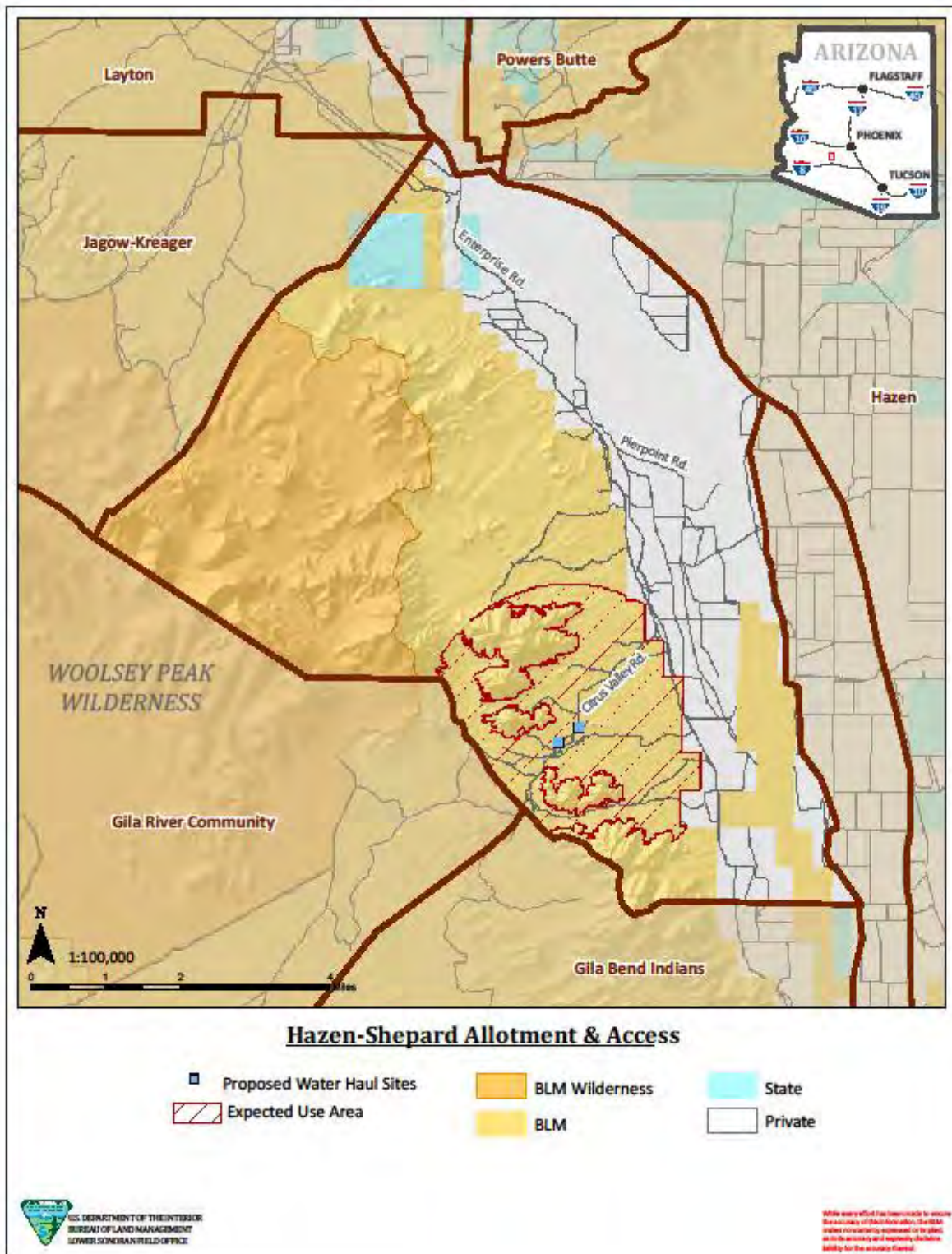


Figure 10. Expected Distribution of Livestock under the Proposed Action Alternative

4.1.3 No Grazing Alternative

Under this alternative, grazing would not be authorized on the allotment. This alternative would initiate a process in accordance with the 43 CFR 4100 regulations to eliminate grazing and make the allotment unavailable for grazing, which would require a land use plan amendment. The elimination of domestic livestock grazing on the allotment would force the operators to look for alternative forage or to graze cattle only on the private lands. Because grazing on private property does not occur under the auspices of a federal grazing permit or lease, grazing could still occur on private lands within the allotment.

4.2 Wildlife and Special Status Species

- *The Enterprise Canal and the base waters provide important fish, wildlife, and migratory bird habitat. How would wildlife species and habitats, particularly Threatened, Endangered, and Special Status Species, be protected from impacts from livestock grazing throughout the allotment? Specifically, how would species like the Yuma clapper rail, southwestern willow flycatcher, yellow-billed cuckoo, desert bighorn sheep and Sonoran desert tortoise be effected by ephemeral livestock grazing?*
- *How would ephemeral livestock grazing impact the resource values for which the Lower Gila River Terraces and Historic Trails ACEC, the Fred J. Weiler Greenbelt, and the Woolsey Peak Wilderness Area were designated?*

4.2.1 No Action Alternative

Livestock operations can affect wildlife by changing vegetation composition, function, and structure that comprise wildlife habitat. Livestock grazing can reduce the amount of forage available to native herbivores, as well as reduce vegetative cover for ground nesting birds, burrowing rodents, and other wildlife species dependent on ground cover for protection, food, and breeding sites. The presence of livestock can also change local distribution and habitat use by native species by temporarily displacing some wildlife from preferred habitats and/or water sources, potentially resulting in habitat fragmentation.

Because ephemeral grazing on the Hazen-Shepard Allotment is so infrequent and of such short duration, the potential for impacts to wildlife is very small, regardless of which alternative is selected. Under the No Action Alternative, in years of above average precipitation when adequate annual forage for grazing exists, cattle would be turned out into the allotment for four or more weeks, upon approval of BLM staff. Impacts to wildlife, particularly desert bighorn sheep and deer would be greatest around cattle concentration areas of use such as along Enterprise Canal. The rugged terrain within portions of the allotment would limit contact between big game and livestock in many areas. The fencing along Enterprise Road prevents cattle from accessing the riparian areas along the Fred J. Weiler Greenbelt and the Gila River.

However, under this alternative, fencing and gates may be needed at the north end of Enterprise Road to prevent livestock from entering Old Highway 80. This fencing would have potential to also restrict movement of big game species, such as deer and bighorn sheep, along the Gila Bend-Sierra Estrella Wildlife Corridor. Approximately 857 acres of the corridor are within the area of expected livestock use. Any new fencing or gates placed on public lands would require appropriate NEPA and would adhere to BLM wildlife-friendly fencing stipulations.

Figure 11 shows specific wildlife resources on the Hazen-Shepard Allotment, as discussed in Chapter 3. Additionally, it includes an overlay of the 9,557 acre Area of Expected Livestock Use under the No Action Alternative. This helps to quantify potential effects of this alternative on wildlife resources. It is expected that any impacts to wildlife resources outside of the 2-mile buffer from the Enterprise Canal would be negligible.

Southwestern willow flycatcher habitat lies on the north end of the allotment near the Gillespie Dam. There is no known or recorded habitat available for the Yuma clapper rail or yellow-billed cuckoo within the Hazen-Shepard Allotment (Figure 11). Habitat loss for the Southwestern willow flycatcher, and indeed for migratory birds in general, represents the greatest threat to their populations. There is slightly more potential for livestock to impact flycatcher habitat in the No Action Alternative than in the Proposed Action because livestock would be loitering in the areas of the Enterprise Canal and base waters. Livestock are prevented from accessing the riparian areas used by these species by maintenance of existing fencing, and thus no direct or indirect impacts to the flycatcher or other migratory birds is expected, especially given the infrequent and short duration nature of ephemeral grazing in this allotment.

Livestock can affect desert tortoise and their habitat by trampling of individuals above ground or in their burrows, reduction in forage, reduction in cover, soil compaction, damage to soil crusts and introduction of non-native plants. Approximately 20,726 acres of Category II desert tortoise habitat exists on the allotment west of Enterprise Road. Approximately 5,728 acres of Category II desert tortoise habitat could be affected by livestock grazing during ephemeral grazing events under the No Action Alternative. However, because of the stipulation that exists under the current permit, adequate forage must be available for tortoises before livestock grazing can occur. Therefore, no long-term impacts to tortoise populations are expected.

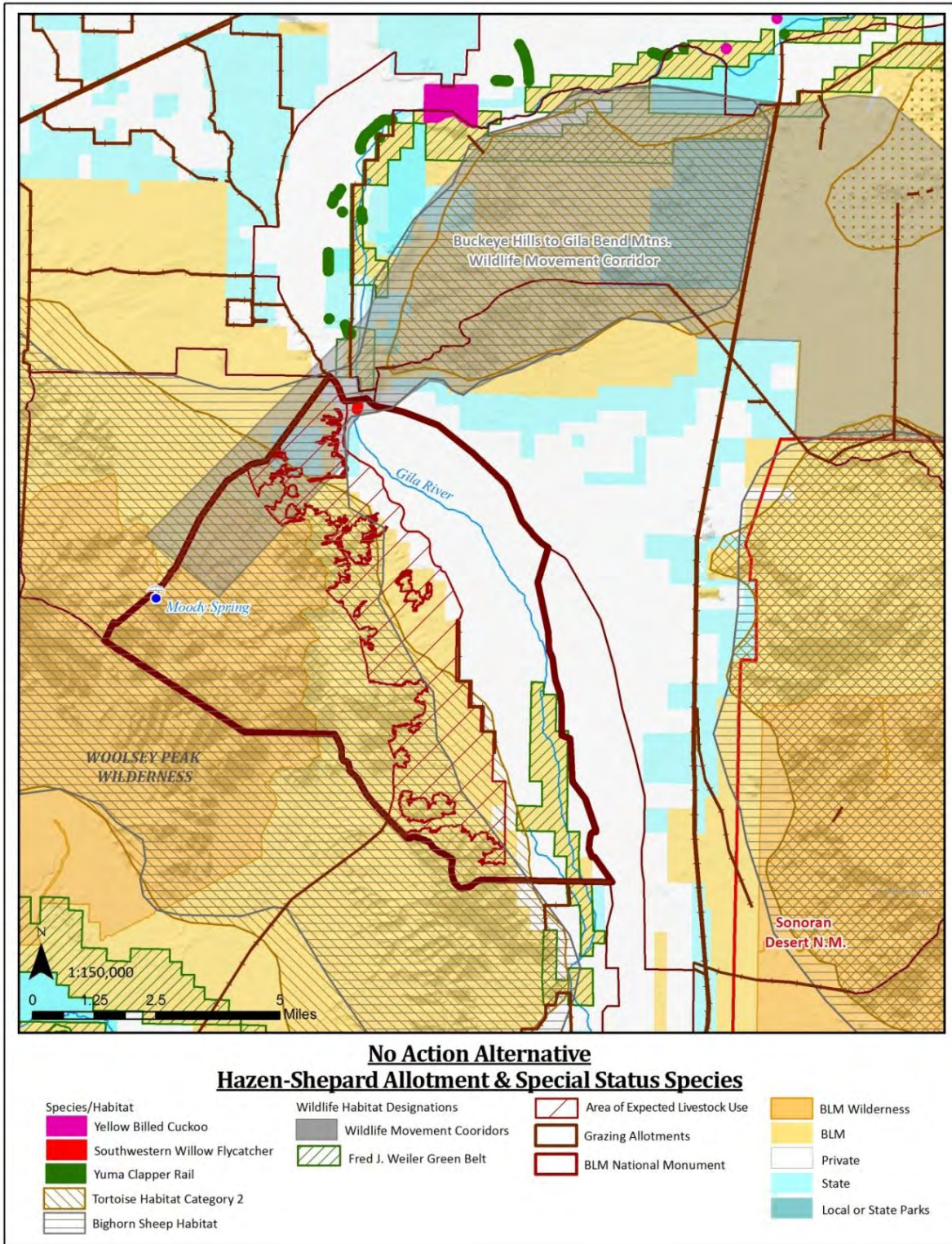


Figure 11. Wildlife habitat within the Area of Expected Use under the No Action Alternative

4.2.2 Proposed Action Alternative

Table 5 examines the areas of expected livestock use under both the No Action and the Proposed Action Alternative, as compared to the total acreage within the allotment. Figure 12 shows specific wildlife resources on the Hazen-Shepard Allotment, such as the Gila Bend Mountains Wildlife Habitat Area, the Gila Bend-Sierra Estrella Wildlife Corridor, and individual wildlife species' locations and habitat, as shown in Chapter 3. Additionally, it includes an overlay of the area of expected livestock use, an area of 4,224 acres centered on proposed water haul sites. This helps to quantify potential effects of the Proposed Action Alternative on wildlife species and habitats from livestock grazing. It is expected that any impacts to wildlife resources outside of the 2-mile buffer would be negligible.

Table 5. Wildlife habitat within the Areas of Expected Livestock Use under both Alternatives

<u>Wildlife Designations</u>	<u>Existing Environment</u>		<u>No Action Alternative</u>		<u>Proposed Action Alternative</u>	
	<u>Total Acres within the Allotment</u>	<u>Total BLM Acres within Allotment</u>	<u>BLM Acres within the Area of Expected Use</u>	<u>% Area of Expected Use</u>	<u>BLM Acres within the Area of Expected Use</u>	<u>% Area of Expected Use</u>
Tortoise Habitat (Class 2)	20,726	20,040	5,728	74%	4,224	100%
Wildlife Habitat Area	21,923	20,546	6,188	79%	4,224	100%
Wildlife Movement Corridor	3,893	2,885	857	11%	0	0%
Southwestern Willow Flycatcher Observation (2006-2008)	1	0	0	0%	0	0%
Yellow Billed Cuckoo	0	0	0	0%	0	0%
Yuma Clapper Rail	0	0	0	0%	0	0%
Bighorn Sheep Habitat	19,761	18,731	4,471	57%	2,692	64%

Impacts to Threatened and Endangered Species: As stated in Chapter 3, wildlife species that are listed, proposed, or candidates for listing, as threatened or endangered and that occur or potentially occur within the Hazen-Shepard Allotment includes the southwestern willow flycatcher and the Yuma clapper rail. The yellow-billed cuckoo is proposed for listing and the Sonoran desert tortoise is a candidate species that occurs or potentially occurs within the allotment. Of the three sensitive bird species, only the southwestern willow flycatcher has been identified on the allotment near Gillespie Dam (see Figure 12).

Identifying locations for placement of hauled water under the Proposed Action is intended to prevent livestock interaction with listed species, such as the Yuma clapper rail and Southwestern willow fly catcher documented along the Gila River in the past. Individual southwestern willow flycatchers have also been observed along the Gila River, inside the Hazen-Shepard Allotment's northern boundary, during spring 2006 and 2008. However, this area is not used by livestock and is greater than five miles from the area of expected livestock use which, the USFWS has concurred, is a sufficient buffer to prevent cowbirds associated with livestock grazing from parasitizing flycatcher nests (BLM and USFWS 1999).

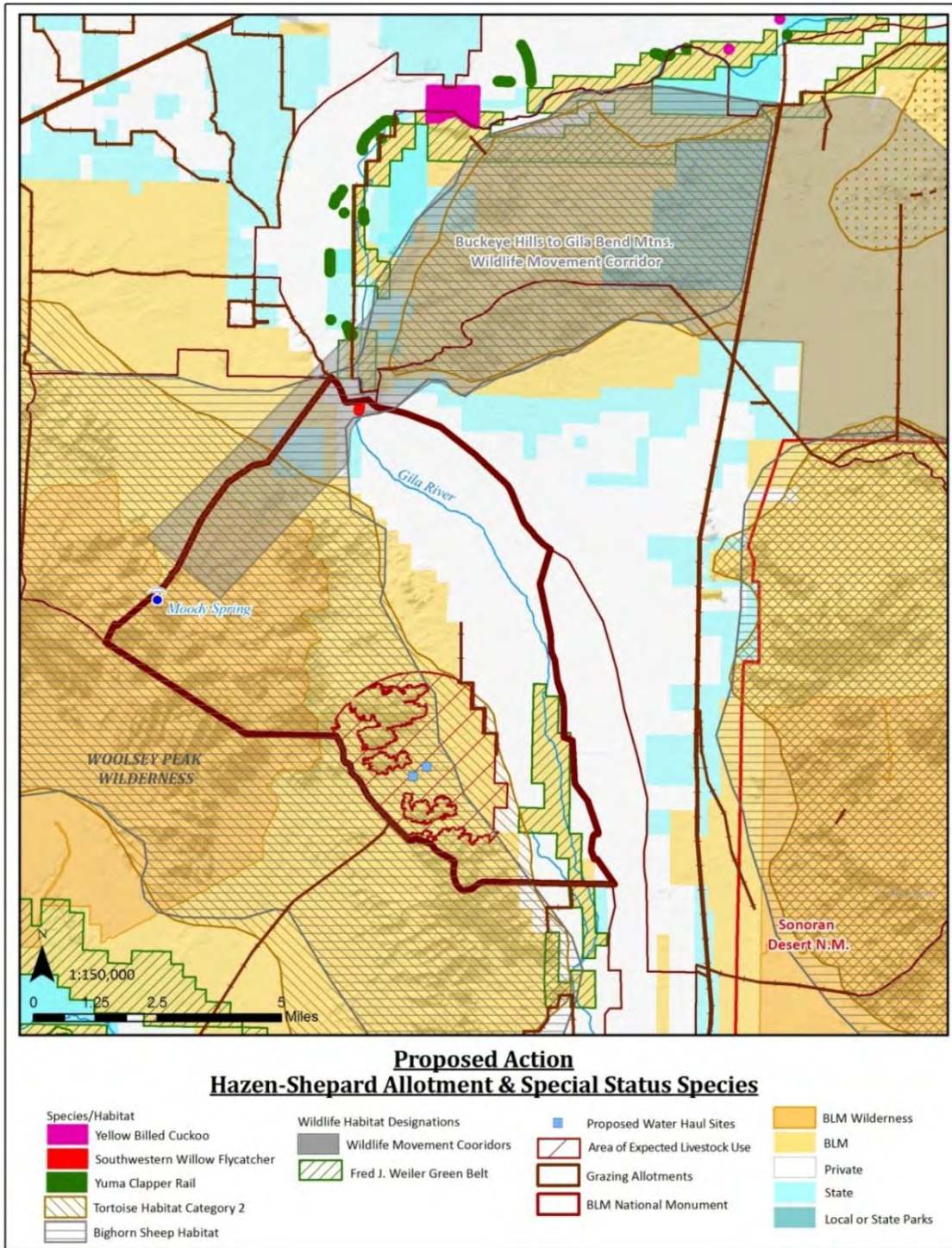


Figure 12. Wildlife habitat within the Area of Expected Use under the Proposed Action Alternative

Direct effects to southwestern willow flycatchers and Yuma clapper rails and their habitat from ephemeral livestock grazing are avoided through the placement of hauled water and salt sites away from riparian corridors and by the presence and maintenance of fencing. Hauled water and salt locations were chosen to prevent overlap between ephemeral livestock use and ESA listed species/habitat. The area of expected livestock use, centered on hauled water sites, maintains more than a 6 mile buffer to the nearest documented observance of a Yuma clapper rail. Additionally, the Proposed Action's area of expected livestock use maintains more than a 25-mile buffer to the nearest documented southwestern willow flycatcher designated critical habitat, and more than a 13-river mile-buffer to the nearest historically documented observance of yellow billed cuckoos (1986-1987).

Impacts to Sonoran Desert Tortoise: Category II Sonoran desert tortoise (SDT) habitat has been identified for 20,726 acres (58%) of the Hazen-Shepard Allotment. Although the Proposed Action's expected use area is completely within Sonoran desert tortoise Category II habitat, fewer acres (4,224) would be affected by ephemeral livestock grazing under this alternative than in the area of expected livestock use under the No Action Alternative (5,728 acres). Inclusion of the condition related to grazing in interim Category I or II tortoise habitat would allow for grazing to occur beyond the 30-day period, in 15-day increments, if forage is available for both desert tortoise and livestock.

Direct effects to Sonoran desert tortoises and habitat from ephemeral livestock grazing are avoided through the placement of hauled water and salt sites away from preferred habitat in order to prevent overlap with and competition for resources. Approximately 8,485 acres (41%) lie both inside the Hazen Shepard Allotment and the Woolsey Peak Wilderness, which is outside the area of expected use and naturally isolated by steep terrain. The combination of steep boulder terrain and isolation increases the value of the wilderness portion of SDT Category II habitat relative to that occurring in lower elevations within the allotment. In addition to avoiding Enterprise Canal and the Gila River, proposed water sites were situated in an area of gently rolling terrain and low energy washes (i.e. wider, shallower, less incised, with smaller substrate) relative to those associated with steep terrain. This action is proposed to avoid overlap with Sonoran desert tortoises typically associated with steep boulder terrain and associated washes found in the Woolsey Peak Wilderness to the northwest.

The area of expected use includes 4,200 acres of the 12,241 acre lower elevation Category II habitat (34%). Surveys of minor washes and upland key areas within the area of expected use during spring and summer 2013 did not detect individuals, caliche caves, or other burrow features of sufficient depth likely to be used by tortoises. Based on physical terrain attributes, the most suitable tortoise habitat on the Hazen Shepard Allotment is associated with the Woolsey Peak Wilderness.

Ephemeral livestock use occurs at the discretion of the BLM authorized officer, who factors in the presence of suitable forage to meet the needs of both Sonoran desert tortoises and livestock before authorizing ephemeral use. Furthermore, ephemeral livestock use would not prevent dispersal of Sonoran desert tortoises between suitable habitats. Therefore, effects from livestock grazing on Category II desert tortoise habitat are expected to be negligible.

Impacts to Big Game Species: Large game species such as the desert bighorn sheep, also occupy the Woolsey Peak Wilderness, of which 8,485 acres (24%) is located within the Hazen-Shepard Allotment. Approximately 4,471 acres of desert bighorn sheep habitat would be potentially affected by livestock grazing under the No Action Alternative when compared to 2,692 acres under the Proposed Action. However, bighorn sheep prefer steep slopes within the Woolsey Peak Wilderness Area and have access to Moody Spring, which was developed for desert bighorn sheep and mule deer (Figure 13). Its position in steep rugged mountains > 6 miles northwest of the comparatively flat terrain associated with proposed hauled water sites along Citrus Valley Road is expected to prevent wildlife-livestock interaction at the spring.



Figure 13. Moody Spring

Under the Proposed Action Alternative, the Gila Bend-Sierra Estrella Wildlife Corridor is approximately 3.5 miles from the area of expected livestock use. Fencing along the Enterprise Canal is passable by area wildlife but prevents livestock access to its water and adjacent agricultural fields, and also prevents direct effects to obligate riparian species. No new fencing or gates would be needed on the north end of Enterprise Road because livestock are not expected to travel so far from a known water source. Therefore, no impacts are anticipated with identified wildlife movement/linkage corridors in upland or riparian areas by wildlife that use the corridor, such as desert bighorn sheep, mule and white-tailed deer, mountain lions, etc. The area of expected livestock use does not interfere

Likewise, the area of expected use falls outside of the Woolsey Peak Wilderness Area and the Fred J. Weiler Greenbelt, so wildlife species in those areas are not expected to be affected by livestock grazing under this alternative. Overall, impacts to special status species and general wildlife are expected to be negligible under the Proposed Action Alternative, given the specific terms and conditions recommended to minimize impacts on rangeland resources.

4.2.3 No Grazing Alternative

Elimination of livestock grazing would presumably be beneficial to most wildlife species as potentially fewer animal burrows would be trampled, fewer nests would be disturbed, and more ephemeral forage would be available if grazing was eliminated. Desert bighorn sheep and Sonoran desert tortoise would likely be species that would benefit most from no competition with livestock over forage and habitat. However, given the large size of the allotment and the fact that ephemeral use is infrequent, of short duration, and restricted to areas with water, the exclusion of livestock may not result in measurable or detectable changes to wildlife species or their habitat over the majority of the allotment.

4.3 Soils

- *How would ephemeral livestock grazing effect resources such as soils (including cryptogamic soil crusts) and vegetation?*

4.3.1 No Action Alternative

Figures 14 and 15 show the soils and ecological sites, respectively, that would be affected by livestock grazing under the No Action Alternative.

Under the No Action Alternative, livestock grazing could have a localized, adverse effect on soils when grazing occurs. Specifically, there is potential for increased soil compaction and erosion from livestock around the Enterprise Canal and the base waters because of historic and current vehicular use and mechanized disturbance in those areas. Cryptogams occurring in the uplands would continue to expand without disturbances from livestock. Cryptogams within the area of expected use along the canal would likely experience negligible or very light damage under this alternative because cryptogams are not prevalent in the soils that would experience the most impacts from livestock grazing. However, because of the short duration and infrequency of ephemeral turn-out, overall this alternative would be expected to continue to meet Standard 1.

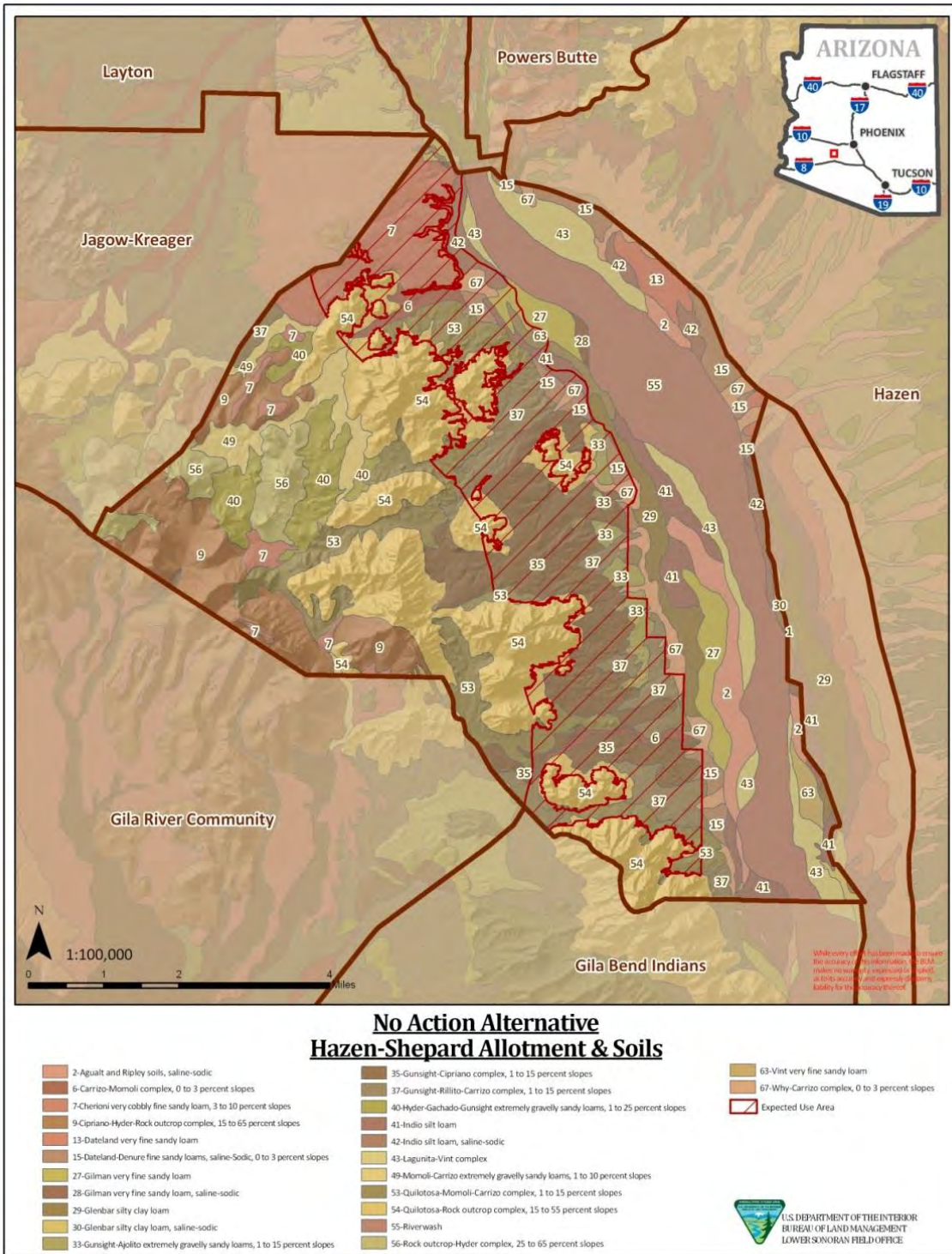


Figure 14. Soils within the Area of Expected Use under the No Action Alternative

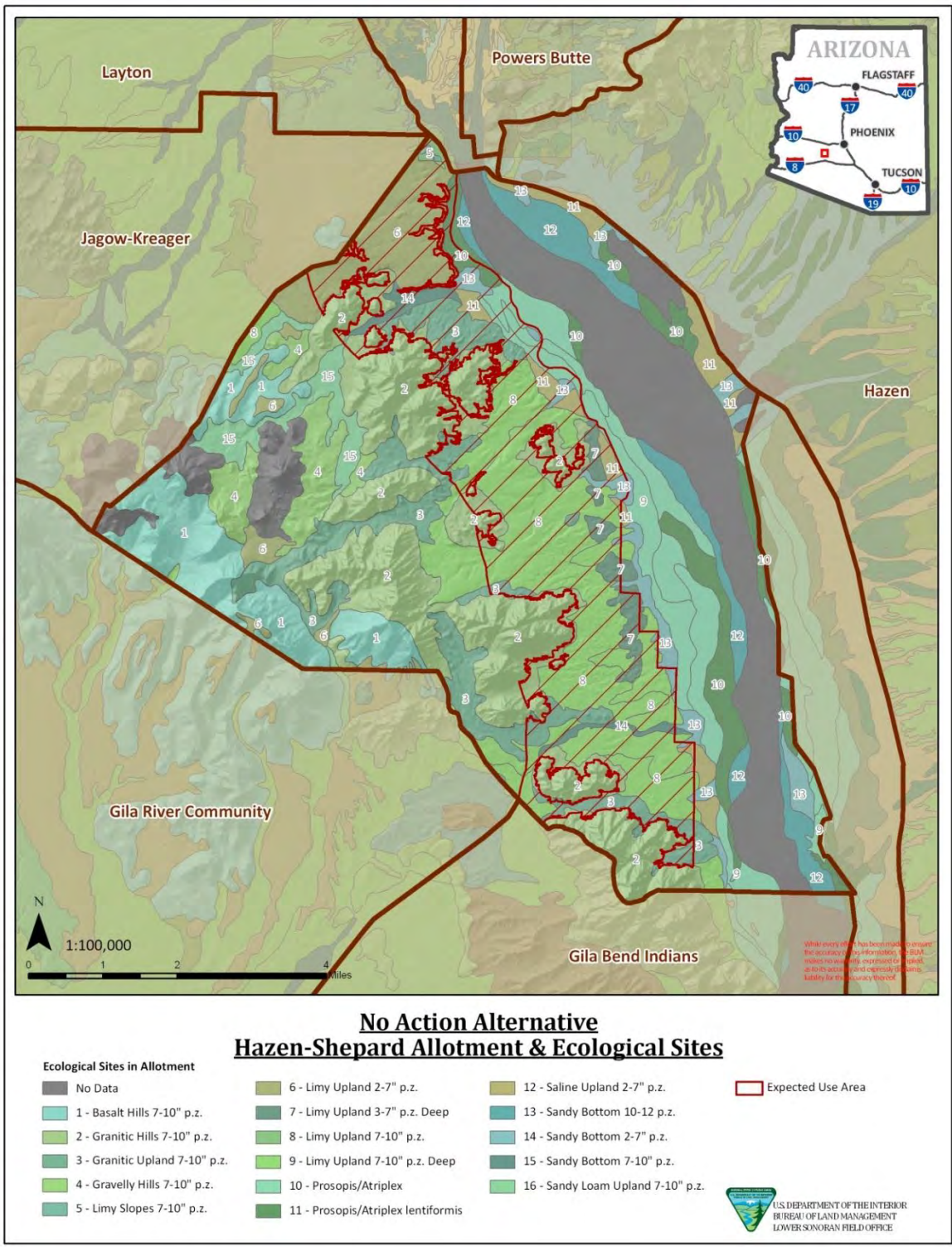


Figure 15. Ecological Sites within the Area of Expected Use under the No Action Alternative

4.3.2 Proposed Action Alternative

Figure 16 shows soil resources on the Hazen-Shepard Allotment, and Figure 17 displays the Ecological Sites present. Both figures also include an overlay of the area of expected livestock use. This helps to quantify potential effects of the Proposed Action Alternative on soils and ecological sites. The 2.0 mile buffer around the proposed water haul sites, limited to areas that are fenced and have slopes $\leq 30\%$, and creates an area of 4,224 acres in which potential impacts from livestock grazing are most likely to occur. Because this buffer is 2.5 times that of the greatest distance from water observed in arid environments (citations), it is expected that any impacts to soil resources outside of that 2-mile buffer would be negligible.

Potential effects to soils from the Proposed Action Alternative would be similar to those described above for the No Action Alternative. When livestock grazing does occur, localized, adverse effects on soils could result. However, under this alternative, livestock distribution on the public lands would be improved by placing temporary water facilities in the uplands west of the Enterprise Canal where compaction is less likely because of soil type. For example, the Quilotosa-Momoli-Carrizo complex, 1 to 15 percent slopes, surrounded by Gunsight-Cipriano complex, 1 to 15 percent slopes and Gunsight-Rillito-Carrizo complex, 1 to 15 percent slopes are not prone to compaction, and are typically heavily armored against wind and water erosion. Correspondingly, as shown in Table 6, 56% of the Area of Expected Use is a Limy Upland 3-7” PZ Deep ecological site. According to the Ecological Site Description, “These are deep soils formed in very gravelly sandy loam alluvium, with over 35% gravels in the soil profile. The surfaces of these soils usually have well developed covers of gravels and caliche fragments. Cryptogam cover is usually very low. Due to the unpalatable nature of creosotebush and associated shrubby species in the potential community, there is little change in species composition even with heavy grazing pressure.”

Moreover, the current frequency and intensity of drought cycles is expected to persist over the life of the permit, which naturally limits the frequency with which livestock use may occur. Asynchronous use favors habitat recovery (e.g. plant species, soils, cryptobiotic crusts, etc.) between periods of authorized grazing. Cryptogamic crusts that are present on the uplands and along the washes could be affected by livestock grazing. Placing salt blocks and/or mineral supplements at least 1/8 mile upslope from drainages/dry washes and at least 1/4 mile away from watering facilities, would help minimize impacts from livestock on soils and biological crusts. Slight soil compaction could occur at the water haul locations, but they would be located in previously disturbed areas to minimize new disturbance. The additional terms and conditions added to the permit under this alternative would enhance protection of soil resources. Overall, this alternative would be expected to continue to meet Standard 1.

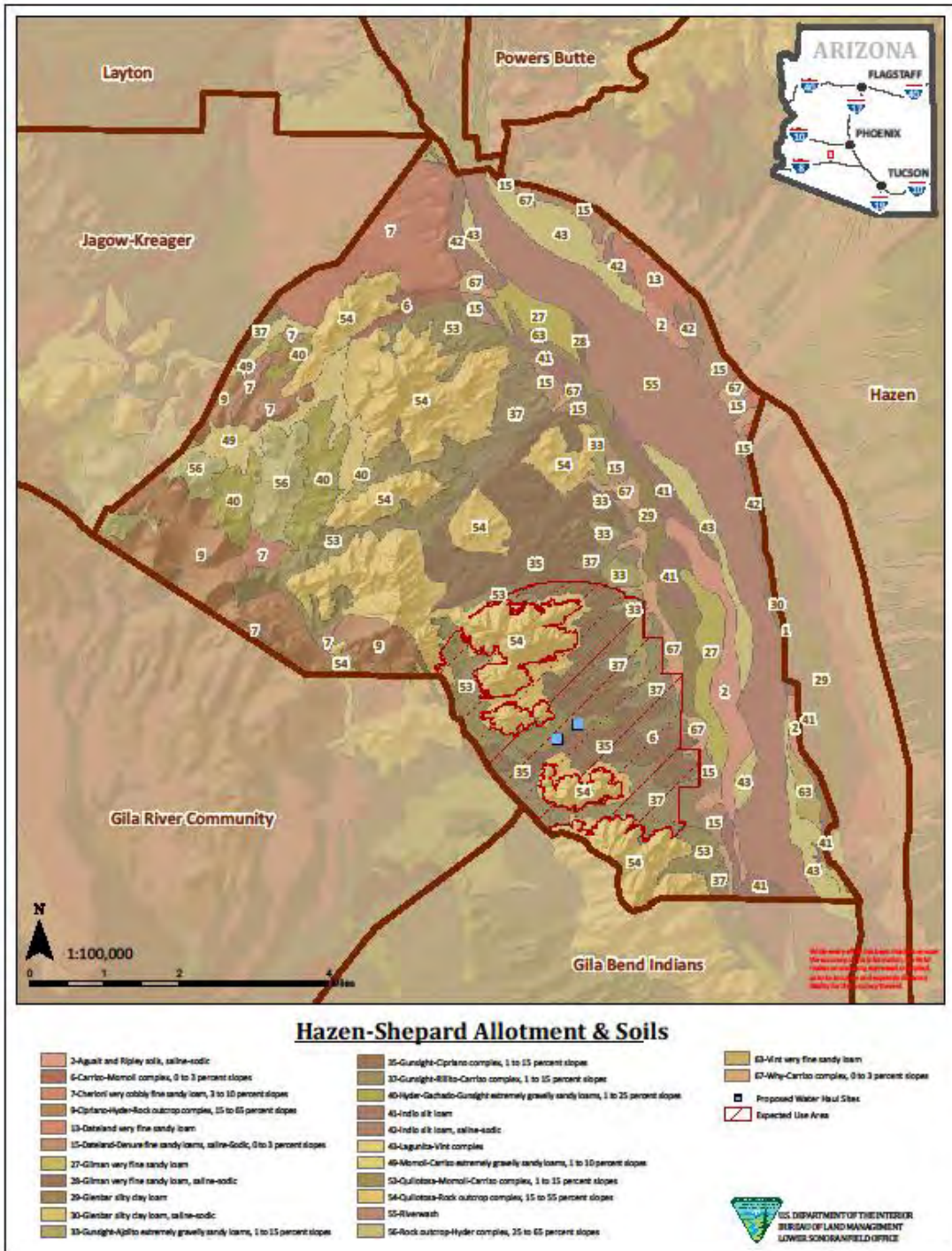


Figure 16. Soils within the Area of Expected Use under the Proposed Action Alternative.

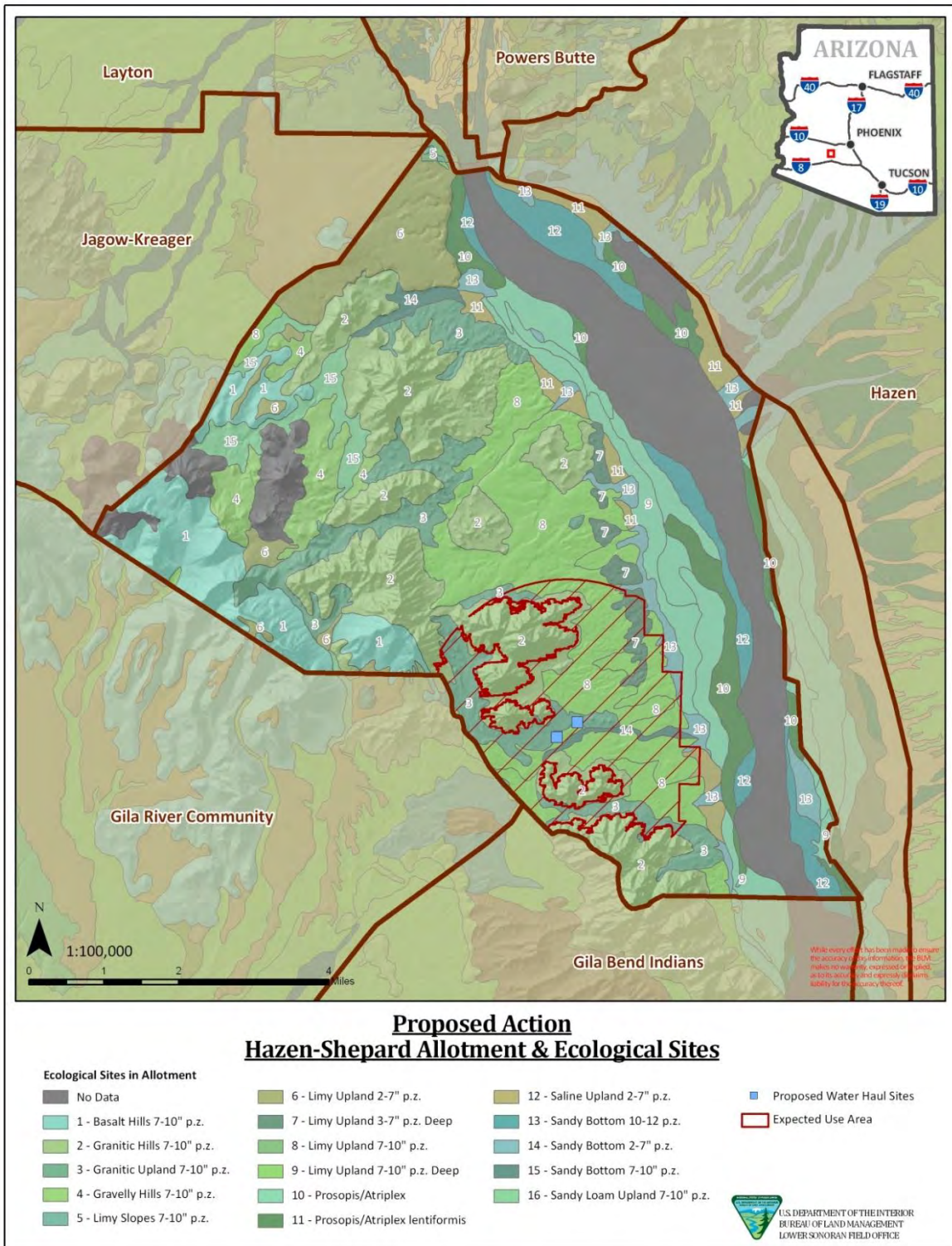


Figure 17. Soils within the Area of Expected Livestock Use under the Proposed Action Alternative

Table 6. Soils within the Area of Expected Use under each Alternative

Soils	No Action Alternative				Proposed Action Alternative	
	Total Acres within the Area of Expected Use (including private and State lands)	% of Total Acres within the Area of Expected Use	BLM Acres within the Area of Expected Use	% Area of Expected Use	BLM Acres within the Area of Expected Use	% Area of Expected Use
Agualt and Ripley soils	57	1%	0	0%	0	0%
Ajo-Gunsight-Pompeii complex, 3 to 25 percent slopes	0	0%	0	0%	6	0.1%
Calciorthids and Torriorthents, eroded	16	0%	1	0%	0	0%
Carrizo-Momoli complex, 0 to 3 percent slopes	270	3%	268	3%	94	2%
Cherioni very cobbly fine sandy loam, 3 to 10 percent slopes	1,140	12%	529	7%	0	0%
Dateland-Denure fine sandy loams, saline-Sodic, 0 to 3 percent slopes	296	3%	74	1%	21	1%
Gilman very fine sandy loam	95	1%		0%		
Glenbar silty clay loam	20	0%	6	0%	6	0%
Gunsight-Ajolito extremely gravelly sandy loams, 1 to 15 percent slopes	409	4%	382	5%	180	4%
Gunsight-Cipriano complex, 1 to 15 percent slopes	2,992	31%	2,927	38%	1,597	38%
Gunsight-Rillito-Carrizo complex, 1 to 15 percent slopes	1,406	15%	1,313	17%	764	18%
Indio silt loam	112	1%	0	0%	0	0%
Indio silt loam, saline-sodic	156	2%	0	0%	0	0%
Momoli-Carrizo extremely gravelly sandy loams, 1 to 10 percent slopes	3	0%	3	0%	0	0%
Pinal gravelly loam	42	0%	1	0%	0	0%
Quilotosa-Momoli-Carrizo complex, 1 to 15 percent slopes	1,147	12%	1,085	14%	850	20%
Quilotosa-Rock outcrop complex, 15 to 55 percent slopes	1,164	12%	1,130	15%	675	16%
Vint very fine sandy loam	12	0%	0	0%	0	0%
Why-Carrizo complex, 0 to 3 percent slopes	221	2%	65	1%	31	1%
TOTAL WITHIN AREAS OF EXPECTED USE	9,557	100%	7,784	100%	4,224	100%

Table 7. Ecological Sites within the Area of Expected Use under each Alternative

Ecological Sites	No Action Alternative				Proposed Action Alternative	
	Total Acres within the Area of Expected Use (including private and State lands)	% of Total Acres within the Area of Expected Use	BLM Acres within the Area of Expected Use	% Area of Expected Use	BLM Acres within the Area of Expected Use	% Area of Expected Use
Granitic Hills 7-10" p.z.	1,163.6	12%	1,130.3	15%	675.4	16%
Granitic Upland 7-10" p.z.	1,147.2	12%	1,084.9	14%	850.5	20%
Limy Slopes 7-10" p.z.	15.8	0%	0.9	0%	5.8	0%
Limy Upland 3-7" p.z.	1,140.0	12%	529.2	7%	179.7	4%
Limy Upland 3-7" p.z. Deep	408.9	4%	382.2	5%	2,361.4	56%
Limy Upland 7-10" p.z.	42.0	0%	1.4	0%	0	0%
Limy Upland 7-10" p.z. Deep	4,397.8	46%	4,240.0	54%	0	0%
Prosopis/Atriplex	284.8	3%	5.7	0%	5.7	0%
Prosopis/Atriplex lentiformis	155.7	2%	0	0%	0	0%
Saline Upland 2-7" p.z.	295.9	3%	73.9	1%	21.5	1%
Sandy Bottom 2-7" p.z.	232.5	2%	64.6	1%	30.6	1%
Sandy Bottom 7-10" p.z.	269.8	3%	267.6	3%	93.6	2%
Sandy Loam Upland 7-10" p.z.	2.9	0%	2.9	0%	0	0%
TOTAL WITHIN AREAS OF EXPECTED USE	9,556.7	100%	7,783.8	100%	4,224.2	100%

4.3.3 No Grazing Alternative

Under the No Grazing Alternative livestock grazing would cease. Eliminating cattle grazing from the BLM-administered land in this allotment would have long-term beneficial effects to the soil resource by eliminating the potential for soil compaction and erosion. Cryptogamic crusts would likewise not be impacted by livestock under this alternative. Soil conditions of areas disturbed by grazing cattle prior to the mid-1990s would continue to stabilize and improve through time.

4.4 Vegetation

➤ *How would ephemeral livestock grazing effect resources such as soils and vegetation?*

4.4.1 No Action Alternative

Research has demonstrated that properly managed livestock grazing is designed to cause minimal impacts to rangeland resources. Holecheck (2006) reported that livestock grazing at light to moderate intensities can have positive impacts on rangelands in the Southwest. Loeser et al. (2007) reported that moderate grazing was superior to both grazing exclusion and high-impact grazing in maintaining plant diversity and in reducing exotic plant recruitment in a semiarid Arizona grassland. In contrast, improper livestock grazing practices can directly affect vegetation by reducing plant vigor, decreasing or eliminating desirable forage species, causing loss of, or injury to, individual plants from trampling, particularly near water developments, and increasing soil instability and erosion.

As discussed in Chapter 3 and the RHE (Appendix A), allotment monitoring data indicate that resource conditions on the allotments are currently meeting all applicable standards for rangeland health. DPC objectives for vegetation components are also being met at all Key Areas. Although livestock grazing has not occurred on the allotment since the early 1990s, conditions are not expected to change substantially as a result of ephemeral grazing under either the No Action or the Proposed Action Alternatives because of the low frequency with which grazing occurs and because livestock would typically use only annual grasses and forbs. While localized, adverse effects on vegetation could result, it is expected that overall the allotment would continue to meet Standard 3.

As shown in Table 8 and Figure 18, approximately 8,897 acres (93%) of the No Action’s area of expected use comprises the Sonora-Mojave Creosotebush-White Bursage Desert Scrub. Proper distribution of livestock would depend upon ephemeral growth of annual forbs and grasses. Otherwise, moderate to heavy impacts from foraging could occur on the 4 acres of Mixed Salt Desert Scrub and the 3 available acres of Mesquite Bosque on private lands. These plant communities are highly palatable and desirable to livestock and wildlife, and competition for forage could occur in these areas.

Table 8. Vegetation Communities within the Area of Expected Use under each Alternative.

<u>Vegetation Communities</u>	<u>No Action Alternative</u>				<u>Proposed Action Alternative</u>	
	<u>Total Acres within the Area of Expected Use (including private and State lands)</u>	<u>% of Total Acres within the Area of Expected Use</u>	<u>BLM Acres within the Area of Expected Use</u>	<u>% Area of Expected Use</u>	<u>BLM Acres within the Area of Expected Use</u>	<u>% Area of Expected Use</u>
Sonoran Paloverde-Mixed Cacti Desert Scrub	561	6%	505	6%	410	10%
Sonora-Mojave Creosotebush-White Bursage Desert Scrub	8,897	93%	7,275	93%	3,811	90%
Sonora-Mojave Mixed Salt Desert Scrub	4	0%	0	0%	0	0%
North American Warm Desert Riparian Mesquite Bosque	3	0%	0	0%	0	0%
Agriculture	90	1%	4	0.1%	3	0.1%
Invasive Southwest Riparian Woodland and Shrubland	1	0%	0	0%	0	0%
TOTAL WITHIN AREAS OF EXPECTED USE	9,557	100%	7,784	100%	4,224	100%

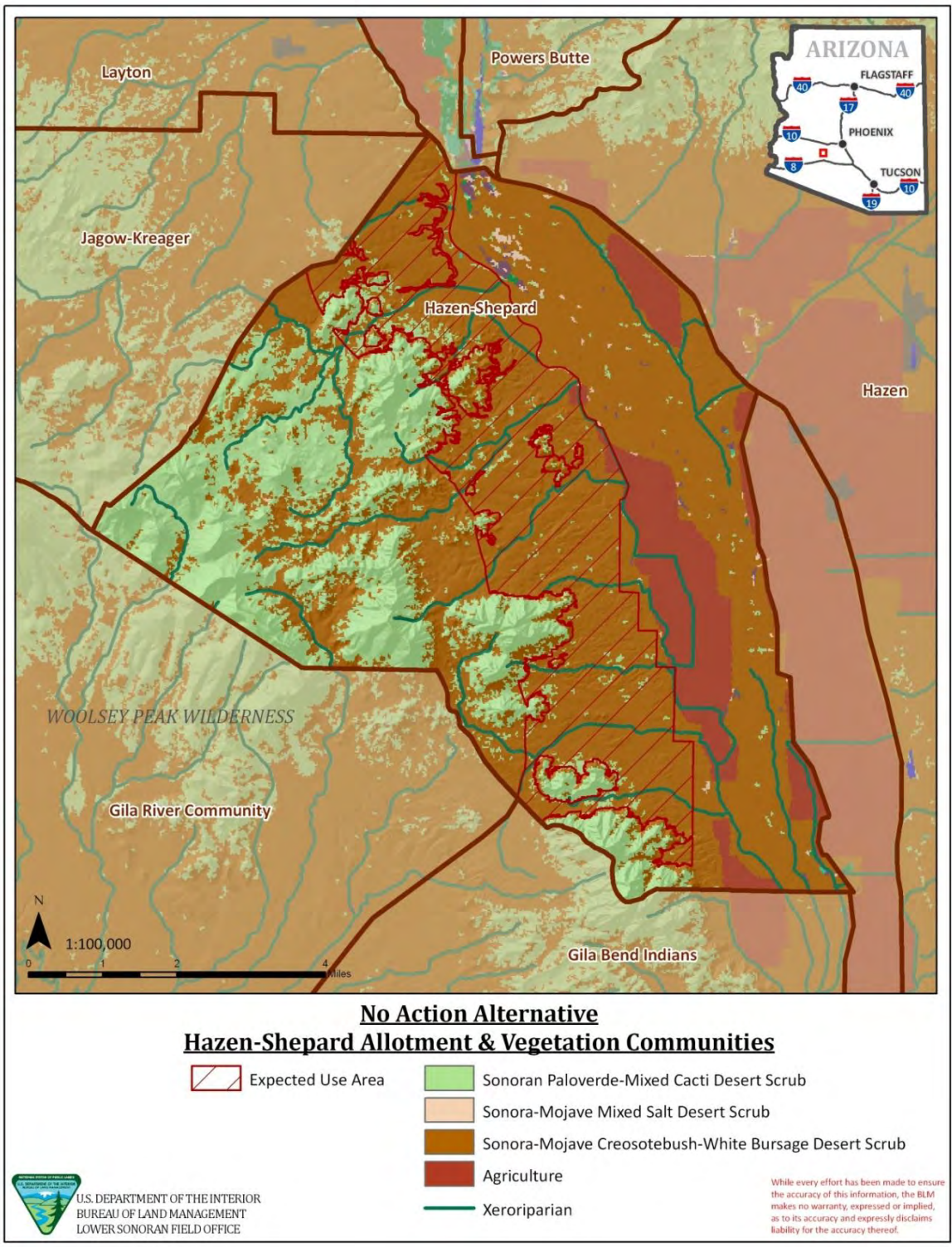


Figure 18. Vegetation communities within the Area of Expected Use under the No Action Alternative.

4.4.2 Proposed Action Alternative

Compared to the No Action Alternative, the Proposed Action Alternative contains 3,811 acres (90%) of Sonora-Mojave Creosotebush-White Bursage Desert Scrub. In these shrub-dominated communities, perennial grass cover is sparse. Annual forbs and grasses make up the majority of palatable forage in this vegetation community. Therefore, impacts from livestock grazing to this plant community are expected to be minimal due to the infrequency of ephemeral turn-out.

There are no private salt scrub or mesquite bosque communities in this area of expected use, so it is expected that livestock would be well-distributed throughout the creosotebush-bursage complex. From the ecological site data above (Table 7, p. 58), xeroriparian areas (Sandy Bottom 2-7" and 7-10" PZ sites), make up 2.9% of the area of expected use. However, because of availability of both forage and cover on these sites, Sandy Bottoms typically experience disproportionate livestock and wildlife use as compared to the sparsely vegetated upland communities. Impacts would include the utilization of palatable perennial and ephemeral forage, and potential for trampling of plants within the community. These xeroriparian areas are represented by the teal-colored lines on the vegetation maps).

The placement of the water haul sites would occur along Citrus Valley Road, but would not be allowed in Sandy Bottom ecological sites. Furthermore, the added condition requiring any supplements to be placed 1/8 mile upslope of any washes or drainages would help decrease the amount of time livestock would spend in the Sandy Bottom sites that are known as preferred wildlife habitat. The Proposed Action Alternative is expected to minimize impacts to vegetation in washes.

The additional permit terms and conditions under this alternative would reduce potential grazing impacts on vegetation near the Enterprise Canal by improving cattle distribution into the uplands, as compared to the No Action Alternative.

Figure 19 helps to quantify potential effects of livestock grazing vegetative communities within the Area of Expected Livestock Use under the Proposed Action Alternative. The 2.0 mile buffer around the proposed water haul sites creates an area of 4,224 acres in which potential impacts to vegetation communities from livestock grazing are most likely to occur. It is expected that any impacts to vegetation resources outside of the 2-mile buffer would be negligible. The allotment, which is currently achieving Arizona Standards for Rangeland Health, is expected to continue to do so under this alternative. Impacts of livestock grazing on vegetation can easily be resolved by having the lessee remove the livestock immediately. Ephemeral monitoring would measure available forage and the potential for additional growth prior to grazing authorization. Any residual evidence of impacts, such as hedging of perennial vegetation, could warrant no or reduced authorizations the following ephemeral year.

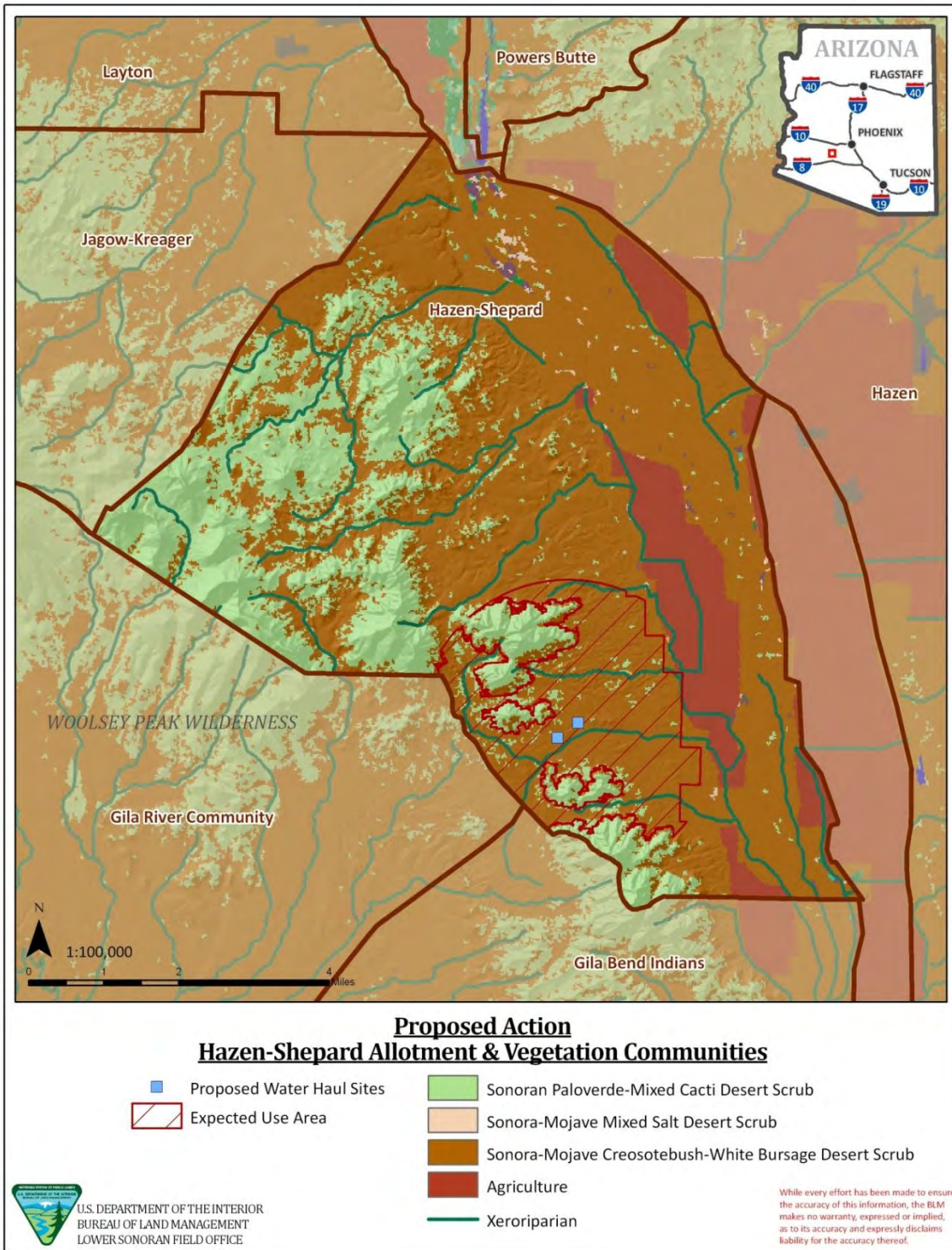


Figure 19. Vegetation communities within the Area of Expected Use under the Proposed Action Alternative.

4.4.3 No Grazing Alternative

Under the No Grazing Alternative, livestock grazing on this allotment would cease. This would not result in any direct effects on vegetation resources within the allotment, but indirect effects would occur. All forage, both perennial and ephemeral, would be available to wildlife species that inhabit the allotment. Because livestock grazing has been so infrequent over the past 20 years, vegetation conditions similar to those existing today are expected to continue. The allotment, which is currently achieving Arizona Standards for Rangeland Health, would likely continue to do so under this alternative. Impacts to the ecological function of these plant communities would be confined to natural disturbances (e.g., fire, drought) and other non-anthropogenic induced effects.

4.5 Special Designations

- *How would ephemeral livestock grazing impact Special Designations in the allotment, such as the Lower Gila River Terraces and Historic Trails ACEC, the Fred J. Weiler Greenbelt, and the Woolsey Peak Wilderness Area?*

The GIS analysis conducted for this EA helped to quantify potential effects of each alternative on the three Special Designations found on the allotment: the Lower Gila Terraces and Historic Trail ACEC, the Fred J. Weiler Greenbelt RCA, and the Woolsey Peak Wilderness Area. Table 9 represents those quantifications. The area of expected use for each alternative is illustrated in Figures 20 and 21.

Table 9. Special Designations within the Area of Expected Livestock Use under each Alternative

Special Designations	Existing Environment		No Action Alternative		Proposed Action Alternative	
	Total Acres within the Allotment	BLM Acres within Allotment	BLM Acres within the Area of Expected Use	% Area of Expected Use	BLM Acres within the Area of Expected Use	% Area of Expected Use
Lower Gila Terraces and Historic Trails ACEC	9,955	5,574	3,252	42%	1273	30%
Fred J. Weiler Greenbelt RCA	1,504	1,489	0	0%	0	0%
Woolsey Peak Wilderness Area	8,485	8,485	0	0%	0	0%

4.5.1. No Action Alternative

4.5.1.1 The Lower Gila Terraces and Historic Trails Area of Critical Environmental Concern

Under this alternative, current grazing management would continue resulting in cattle being turned out only during years of sufficient rainfall and forage production, at numbers determined by BLM staff, and subject to standard terms and conditions and the Special Ephemeral Rule. Under that rule, existing fencing would be repaired and maintained prior to grazing authorization.

A total of 9,955 acres of the ACEC are within the allotment boundaries, but almost 2/3 of that area is either privately-owned or part of the Greenbelt. The Area of Expected Livestock Use comprises an area of 3,252 acres within the ACEC. Potential impacts from livestock grazing to cultural resources under this alternative could include damage to known and unknown cultural

sites in the bottomlands along Enterprise Road and at the base of the bluffs west of the Gila River and at the Pierpoint area—all areas within the ACEC. Light to moderate impacts to cultural resources could occur under this alternative despite the infrequency and short duration of ephemeral use. Additionally, conflicts with migratory bird species and big game near the Enterprise Canal and the base waters. Impacts to wildlife are expected to be minimal, but greater than those under the Proposed Action Alternative because of the proximity to the Gila River.

4.5.1.2 Fred J. Weiler Greenbelt Resource Conservation Area

Although approximately 1,500 acres of the Greenbelt exist on the Hazen-Shepard Allotment, this portion of the allotment is fenced and livestock would not be able to access this area. Therefore, no impacts to the RCA from livestock grazing are expected under this alternative.

4.5.1.3 Woolsey Peak Wilderness Area

Under the No Action Alternative, the Wilderness Areas falls outside of the area of expected use because of slope and distance from water. Therefore, no impacts to the Woolsey Peak Wilderness Area from livestock grazing are expected under this alternative.

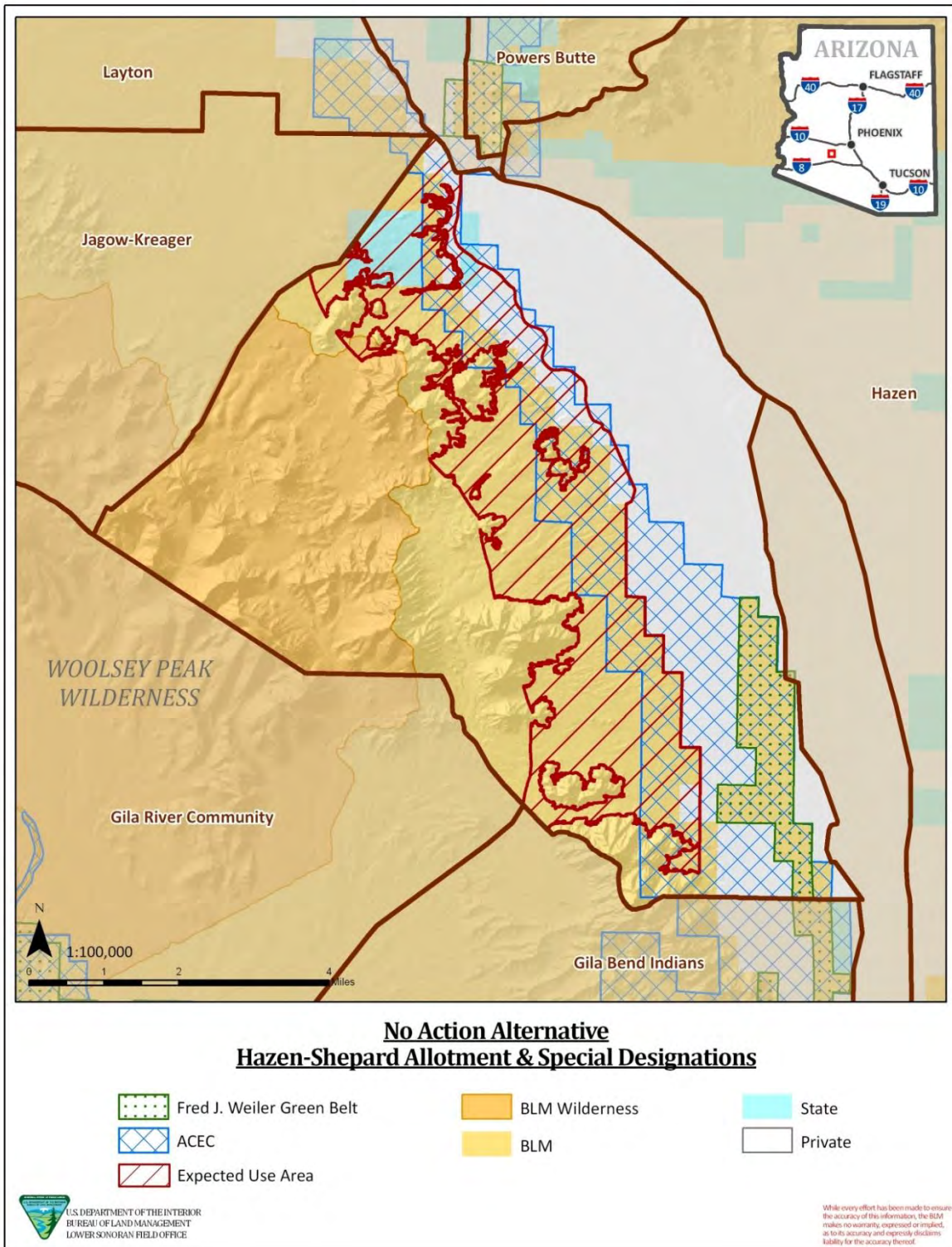


Figure 20. Special Designations in the Area of Expected Livestock Use under the No Action Alternatives

4.5.2. Proposed Action Alternative

4.5.2.1 The Lower Gila Terraces and Historic Trails Area of Critical Environmental Concern

As shown in Table 9 above, approximately 1,273 acres (30%) of the Lower Gila Terraces and Historic Trails ACEC falls within the area of expected livestock use. Impacts to the ACEC from livestock grazing would be similar to those discussed in the No Action Alternative, except decreased by 61%. The Proposed Action would help mitigate any potential impacts on cultural and wildlife resources by distributing livestock away from sensitive areas along Enterprise and Pierpoint Roads, the canal and Gila River and into areas that are less sensitive.

Under the Proposed Action Alternative, the existing fencing along Enterprise Road would be repaired and maintained to prevent cattle from accessing the Fred J. Weiler Greenbelt or the Gila River. Because no new fences are proposed, a Class III inventory and consultation with the SHPO is not required for this activity. If at a later date, it is determined that new fences or additional water developments are needed to restrict livestock movement or increase livestock distribution, those range improvement actions would be subject to a Class III inventory and consultation with the SHPO along with other additional NEPA analysis and a federal decision by the Authorized Officer. No new permanent range improvements are proposed with this alternative.

Potential impacts from livestock grazing on cultural resources are expected to be negligible because the water-haul sites would be located more than 2.0 miles from known cultural sites along the Gila River and Pierpoint areas. Impacts under this alternative are expected to be less than those under the No Action Alternative because cattle would be dispersed throughout the uplands, rather than on the bluffs along Enterprise Road and Canal where more cultural sites exist.

4.5.2.2 Fred J. Weiler Greenbelt Resource Conservation Area

As shown in Figure 21, the RCA is located outside of the area of expected livestock use, and is fenced off to livestock. Therefore, like the other two alternatives, there are no expected impacts from livestock under this alternative.

4.5.2.3 Woolsey Peak Wilderness Area

The Wilderness Act allows livestock grazing and necessary facility maintenance to support a livestock operation to continue when established prior to the Wilderness designation; therefore continued livestock grazing would be managed in accordance with this act. Livestock grazing is an existing use in this allotment, but is not expected to affect the values of the Wilderness. As shown in Figure 21, the Area of Expected Livestock Use falls within approximately 0.5 miles of the wilderness boundary. Moreover, the boundary is approximately 2.5 miles from the proposed water haul location. As stated above, it is expected that any impacts from livestock grazing to the wilderness area outside of that 2-mile buffer would be negligible. No substantial threats to the values of the wilderness area have been detected by occasional field visits to the area by BLM staff (DOI BLM 2011).

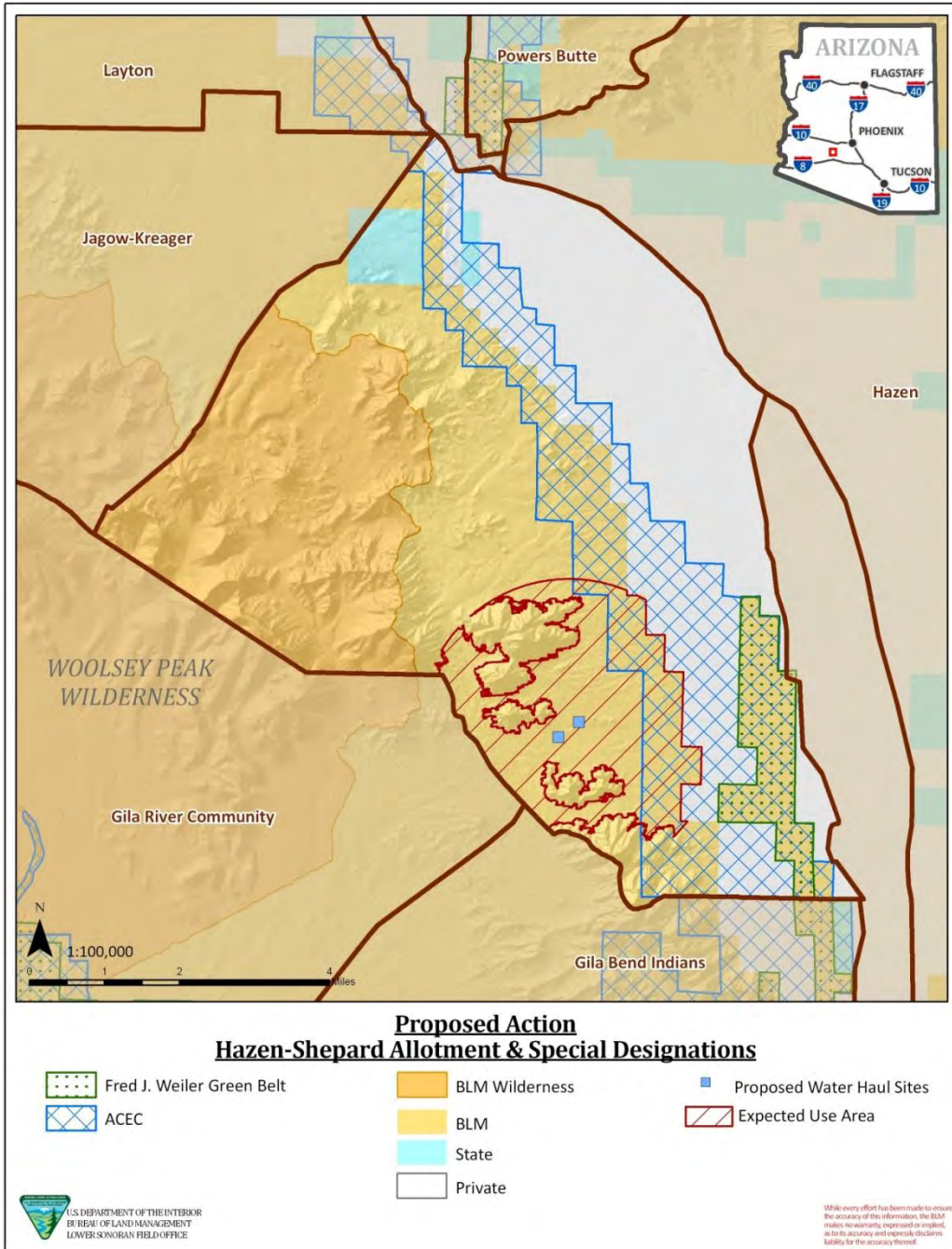


Figure 21. Special Designations within the Area of Expected Use under the Proposed Action Alternative

4.5.3 No Grazing Alternative

4.5.3.1 The Lower Gila Terraces and Historic Trails Area of Critical Environmental Concern

Under the No Grazing Alternative, livestock grazing would be eliminated. There would be no potential impacts to cultural and wildlife resources in the ACEC from livestock use.

4.5.3.2 Fred J. Weiler Greenbelt Resource Conservation Area

Under this alternative, the grazing permit would be cancelled and livestock grazing would not be authorized for the Hazen-Shepard Allotment. However, because of fencing and the infrequency with which grazing is anticipated to occur, it is not expected that there would be any difference in effects between the alternatives.

4.5.3.3 Woolsey Peak Wilderness Area

Selection of the No Grazing Alternative would remove the potential for effects from livestock grazing from the wilderness area. However, because livestock would not be located in the wilderness due to the terrain and lack of water, in combination with the infrequency with which grazing is anticipated to occur, it is not expected that there would be any difference in effects between the alternatives.

4.6 Cumulative Impacts

Cumulative impacts are those impacts resulting from the incremental effect of an action when added to other past, present, or reasonably foreseeable actions regardless of what agency or person undertakes such other actions (40 CFR 1508.7). All resource values addressed in Chapter 4 have been evaluated for cumulative effects. If there is no net effect to a particular resource from an action, then there is no potential for cumulative effects. The RHE analyzed rangeland resource condition from approximately 1993 to present. The No Action and Proposed Action Alternatives encompass a 10 year time period from 2014 to 2024. Therefore, the past, present and foreseeable future impacts have been analyzed to cover a timeframe from approximately 1994 to 2024. The geographic scope of the proposed grazing permit renewal encompasses the lands within and slightly outside the Hazen-Shepard Allotment boundary, but focuses in the 4,224 acres of expected livestock use in the vicinity of Citrus Valley Road on the southern end of the allotment.

It is reasonable to expect that most of the past, present, and ongoing actions discussed above are expected to persist and remain steady throughout the time frame considered in this analysis (1993-2023) with relatively little change in intensity expected. Continuation of these activities in the future would result in a continuation of effects similar to those that have resulted from past activities. Effects including soil and vegetation disturbance and habitat loss and fragmentation are expected to continue. No other known future actions are proposed to occur within the project area for the timeframe considered (M. Magaletti, personal communication 2011).

Analysis of Cumulative Effects: Past, Present, and Foreseeable Future Actions

Livestock grazing in the region has evolved and changed considerably since it began in the 1860s, and is one factor that has influenced the present day condition of the resources in the allotment, especially near the Gila River where large numbers of cattle could be grazed and watered. Given the past experiences with livestock impacts on resources on public lands, management of livestock grazing is an important factor in ensuring the protection of public land resources.

Cumulative impacts under the Proposed Action Alternative are expected to be less than those under the No Action Alternative because of the new terms and conditions added to the grazing permit under the Proposed Action. If the No Action Alternative were selected, it is likely that livestock would use the same areas that they had in the past—along what is now the Enterprise Canal. Fencing would keep them out of the private lands along the Gila River, but impacts from present and future livestock grazing would occur on the same 9,557 acres as has occurred in the past.

Under the Proposed Action, cattle would be dispersed throughout 4,224 acres of uplands, rather than along Enterprise Road and Canal where more environmentally-sensitive resources exist. The Proposed Action Alternative would limit effects to 12% of total allotment acres infrequently, based on available ephemeral forage. The relative frequency (about 1 to 3 years out of 10), coupled with the small percentage of acres involved (4,224 acres out of 34,178 total acres), plus fencing and strictly managed livestock distribution through placement of water troughs and supplements, would all combine to ensure that impacts from livestock grazing would be negligible.

As determined in the RHE, the Hazen-Shepard Allotment is currently meeting the Arizona Standards and Guidelines for Rangeland Health. Cumulative impacts to vegetation and soils (including cryptogams) on the allotment potentially include livestock grazing, invasion of noxious weeds, recreation, mineral exploration, and energy development. Under the Proposed Action Alternative, it is expected that the allotment would continue to meet Arizona Standards and land use plan objectives. Under the No Action Alternative, moderate to heavy impacts from foraging could occur on the 4 acres of Mixed Salt Desert Scrub and the 3 available acres of Mesquite Bosque on private lands. However, this represents a minute portion of the allotment, so cumulative impacts to this forage is minimal. There are no private salt scrub or mesquite bosque communities in the Proposed Action's area of expected use, so it is expected that livestock would be well-distributed throughout the creosotebush-bursage complex under that alternative.

The Proposed Action ensures that livestock grazing cumulatively impacts resources on 4,224 acres of uplands, rather than acreage along the Enterprise Canal. In contrast, the 9,557 acres that comprise the area of expected use for the No Action Alternative are vital to wildlife that depend on the year-round water from the canal. An additional 1,500 acres make up the Fred J. Weiler Greenbelt that was likely used for grazing in the past, but is now fenced off to livestock.

The 8,485 acres of Woolsey Peak Wilderness Area provides important habitat for big game species such as deer and bighorn sheep, as well as Sonoran desert tortoise. Woolsey Peak likely received light use from livestock throughout the history of the allotment because there is very little forage or water within its mountains. Present and future livestock grazing, regardless of the

alternative selected, is not likely to impact Woolsey Peak or its wildlife because its slopes and distance from water are determining factors for non-use.

The Lower Sonoran Field Office staff would continue to monitor the allotment for the presence of invasive weeds and current management practices would be employed to attempt to eradicate or contain such infestations. The effects of reasonably foreseeable future invasive weed monitoring and treatment, and wildfire rehabilitation would be necessary under any of the alternatives because the invasive species on the allotment are primarily found in the Greenbelt where livestock would not be permitted. Best management practices would be followed to minimize the potential for herbicide drift or accidental application to desirable species that if damaged could also lead to adverse effects to pollinators within the area. Any invasive weed treatment in the lowlands would be beneficial to upland soils and vegetation in the long term, which would indirectly contribute to continued attainment of the S&Gs.

Increased Off-Highway Vehicle (OHV) use may occur as a result of increased population in the region. Access to the public land parcels would not be altered by continued livestock grazing under any of the alternatives. However, OHV use may impact soil and vegetative communities through ground disturbance and may have detrimental effects to natural plant communities, which may lead to soil erosion, particularly if off-trail use occurs. Cumulative impacts from water haul trucks on Citrus Valley Road are expected to be negligible, due to the infrequent and short duration of the need to haul water under the Proposed Action. And as always, motorized vehicles are not permitted in Wilderness Areas, such as the Woolsey Peak Wilderness Area.

Mineral exploration would remain open to all leasable minerals actions but any lease would contain a No Surface Occupancy stipulation. Portions of the ACEC and the Greenbelt would be closed to seismic exploration and mineral material disposals. The remaining portion of the ACEC would be open to mineral material disposals, however surface disturbance would be minimized where possible through mitigation measures and special stipulations.

Construction of utility and communications infrastructure has occurred and must be maintained and improved to keep up with population increases that are occurring in the region. Utility corridors for the El Paso Natural Gas Pipeline and Section 368 Corridor (electrical power lines) traverse the north end of the allotment, but do not alter or impair any of the alternatives. Any future proposed projects would be analyzed in an appropriate environmental document during site-specific planning, which would include public involvement.

Solar development is a past, present, and foreseeable action that is expected to continue in the vicinity of the allotment. For example, the proposed Gillespie Solar Energy Zone (SEZ) (BLM and DOE 2012), which was brought forward as a potential issue, would be located northeast and outside of the boundaries of the Hazen-Shepard Allotment. No applications for solar projects in the Gillespie SEZ exist at this time. Other solar “farms” have been or are currently being built on private lands between Gila Bend and Buckeye. For example, there is a 200-acre solar farm on the boundary of the Hazen and Hazen-Shepard allotments along Old Highway 85. However, no impacts to this allotment are anticipated from these energy developments because, in accordance with the Lower Sonoran RMP, renewable development will be prohibited in the Special Designation areas of the Fred J. Weiler Greenbelt, the Lower Gila Terraces and Historic Trails ACEC, and Woolsey Peak Wilderness Area. All other areas within the allotment boundaries are

in “Utility-Scale Renewable Energy Development Avoidance Areas” because of the presence of Class II Desert Tortoise habitat and important wildlife corridors.

Livestock grazing, in combination with the other identified activities, has and will continue to alter upland vegetation composition and densities, which may reduce potentially suitable habitat for wildlife in some cases. Improving grazing distribution as analyzed in the Proposed Action Alternative is expected to reduce these impacts by keeping livestock in the uplands and away from areas of the greatest environmental concern near the Enterprise Canal.

Through proper management of livestock, adequate wildlife habitat would be maintained within the allotment to support viable populations of the species discussed in this EA. The No Action Alternative has the most potential to impact wildlife habitat because the area of expected livestock use overlaps with wildlife use along the Enterprise Canal and intersects the Wildlife Corridor. The Proposed Action Alternative, in combination with the past, present, and reasonably foreseeable activities considered in this analysis, may impact some wildlife and their habitat, but the terms and conditions have been designed to lessen potential impacts on wildlife habitat and forage availability. The No Grazing Alternative would be the most beneficial alternative for wildlife habitat and populations there would be no competition for forage, water, or cover.

In accordance with the Special Ephemeral Rule, assessment of the allotment will always occur prior to authorization of livestock on ephemeral permits to determine if adequate forage exists for both wildlife and livestock. Additionally, in order to detect any direct, indirect, and cumulative impacts of livestock grazing on various resources, BLM resource specialists would periodically monitor the allotment over the 10-year term of the grazing permit to ensure that the fundamentals or conditions of rangeland health are being met, in accordance with 43 CFR 4180. Monitoring studies will generally include actual use, utilization, trend, and climate. These studies will be analyzed through the evaluation process to determine management actions needed to achieve standards and meet multiple-resource management objectives. If monitoring indicates current livestock grazing practices are causing non-attainment of resource objectives, the BLM could modify the terms and conditions of a grazing permit or lease temporarily or on a more long-term basis, as deemed necessary, after consultation with the livestock permittee. However, if a permittee disagrees with the BLM’s assessment of the resource conditions or the necessary modifications, the BLM may nevertheless issue a Full Force and Effect Grazing Decision to protect resources.

5. CONSULTATION AND COORDINATION

As described in Section 1.5 *Scoping and Issue Identification*, the public was invited to participate in the S&G evaluation process for this allotment. A draft evaluation was sent out for public review and comment to individuals, groups, and agencies. Comments received were incorporated into the Final S&G evaluation report. This EA reflects those comments.

The BLM resource specialists from the Lower Sonoran Field Office involved in development of this EA or the S&G assessment are listed in Table 10. This EA was prepared by staff from North Wind, Inc., Idaho Falls, Idaho, with information necessary for the analysis provided by those specialists listed in Table 10. Table 11 lists the agencies, individuals, and organizations that were consulted as part of the evaluation process.

Table 10. BLM Interdisciplinary Team for this EA and/or the RHE.

Name	Title
Leah Baker	Planning & Environmental Coordinator
Tom Bickauskus	Travel Management
Steve Bird	Wildlife Biologist
Cheryl Blanchard	Archaeologist
Kathleen Depukat	Projects Manager, Lands and Realty
Andrea Felton	Natural Resources Specialist , Project Lead
Sharisse Fisher	Geographic Information Systems Specialist
JoAnn Goodlow	Lands and Realty Specialist
Matt Magaletti	Assistant Planning Coordinator
Gloria Tibbetts	Planning & Environmental Coordinator
Ronald Tipton	Wildlife Biologist
David Scarbrough	Recreation Planner, SDNM Manager
Edward Kender	Manager, Lower Sonoran Field Office

Table 11. List of permittees, stakeholders, agencies and organizations consulted.

Agency/Organization Consulted
Arizona Cattlemen's Association
Arizona Game and Fish Department, Region 4
Arizona Game and Fish Department, Region 6
Arizona State Land Department
Center for Biological Diversity
Saddleback Cattle Company
United States Fish & Wildlife Service
Western Watersheds Project
The Wilderness Society

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