United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Gila District Office
3201 East Universal Way
Tucson, Arizona 85756
www.blm.gov/az/

June 2, 2016

In Reply Refer To:
6840 (AZG020)

Memorandum

To: Field Supervisor, Fish and Wildlife Service, Arizona Ecological Services Office, 2321 West Royal Palm Road, Suite 103, Phoenix, Arizona 85021

From: Melissa Warren
Field Manager

Subject: Re-initiation of Consultation #22410-2006-F-0414 and Request for Informal Section 7 Consultation on Eight Grazing Lease Renewals, Pinal County, Arizona.

The Bureau of Land Management is requesting informal consultation on Eight Grazing Lease Renewals, Pinal County, Arizona pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended. The purpose of the project is to renew the existing grazing leases along the lower San Pedro River and the Gila River between Kelvin and Florence. The renewals will allow the continuation of livestock grazing on the allotments, subject to Terms and Conditions to protect resource values.

During development of the proposed action, we have incorporated pertinent conservation measures for protection of natural resources including conservation measures from previous consultations on grazing within the Gila District.

We have analyzed the effects of the proposed action on newly proposed, threatened, and endangered species and critical habitat that are known, or their habitat is known to occur in the vicinity of the project. It is the determination of the attached Biological Assessment that this project **may affect, but is not likely to adversely affect** the Threatened Yellow-billed Cuckoo and Proposed Critical habitat, the Endangered Acuna Cactus and Proposed Critical Habitat, and the Threatened Northern Mexican Garter Snake.

We requested your concurrence that the proposed action is not likely to adversely affect the Threatened Northern Mexican Gartersnake (Thamnophis eques megalops), the Threatened Yellow-billed Cuckoo and Proposed Critical habitat (Coccyzus americanus), and the Endangered Acuna Cactus and Proposed Critical Habitat (*Echinomastus erectocentrus var. acunensis*).

The Tucson Field Office looks forward to working with you on this vital project. The Biological Assessment is attached.

Please contact Darrell Tersey at (520) 258-7218 if you have any questions or need additional information.

2 Attachments

Attach. 1 - Biological Assessment of the Biological Assessment for Eight Grazing Lease Renewals in the Tucson Field Office, Pinal County, Arizona

Attach. 2 - Computer disc with MS-Word version of BA

cc (w/ attach):
Mr. Tim Hughes
Bureau of Land Management
Arizona State Office (9320)
One North Central Avenue, Suite 800
Phoenix, Arizona 85004-4427

Mr. John Windes
Arizona Game and Fish Department
555 N. Greasewood Rd
Tucson, Arizona 85745

Biological Assessment
Eight Grazing Lease Renewals
in the Tucson Field Office
Pinal County, Arizona

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

Submitted May 2016

BLM

Table of Contents

1 Introduction

1.1 Background

The 2012 Programmatic Biological Opinion for the Biological Opinion on the Gila District Livestock Grazing Program # 22410-2006-F-0414 covered the BLM's Grazing program in southeastern Arizona.

BLM managed lands in eastern Arizona are now administered by the Gila District. The Gila District is comprised of public lands within the Safford and Tucson Field Offices. The lands considered in the 2012 BO are within these administrative designations along with additional public lands in eastern Arizona, formally parts of the Phoenix District, BLM.

The current Gila District grazing program is covered under three consultations:

Programmatic Biological Opinion for the Safford/Tucson Field Offices Livestock Grazing Program, Southeastern Arizona #2-21-96-F-160, as amended.

Amendment Number One to the Biological Opinions for the Phoenix District Portion of the Eastern Arizona Grazing EIS and the Upper Gila-San Simon Grazing EIS #2-21-96-F-422 and 423.

Biological opinion: Livestock Grazing on 18 Allotments Along the Middle Gila River Ecosystem #02-21-00-F-0029.

1.2 Proposed Action

The Bureau proposes to use the livestock management tools described in its grazing Environmental Impact Statements and Arizona Standards for Range Land Health to enhance or maintain upland health and enhance or maintain desired conditions.

The Bureau proposes to continue livestock grazing on public lands, subject to the paragraph above. Within the Gila District, there are 412 allotments, encompassing 1,973,014 public land acres in eastern Arizona. A total district preference of 196,162 Animal Unit Months (AUM) or an equivalency of 16,347 head of cattle yearlong are currently permitted on these allotments and would represent maximum use, if all allotments were fully stocked. In general, stocking rates on allotments range from two to nine head per section, per year, depending on range potential, with the District average being five head per section. The project area, which includes lands within the jurisdiction of the Tucson Field Office, is shown in Figure 1. Allotment boundaries are also illustrated in Figure 1. All allotments and associated information are listed in the Appendices.

The Bureau specifically requests re-initiation for the following reasons:

New information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in a previous opinion.

All grazing allotments and species considered in 2012, as well as those to be incorporated from the Gila District (see above list of consultations) have been reviewed, analyzed and updated as appropriate.

The agency action has been subsequently modified in a manner that causes an effect to a listed species or critical habitat that was not considered in a previous opinion.

A new species has been listed or critical habitat designated/proposed that may be affected by this action.

Species listings

- Chiricahua Leopard Frog
- Yellow Billed cuckoo
- Acuna Cactus
- Northern Mexican Garter Snake
- Narrow Headed Garter snake

Critical Habitat Designations and Proposed Designations

- Chiricahua Leopard Frog
- Yellow Billed cuckoo
- Acuna Cactus
- Northern Mexican Garter Snake
- Narrow Headed Garter snake

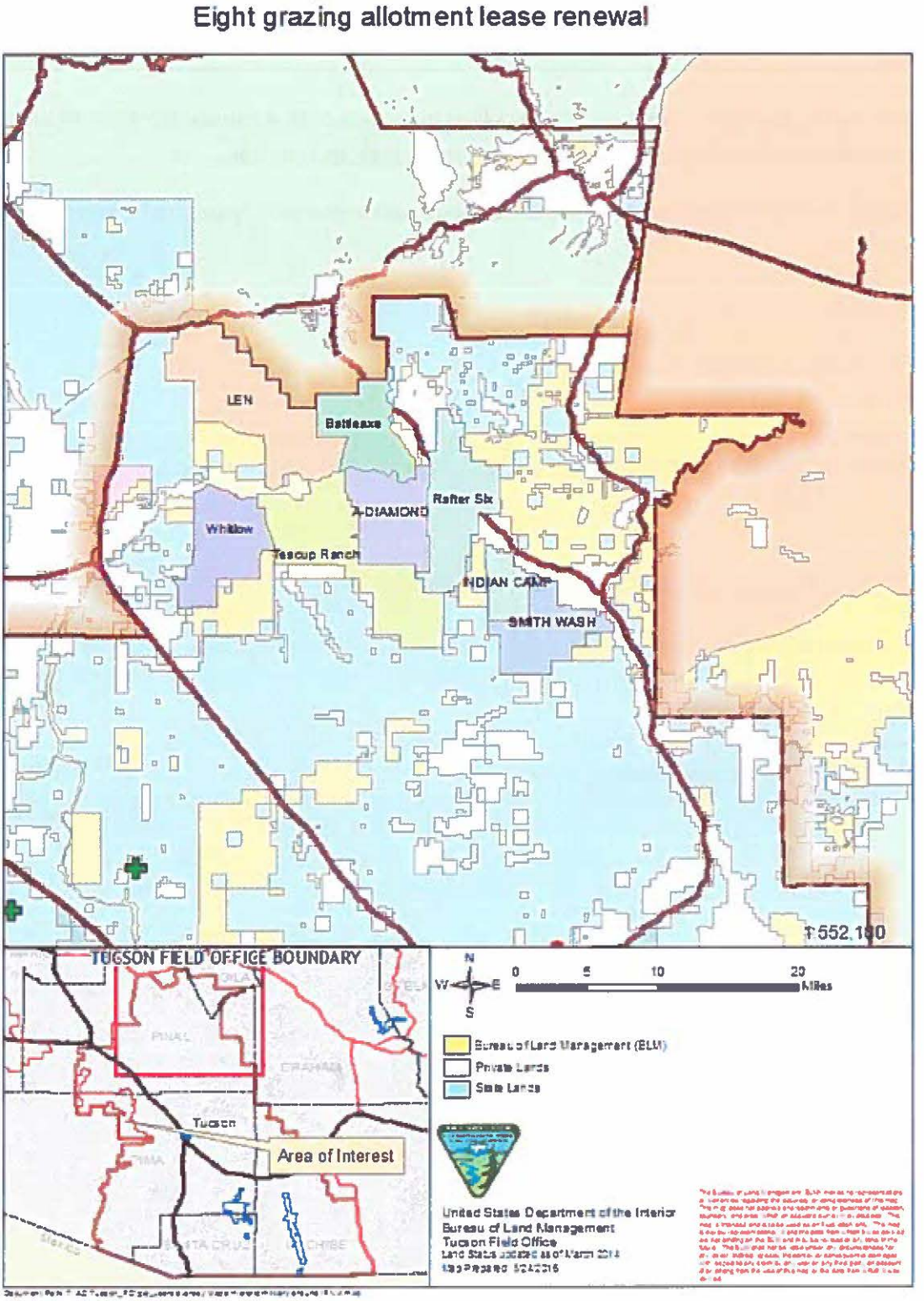

Figure 1 Map of eight grazing allotments up for renewal

1.2.1 Laws, Regulations, Bureau Policy and Land Use Plan Decisions Affecting the Tucson Field Office Grazing Program

Guidance and constraints for the Gila District grazing program is provided in Federal laws and regulations. Bureau policies and land use planning provide agency direction and make decisions that implement these laws and regulations. Detailed descriptions can be found in the 2012 Programmatic Biological Opinion for the Gila District Livestock Grazing Program # 22410-2006-F-0414, Safford/Tucson Field Offices Livestock Grazing Program, Southeastern Arizona #2-21-96-F-160, Amendment Number One to the Biological Opinions for the Phoenix District Portion of the Eastern Arizona Grazing EIS and the Upper Gila-San Simon Grazing EIS #2-21-96-F-422 and 423 and Biological opinion: Livestock Grazing on 18 Allotments Along the Middle Gila River Ecosystem #02-21-00-F-0029.

1.2.2 Federal Laws that Guide Management of Grazing

The Federal Land Policy Management Act of 1976 (FLPMA) provides basic direction to the Bureau relating to management of resources and uses on Bureau-managed public lands. One of the prime directives is to manage public lands and resources under the concept of multiple use and sustained yield. The Taylor Grazing Act (1934) and the Public Rangelands Improvement Act (1978) provide direction for the management of grazing on public lands. Other federal laws such as the National Environmental Policy Act (1969), Clean Water Act, Clean Air Act, Endangered Species Act, Wilderness Act, and Wild and Scenic Rivers Act may have direct and/or indirect effects on public land management including the grazing program.

The purpose of the Endangered Species Act is to provide a means whereby threatened and endangered species, and ecosystems the species depend upon, will be protected. The Bureau Manual 6840 sets forth the policies by which the Act is implemented by the Bureau.

1.2.3 Federal Regulations

Current federal regulation concerning grazing on public land can be found in 43 CFR Part 4100. These regulations included the requirement to complete Standards and Guides evaluation on all grazing allotments. Standards and Guides regulations were the last regulation change that altered on the ground grazing administration. Minor changes in these regulations have been proposed in recent years, some of which have been implemented others have not, due to litigation.

1.2.4 Bureau Policy and Land Use Plan Decisions Affecting the Gila District Grazing Program

All bureau policy and land use plan decisions remain the same as described in The Gila District Livestock Grazing Program # 22410-2006-F-0414,

A summary of bureau policy and land use plan decisions in the Gila District includes:

Selective Management Category for Grazing

Safford/Tucson Field Offices' Drought Policy

Riparian Area Policy and Management in the Project Area

Grazing Systems

Range Improvements Projects

Inventory and Monitoring of Allotments

1.3 Project Area

The project area is described as the area encompassed by eight grazing allotments within the Tucson Field Office. The eight allotments contain 116,463acres of Bureau administered lands and 76,586 acres of lands not administered by the Bureau. The project area is in Pinal County.

The project area includes all of the allotments Section 15 lands (refer to Section 15 of the Taylor Grazing Act). On section 15 BLM public lands (outside of Grazing Districts); the Bureaus' management control is very limited.

The area of the proposed action includes the project area plus additional areas outside of the project area influenced by the proposed action area (Figure 1). In general, there is little doubt that uncontrolled open range grazing at the end of the eighteenth century harmed the watersheds of eastern Arizona. There is also little doubt that watersheds have shown improvement with 60 years of permitted and managed livestock grazing, however impacts remain. Livestock grazing impacts can have implications outside of the project area, when grazing causes excessive non-point source pollution and when grazing in drainages removes vegetation, which allows water to carry a higher energy level outside of the project area. Sediment rates in rivers and streams are likely still high from the impacts of grazing in the late 1800s, but are also likely to have lessened in the last 60 years. Non-point source pollution from livestock fecal material is also likely lessened from 100 years ago, but will continue to cause some level of non-point source pollution as long as livestock graze in the watersheds. The condition of riparian areas and their ability to absorb energy from water has also improved over the last 60 years, but problem areas still remain.

Although lessened over the last 60 years livestock grazing can still have a negative influence on water quality, and water energy. Under normal rainfall event these impacts are in most cases minimal. Increased run off, from large rain events would have more of an impact downstream, and livestock grazing would increase this impact to some degree. The major drainage that can carry these influences out of the project area is the Gila River. Grazing allotments in the Tucson Field Office, Pima, Gila, Cochise and a portion of Pinal counties drain primarily into the Gila River primary tributaries include the San Pedro River. Non-point source pollution and/or riparian vegetation alteration could potentially influence the Gila River drainage but these effects would be nullified by two water control points, Coolidge Dam on the San Carlos Reservation and the Hayden Ashurst Diversion Dam up stream of Florence.

1.3.1 Purpose and Need for the Proposal

The purpose of the proposed action is to renew eight grazing leases for ten year terms. The need for the proposed action is the grazing leases are expiring and need to be analyzed before renewal of the leases.

1.3.2 Description of the Proposed Action

The BLM would renew the grazing leases with conditions to protect habitat with Federally listed species, authorize livestock grazing on Federal lands administered by the BLM, and protect watersheds on the allotments within the Gila watershed. For the purposes of this Biological Assessment, the Tucson field Office is looking at eight grazing lease renewals for this Proposed Action.

The Lease renewals objectives include:

- Maintaining and restoring resilient landscapes, which include protecting fish and wildlife habitat.
- Authorizing livestock grazing at levels appropriate to protect natural resource values on the Public lands.

Table 1 Proposed Allotment Management

Allotment	Proposed management
A Diamond	Winter use on riparian pasture
Battle Axe	Winter use on riparian pasture
Indian Camp	Yearlong (no riparian)
LEN	Winter use on riparian pasture
Rafter 6	Winter use on riparian pasture
Smith Wash	Yearlong (no riparian)
Teacup	Winter use on riparian pasture
Whitlow	Winter use on riparian pasture

1.4 Conservation Measures

DESCRIPTION OF THE PROPOSED ACTION

The BLM proposes to continue livestock grazing on public lands within the Gila District. This proposed action includes 8 allotments that contain 116,463acres of Bureau administered lands and 76,586 acres of lands not administered by the Bureau. A total preference of 11,586 Animal Unit Months (AUM), or an equivalency of 965 head of cattle year long, are currently permitted on these allotments and represents the maximum use if all allotments were fully stocked. The BLM proposes to use the livestock management tools described in Federal regulations, Resource Management Plans (RMPs), grazing Environmental Impact Statements, and Arizona's Guidelines for Grazing Administration and other grazing policies, including that for drought, to

enhance or maintain upland and riparian health (Proper Functioning Condition - PFC) and enhance or maintain desired conditions.

The active preference represents the upper limit of livestock use that can be authorized within a year based on the amount of forage available for livestock grazing as established in the land use plan (LUP), activity plan, or by decision of the authorized officer. LUPs also set forth program constraints and general management practices needed to achieve multiple use management objectives. Livestock grazing activities and management actions approved by the authorized officer shall be in conformance with the LUP. The BLM periodically reviews the permitted use specified in a grazing permit or grazing lease and makes changes as needed to manage, maintain or improve rangeland productivity, to assist in restoring ecosystems to properly functioning condition, to conform with land use plans or activity plans, or to comply with the regulations.

Changes in permitted use are supported by monitoring, field observations, ecological site inventory or other data acceptable to the authorized officer. Management of the allotments varies, using yearlong, seasonal, or ephemeral grazing, pasture rotations, and different rest scenarios. The 8 allotments also contain 76,586 acres of lands not administered by the BLM. The proposed action will occur in the project area, which includes lands within the jurisdiction of the Tucson Field Office. Allotment boundaries, land status and/or property ownership within allotments are also shown in Appendix 7.3 (Allotment Maps). All allotments and proposed management are listed in Table 1 of this BO. BLM proposes to continue livestock grazing activities on the allotments as long as BLM implements the proposed action. Grazing activities on the remainder of the grazing allotments in the Tucson Field Office are addressed in separate BO's or BA's, and are not included in this consultation, but will be consulted on incrementally as they come up for permit renewal.

As part of the proposed action, some areas of public lands within the District have been excluded from livestock grazing (maybe year-long or seasonally) for resource benefits, including benefitting threatened or endangered species. Livestock grazing in these areas is not permitted, is considered unauthorized use, and is not considered part of the proposed action. The BLM, by regulation, will resolve unauthorized use of as stated in 43CFR Sec. 4150 which in part is presented below.

Sec. 4150.2 Notice and order to remove.

> (a) Whenever it appears that a violation exists and the owner of the livestock is known, written notice of unauthorized use and order to remove livestock by a specified date shall be served upon the alleged violator or agent of record, or both, by certified mail or personal delivery. The written notice shall also allow a specified time from receipt of notice for the alleged violator to show that there has been no violation or to make settlement under Sec. 4150.3.

(b) Whenever a violation has been determined to be "not willful" and incidental, the authorized officer shall notify the alleged violator that the violation must be corrected, and how it can be settled, based upon the discretion of the authorized officer.

(c) When neither the owner of the unauthorized livestock nor his agent is known, the authorized officer may proceed to impound the livestock under Sec. 4150.4.

BLM has flexibility to effect changes in grazing management to address rangeland health, including: The use of permit/lease terms and conditions to achieve resource objectives 43 CFR (section 4130.3); Modification of terms and conditions when active use or related management practices are not meeting plan objectives or standards and guidelines (section 4130.3–3);

Suspension of active use in whole or in part due to the reasons set forth in section 4130.3–3 based on monitoring, field observations, ecological site inventory or other acceptable methods (section 4110.3–2); and Issuance of immediate full force and effect decisions to close areas to grazing when the authorized officer concludes that soil, vegetation, or other resources (e.g. Federally listed species and designated critical habitat) require immediate protection because continued grazing use poses an imminent likelihood of significant resource damage.

Installation of new range improvements (such as water sources and fences) and maintenance of existing and new improvements are included in the proposed action, though specific improvements and their locations are not identified.

The project area includes Section 15 lands (refer to Section 15 of the Taylor Grazing Act). On section 15 BLM lands (outside of Grazing Districts), BLM's management is generally very limited because of mixed ownership land patterns and most allotments have small parcels of BLM lands and, are difficult to manage. Section 15 lands are primarily in Navajo, Apache, Santa Cruz, Cochise, Pima, and Pinal counties. The few Section 15 allotments that have a substantial amount of public land in large blocks, not in a checker board pattern, would have more management flexibility.

The action area includes areas proposed for renewal of grazing leases plus additional areas influenced by the proposed action. The major drainages that can carry these influences out of the project area are the Gila River drainage, including the lower San Pedro River, beginning at the area of Dudleyville and ending at the western boundary of the Gila District (generally downstream on the Gila River to the Ashurst-Hayden Diversion Dam.

BLM manages livestock grazing to achieve and maintain public land health. To achieve desired conditions, the agency uses rangeland health standards and guidelines, which the BLM developed in the 1990s with input from the citizen-based Resource Advisory Councils across the West.

Standards describe specific conditions needed for public land health, such as the presence of stream bank vegetation and adequate canopy and ground cover. Guidelines are the management techniques designed to achieve or maintain healthy public lands, as defined by the standards.

The Department of the Interior's final rule for Grazing Administration, issued on February 22, 1995, and effective August 21, 1995, required that BLM State Directors develop State or regional standards and guidelines for grazing administration in consultation with BLM Resource Advisory Councils (RAC), other agencies, and the public. Each State was given until February of 1997 to develop state standards and guidelines or use the standards and guides as provided in the grazing regulations. In 1997, the Secretary of Interior approved Arizona's Standards for Rangeland Health and Guidelines for Grazing Administration. The Decision Record, signed by the BLM State Director (April 1997) provides for full implementation of the Standards and Guides in Arizona BLM Land Use Plans.

Rangeland Health Standards (now referred to as Land Health Standards (LHS)) are measurable and attainable goals for the desired condition of biological resources and physical components/characteristics of desert ecosystems found within the Gila District. BLM typically evaluates indicators of land health by ascertaining the effects of livestock grazing on natural resources on landscape units called ecological sites. The Arizona Rangeland Health Standards are defined below:

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

- Standard 2 - Riparian-Wetland Sites: Riparian-wetland areas are in proper functioning condition.

- Standard 3 - Desired Resource Conditions: Productive and diverse upland and riparian/wetland communities of native species exist and are maintained.

An Interdisciplinary team completes a Land Health Evaluation (now referred to as the LHE) of land health standards and determines the causal factors for not achieving a standard.

The LHE evaluation process evaluates three land health standards: 1-upland condition; 2-riparian conditions; and 3-desired resource condition. The evaluation steps are:

A. Identify assessment areas to be evaluated for achievement of land health standards. The evaluation can be completed at the allotment level or higher levels such as watersheds, landscapes, and groups of allotments.

B. Prioritize areas for evaluation.

C. Assemble existing information e.g., monitoring data, inventory data, trend, utilization, climate data and actual use information.

D. Evaluate data to ascertain whether land health standards are achieved. If additional information is needed to draw conclusions about the achievement of standards, then Technical Reference (TR) 1734-6, Interpreting Indicators of Land Health, or additional monitoring data may be necessary.

E. Prepare an Evaluation Report to document whether land health standards are achieved. The Report can be helpful to identify the appropriate action needed to make significant progress toward achieving the standards where they are not met. The Evaluation Report will include:

- Identification of the area evaluated.
- A reference to information sources used in the evaluation.
- A summary of the data used to ascertain whether standards are achieved.
- A list of standards and/or objectives evaluated.
- Indicators used to evaluate whether standards are achieved, and conclusions drawn by the interdisciplinary (ID) team. Monitoring is related to the indicators that were used to ascertain non-achievement.

If the Evaluation Report documents that standards are not achieved in the assessment area, then the authorized officer will determine significant causal factors for non-achievement. If existing grazing management practices or levels of grazing use on public land are significant factors, then an appropriate action or actions will be developed and implemented in accordance with 43 CFR subpart 4180.2(c).

Once the Determination of Land Health Achievement is completed the authorized officer issues a decision:

- If existing grazing management or levels of grazing use are determined to be significant causal factors for not achieving land health standards, the authorized officer will take appropriate action by issuing a decision to modify grazing, construct management facilities, or implement treatments in accordance with 43 CFR subparts 4160. "Appropriate action" under 43 CFR subpart 4180.2(c) has been taken when the decision to implement the action is issued.
- If the significant causal factors are a result of BLM-authorized activities other than grazing, the authorized officer will take action to correct the situation in accordance with regulations applicable to that activity. If the causal factor is an activity or event outside of BLM's control, no action is required. However, this may provide an opportunity to coordinate and cooperate to achieve management that will remedy the factors causing the land health standards to not be achieved on public land.

• Monitoring to determine if actions taken are resulting in significant progress toward achieving the standard(s) is a high priority. Monitoring is tied to the indicators that were used to ascertain achievement or non-achievement.

1.4.1 Baseline Condition and Trend data.

The BLM used inventory and monitoring data to assess ecological site conditions and status from 2013 to 2016. The Ecological Site Inventory method (ESI) referenced in the 1997 BO (1997 BO, Table 5, and Pages 39-43) evaluates current conditions against Potential Natural Community (PNC) for the site.

A potential natural community is a biotic community that would become established on an ecological site if all successional sequences were completed without interference by humans under contemporary environmental conditions. The potential natural community recognizes past influences by humans, including past land use and including exotic species of plants or animals.

Human influence is excluded from the present onward to eliminate the complexities of future management. A potential natural community explicitly recognizes that *naturalized exotic species* may persist in the final stage of secondary succession and that succession after disturbance does not always reestablish the original vegetation (adapted from Habich 2001).

An ecological site, as defined for rangeland, is a conceptual division of the landscape, which is a distinctive kind of land with specific soil and physical characteristics that differs from other kinds of land in its ability to produce distinctive kinds and amounts of vegetation, and in its ability to respond similarly to management actions and natural disturbances. The Natural Resource Conservation Service periodically updates ecological site descriptions.

The BLM typically monitors change on ecological sites in response to management or weather but makes livestock-grazing management changes on a management unit of pastures or allotments rather than ecological sites because ecological sites are typically too small in size to manage separately for livestock grazing. Prevalent ecological sites within pastures or allotments are typically monitored through use of key areas or critical areas (i.e. riparian areas). Response to management or weather on these key areas or critical areas is used as a basis for judging whether livestock-grazing management is in need of change within pastures or allotments.

This BA uses data from LHE reports, and ESI data for rangeland condition information (Appendix 7.2). Land Health Evaluations are an ongoing process. The data presented in Appendix 7.2 are the results of land health conditions at a point in time, and provide the best available information about current conditions.

The habitat needs for individual species must be evaluated against the existing conditions and realistic potential for an allotment. The ESI method is based on current condition in relation to the PNC for the site, which may not necessarily reflect habitat conditions for a listed species.

LHA evaluation process provides an evaluation against a desired resource condition that may reflect the status of certain habitat components.

For this analysis, we are assuming that both methods provide a general assessment of rangeland condition (e.g., soil stability and ground cover appropriate to soil type, climate, and land form).

While the data may not be sufficient to determine if a specific land parcel provides the specific habitat components for a species, it likely is sufficient to reflect general conditions. For example, land parcels that are meeting the LHSs are more likely to result in less erosion and fewer extreme flood events than parcels that do not meet the LHSs, though this may not be always the situation.

These assessments are for BLM lands only. They do not include assessments of non-BLM lands in the allotments.

1.4.2 EXISTING CONSERVATION MEASURES

All conservation measures and reasonable and prudent measures from previous consultations addressing grazing within the project area that are continuing or have not been fully implemented are incorporated in this BA. The conservation measures listed below are the result of reviewing and editing the measures of the previous documents that are applicable for this proposed action, and additional measures the BLM has proposed during this current consultation. Any conservation measure or reasonable and prudent measure from a previous consultation that has been implemented and that would affect the status of a species is reflected in the Environmental Baseline section (see the Safford and Tucson Field Offices' annual monitoring reports for actions regarding specific measures). The BLM will implement the following conservation measures to reduce adverse effects to listed species and critical habitat from authorized livestock grazing actions on BLM lands within the designated allotments listed in Table 1.

1.4.3 General Measures

General measures will be implemented for all livestock grazing actions, including maintenance or construction of range improvements in the Gila District unless otherwise modified in species or site specific measures. The BLM will:

1. Consider effects to listed species and designated critical habitat during grazing allotment evaluations. Realistic and achievable habitat elements that benefit listed species will be included when determining desired resource condition.

2. Review, for every proposed project, the FWS species list for the general project area and conduct appropriate surveys and clearances for threatened and endangered species.

3. Submit an annual monitoring report to the FWS Arizona Ecological Services Field Office on or before March 15. These reports shall briefly summarize for the previous calendar year: 1) implementation and effectiveness of these measures and 2) documentation of incidental take, if any. The report shall also summarize livestock grazing actions on allotments that may affect

occupied, suitable and critical habitat for listed species, including: any inventories, monitoring, evaluations, range improvement projects, and known unauthorized livestock use in areas excluded or otherwise closed to grazing that benefit listed species.

4. Work to remove unauthorized livestock from areas excluded or otherwise closed to grazing that provides a benefit to listed species and their habitat (see Table 4 in consultation #22410-2006-F-0414 for a current list of exclosures). The BLM will contact the owner of the livestock as soon as possible after the unauthorized use is reported and request removal. The unauthorized use will be resolved through CFR authorities (43 CFR Sec. 4150). The BLM will work as quickly as practical to repair exclosure fences or notify permittees to repair fences. Where unauthorized use is a recurrent problem, alteration or additional barriers to livestock movement will be considered.

5. Provide a biologist to present instruction for activities in the field in areas with listed species and act as a spot monitor where the potential for take exists.

6. Require all trucks and heavy equipment associated with BLM projects to use existing roads, washes and stream beds will be avoided.

7. Continue to implement all reasonable efforts to minimize adverse effects to listed fish for actions in and adjacent to stream channels (fence, road, or water development activities).

8. Require all heavy equipment associated with BLM projects to be pressure washed to remove mud and seeds, before transporting to project site. Field equipment will be decontaminated according to established protocols. Employees, contractors and other associates will be advised of any special site specific or species protocols.

9. Require, during any BLM construction project, equipment to be parked well away from stream channels and washes to prevent potential contamination. Equipment will be checked daily for leaks.

10. Not construct new permanent roads or trails within listed species' habitats, with the possible exception of lesser long-nosed bat foraging areas. Fence lines will not be bladed prior to fence installation. Some vegetation work, including limbing and off-road travel, may be authorized on a case-by-case basis.

11. Require large surface disturbing actions to use straw waddles or other approved sediment catching measures in place.

12. Avoid, to the extent possible, impacts to native riparian vegetation.

13. Manage for appropriate vegetation species in riparian areas that support listed species. At a minimum this will likely be seasonal grazing use (winter use only), but complete exclusion will

also be considered. After riparian areas are closed to grazing, livestock use will not be authorized until fencing or other control methods are in place.

14. Inspect fences used for excluding livestock from BLM managed riparian areas/pastures before livestock are turned out.

15. Place livestock supplements, including salt, at least a quarter mile away from riparian areas.

16. Conduct, in order to minimize impacts, trailing through BLM riparian areas so that 1) livestock are present for the shortest period of time possible in riparian/aquatic areas, 2) the shortest route across the stream/river is taken, 3) trailing across streams/rivers is conducted as infrequently as possible, and 4) whenever possible, trailing is conducted when bank-line soil moisture is relatively low.

17. Continue to evaluate all existing and proposed stock water sources on BLM-managed lands with regard to their degree of risk for introducing nonnative aquatic species to habitat with listed aquatic species or designated as Critical Habitat. The BLM will then, in conjunction with the FWS and Arizona Game and Fish Department (AGFD), develop and implement management techniques or practices for the tanks with perennial water. Management techniques may include, but are not limited to, seasonal drying, replacement of the existing tanks with troughs, or other appropriate methods.

18. Coordinate control efforts with the FWS and AGFD if invasive aquatic species are discovered in developed water on BLM land. The water will be dried or treated with piscicide through a coordinated effort to eliminate the invasive species. Where appropriate, grazing permits will have a standard term and condition that non-native aquatic species will not be stocked in waters on public lands.

19. Locate new facilities away from riparian-wetland areas if they conflict with achieving or maintaining riparian-wetland function or goals for threatened and endangered species (TES).

Existing facilities will be managed in a way that does not conflict with riparian-wetland function or TES goals, or will be relocated or modified when incompatible with riparian/wetland function or TES goals.

1.4.3.1 Southwestern willow flycatcher

1. Mapping: The BLM will maintain maps that convey information about flycatcher habitat.

These maps will be reassessed as conditions change, (example; fire and floods). Maps will include the following information:

a. Location, size, shape, and spacing of habitat areas.

b. Habitat stage with respect to flycatchers according to the following classification: suitable-occupied, suitable-unoccupied, suitable un-surveyed, potential in the short-term (1 to 3 years), and potential in the long-term (greater than 3 years).

c. Status of flycatcher surveys for each area of suitable habitat: either the date(s) surveyed or indication that the area has not been surveyed.

2. Habitat Management Guidelines: The BLM will implement the following guidelines:

a. Livestock grazing will be excluded within occupied and un-surveyed, suitable habitat during the breeding season (April 1-September 1).

b. Manage suitable flycatcher habitat so that suitable characteristics are not eliminated or degraded.

c. Manage riparian areas to allow natural regeneration and, therefore, allow those sites with potential to progress into suitable habitat.

3. Range Improvements: The BLM will locate range improvement projects outside of flycatcher occupied areas, except for fences, cattle guards, and gates needed to exclude or better manage livestock. Within breeding habitat, implement construction, maintenance, or management activities outside of the flycatcher breeding season. Any range improvement project within two miles of occupied, suitable or critical habitat, including those proposed to improve flycatcher habitat, will be reviewed by the FWS for compliance with the Biological opinion.

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

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

b. The BLM will ensure that willow flycatcher surveys and nest monitoring take place at least every three years in the areas where the BLM controls significant breeding habitat and public land grazing is a predominate use on adjacent lands. This will be initiated along the Gila River between Winkelman and the Dripping Spring Wash confluence and between Kelvin Bridge and the Buttes. If jointly determined, other areas may be added.

Monitoring protocols will be updated as necessary and nest monitoring may use surrogate species.

c. If cowbird parasitism in monitored areas is determined to be ten percent of nests or greater, the BLM and the FWS will meet and discuss reasons for the parasitism and possible management actions.

5. On BLM lands with suitable or potential willow flycatcher habitat, restrict livestock grazing on riparian vegetation to winter use only from November 1 to March 30, and monitoring will be done to ensure utilization levels do not exceed 30 percent limits on apical meristems of woody vegetation 0-6 feet tall (e.g. cottonwoods and willows). Monitoring will be done prior to, during, and after the livestock have used a riparian pasture. Once the 30 percent utilization limit is met, all livestock will be removed from the pasture. To the extent feasible, the BLM shall offer to assist the permittee in managing livestock use in the non-BLM portions of the allotment for the benefit of the flycatcher.

6. Not Applicable (Specific to allotments not included in this consultation).

7. The BLM will ensure that livestock are removed from occupied or unsurveyed suitable habitat before the start of each southwestern willow flycatcher breeding season (April 1); this could include sweeps (checking within exclosures for livestock and removing any livestock found).

2 Listed or Proposed Species in this Evaluation

Table 2 Species List for area as determined from U.S. Fish and Wildlife Service's IPAC program

Scientific Name	Common Name	Potential for Occurrence in Area of Grazing Allotments	Critical habitat in Area of Grazing Allotments
Leopardus pardalis	Ocelot	Y	N
Echinomastus erectocentrus var. acunensis	Acuña Cactus	Y	Y (PCH)
Thamnophis eques megalops	Northern Mexican Gartersnake	Y	Y (PCH)
Coccyzus americanus	Yellow-billed Cuckoo	Y	Y (PCH)
Empidonax traillii extimus	Southwestern Willow Flycatcher	Y	Y
Gila intermedia	Gila Chub	N	N
Leptonycteris curasoae yerbabuenae	Lesser Long-nosed Bat	Y	N

Table 3 Threatened & Endangered Species Analyzed in Detail

Common Name	Scientific Name
Northern Mexican Gartersnake & PCH	Thamnophis eques megalops

Yellow-billed Cuckoo & PCH	Coccyzus americanus
Acuña Cactus & PCH	Echinomastus erectocentrus var. acunensis

3 Analysis of Effects of the Proposed Action on Species

3.1 Northern Mexican Gartersnake (*Thamnophis eques* megalops) T w/PCH

3.1.1 Background

The northern Mexican gartersnake was listed as Threatened in 2014 (USFWS 2014) and critical habitat was proposed for designation in 2013 (2013d). The proposed critical habitat includes the San Pedro River that runs through the project site.

Throughout its range wide distribution, the northern Mexican gartersnake occurs at elevations from 130 to 8,497 feet (ft.) (40 to 2,590 meters (m)). The northern Mexican gartersnake historically occurred in every county within Arizona, within several perennial or intermittent drainages and disassociated wetlands (USFWS 2013c).

The northern Mexican gartersnake is a riparian obligate (restricted to riparian areas when not engaged in dispersal behavior) and occurs chiefly in the following general habitat types: (1) Source-area wetlands (e.g., cienegas (mid-elevation wetlands with highly organic, reducing (basic or alkaline) soils), stock tanks (small earthen impoundment), etc.); (2) large-river riparian woodlands and forests; and (3) streamside gallery forests (as defined by well-developed broadleaf deciduous riparian forests with limited, if any, herbaceous ground cover or dense grass) (USFWS 2013b).

The northern Mexican gartersnake is surface active at ambient temperatures ranging from 71 degrees Fahrenheit (°F) to 91 °F (22 degrees Celsius (°C) to 33 °C) and forages along the banks of water bodies. Northern Mexican Gartersnake forage generally along vegetated bank-lines, searching for prey in the water and on land. Generally, its diet consists predominantly of amphibians and fishes, such as adult and larval native leopard frogs (e.g., lowland leopard frog (*Rana yavapaiensis*) and Chiricahua leopard frog (*Rana chiricahuensis*)), as well as juvenile and adult native fish species (e.g., Gila topminnow (*Poeciliopsis occidentalis occidentalis*), desert pupfish (*Cyprinodon macularius*), Gila chub (*Gila intermedia*), and roundtail chub (*Gila robusta*)). Auxiliary prey items may also include young Woodhouse's toads (*Bufo woodhousei*), treefrogs (Family Hylidae), earthworms, deermice (*Peromyscus spp.*), lizards of the genera *Aspidoscelis* and *Sceloporus,* larval tiger salamanders (*Ambystoma tigrinum*), and leeches. To a much lesser extent, this snake's diet may include nonnative species, including larval and juvenile bullfrogs, and mosquitofish (*Gambusia affinis*) (USFWS 2013c).

Researchers sampled the stomach contents of Mexican Gartersnake and the prey populations at (ephemeral) Lake Tecocomulco, Hidalgo, Mexico. Field observations indicated with high statistical significance that larger snakes fed primarily upon aquatic vertebrates (fishes, frogs, and larval salamanders) and leeches, whereas smaller snakes fed primarily upon earthworms and leeches. They also found that birth of neonatal *T. eques* tended to coincide with the annual peak density of annelids (earthworms and leeches). Positive correlations were also made with respect

to capture rates (which are correlated with population size) of *T. eques* to lake levels and to prey scarcity; that is, when lake levels were low and/or prey species scarce, Mexican gartersnake capture rates declined. This indicates the importance of available water and an adequate prey base to maintaining viable populations of Mexican Gartersnake. Certain prey items are positively associated with size classes of snakes, the largest of specimens consume any prey available (USFWS 2013c).

The northern Mexican gartersnake has likely been extirpated in the San Pedro River, but the status of this gartersnake remains uncertain (USFWS 2013c). The project area supports a large and widespread bullfrog population. In addition, the aquatic habitat is occupied by green sunfish, channels catfish, largemouth bass, and northern crayfish which prey on small snakes. As a result, this species is either extirpated from the project area or survives at very low population levels.

3.1.2 Analysis of Effects

Direct Effects

Direct effects of livestock grazing can include displacement and interruption of feeding when large numbers of livestock move together through suitable habitat or habitat with seasonal prey (e.g., toads) such as rivers, streams, stock tanks or temporary waters created by warm season rain events. Because livestock are slow moving and conspicuous, snakes are unlikely to be trampled by livestock watering in suitable habitat or stock ponds with amphibian prey items. However, gartersnakes may, on occasion, be trampled by livestock. Direct fatalities of amphibian species, in all life stages, from being trampled by livestock has been documented (USFWS 2014).

Six of the eight grazing allotments have riparian pastures that are used from October through March: LEN, A-Diamond, Teacup, Battle Axe, Whitlow and Rafter 6. Three seasonal stock tanks occur on the BLM portions of the LEN, Teacup and Battle Axe allotments. These seasonal waters are located from 1.6 to 4.2 miles from the Gila River. Livestock activities that could result in injury of Gartersnake are unlikely as the stock tanks are located well away from suitable habitat such as streams or springs and the Gila River is used for watering during the colder months of the year (October through March). In addition, the species is extremely rare or likely extirpated from the middle Gila River and predator loads (i.e. bullfrog, catfish, green sunfish, etc.) are high where there is perennial surface water.

Indirect Effects

Mismanaged or unmanaged grazing can have disproportionate effects to riparian communities in arid ecosystems due to the attraction of livestock to water, forage, and shade. The most profound impacts from livestock grazing in the southwestern United States occurred about 100 years ago and may still be affecting some areas that have yet to fully recover (USFWS 2014). Livestock grazing still occurs in the middle Gila River basin, but is closely managed to protect riparian resources and is not likely to pose significant threats to northern Mexican gartersnake. The Tucson Field Office grazing program currently emphasize the protection of riparian and aquatic habitat in allotment management planning, through fencing, rotation, cold season use of riparian pastures, monitoring, and development water sources removed from riparian areas. These

management practices reduced the likelihood of significant adverse impacts on northern Mexican gartersnakes, their habitat, and their prey base.

The primary potential adverse effect from livestock activity is related to habitat alteration such as damaging the riparian and adjacent habitats that could be used by this species (see Critical Habitat section below). Potential adverse effects have the may occur in cottonwood and willows gallery forest along the two rivers. Effects include changes to habitat quality resulting from reduced vegetation density in Gila River in the riparian-mesquite habitat complex. This change will be modest as only winter use (October through March) of suitable habitat occurs; this season of use results in only small, localized affects related to the watering habits of livestock, which primarily graze upland areas instead of dormant riparian plants.

Overwintering habitat for snakes such as piles of woody debris are unlikely to be disturbed by livestock. The creation and maintenance of stock ponds provide a source of alternative prey in the form of seasonal amphibian occupation in the summer. These same ponds are also likely to attract bullfrogs which likely have a dispersal ranged of several miles. The maintenance of the ponds would not be likely to interrupt or injure this species as the work is done when ponds are dry in spring, winter or fall.

Recreation activities include hiking, bird watching, hunting, and fishing are facilitated by livestock trails along riparian areas. These low intensity activities are anticipated to disturb wildlife and potentially Gartersnakes for short periods of time should they be encountered.

Critical Habitat

The Service (USFWS 2013d) list of primary constituent elements specific to northern Mexican Gartersnake is:

(1) Aquatic or riparian habitat that includes: a. Perennial or spatially intermittent streams of low to moderate gradient that possess appropriate amounts of in-channel pools, off-channel pools, or backwater habitat, and that possess a natural, unregulated flow regime that allows for periodic flooding or, if flows are modified or regulated, a flow regime that allows for adequate river functions, such as flows capable of processing sediment loads; or b. Lentic wetlands such as livestock tanks, springs, and cienegas; and c. Shoreline habitat with adequate organic and inorganic structural complexity to allow for thermoregulation, gestation, shelter, protection from predators, and foraging opportunities (e.g., boulders, rocks, organic debris such as downed trees or logs, debris jams, small mammal burrows, or leaf litter); and d. Aquatic habitat with characteristics that support a native amphibian prey base, such as salinities less than 5 parts per thousand, pH greater than or equal to 5.6, and pollutants absent or minimally present at levels that do not affect survival of any age class of the northern Mexican gartersnake or the maintenance of prey populations.

(2) Adequate terrestrial space (600 ft. (182.9 m)) lateral extent to either side of bank-full stage adjacent to designated stream systems with sufficient structural characteristics to support life-

history functions such as gestation, immigration, emigration, and brumation (extended inactivity).

(3) A prey base consisting of viable populations of native amphibian and native fish species.

(4) An absence of nonnative fish species of the families Centrarchidae and Ictaluridae, bullfrogs *Lithobates catesbeianus*), and/or crayfish (*Orconectes virilis, Procambarus clarki*, etc.), or occurrence of these nonnative species at low enough levels such that recruitment of northern Mexican Gartersnake and maintenance of viable native fish or soft-rayed, nonnative fish populations (prey) is still occurring.

San Pedro River Subunit. The Service is proposing to designate 22,669 acres (9,174 ha) of critical habitat along 158.4 stream mi (254.9 km) of the San Pedro River from its confluence with the Gila River at Winkelman, upstream to the International Border, in Cochise, Pima, and Pinal Counties, Arizona.

Direct effects to primary constituent elements of proposed critical habitat will not be affected by livestock grazing activities as the San Pedro River is excluded from this livestock use.

Interrelated/Interdependent Effects
Vehicular traffic related to livestock management may have adverse effects to this species by causing injury or mortality.

Cumulative Effects of State and Private Actions within the Action Area
Grazing occurs over most of the landscape throughout the middle Gila River on state and private lands, Vehicle traffic related to grazing on other adjacent properties has the potential to cause injury or mortality to this species and may disturb or displace northern Mexican gartersnake. Roads managed by Pinal County or the Arizona Department of Transportation cross the river or come close to it. Private properties in the community of Kelvin and Dudleyville come up to the river in many locations. These small communities pose a risk of unintended fire starts. Power lines in the area also present a source for wildfires. Potential fire starts may damage large areas of riparian vegetation along the Gila River.

Incidental Take
No take of northern Mexican gartersnake is anticipated from this project.

Conservation Measures
A list of general measures is presented at the beginning of this document. In addition, the Tucson Field Office grazing program currently emphasize the protection of riparian and aquatic habitat in allotment management planning, through fencing, rotation, cold season use of riparian pastures, monitoring, and development of water sources removed from riparian areas. Livestock grazing of Gila River pastures occurs during the colder months of the year (October through March), which will limit the potential for trampling as snakes will be dormant most of the grazing season and cattle generally only visit this habitat to obtain water.

Determination of Effects
Habitat along the Gila River through the project area had northern Mexican Gartersnake historically, but they are currently exceedingly rare or likely extirpated from the area. The combination of small amount of acres in riparian-mesquite complexes, use of livestock management methods that protect habitat to a great extent, reduces risk to this species. However, the middle Gila River has not been thoroughly surveyed for northern Mexican gartersnake, leaving the possibility that it does occupy some isolated locations in the basin and, perhaps, in one of these allotments, therefore, we conclude that the grazing authorizations **may affect, but is not likely to adversely affect** the northern Mexican gartersnake. The proposed project does not occur in proposed critical habitat on the San Pedro River; therefore no adverse effects are likely.

3.2 Yellow-billed cuckoo (*Coccyzus americanus*) Proposed T w/PCH

3.2.1 Background
A distinct populations segment of yellow-billed cuckoo was proposed for listing with critical habitat in the United States October 3, 2013 (USFWS 2013b). Critical habitat was proposed in 2014 (USFWS 2014**)

Available data from California, Arizona, and western New Mexico indicate a small number of arrivals in May, but most birds arrive in June and some do not arrive until early July. The birds begin their southbound migration in mid-August, and most have left the breeding grounds by mid-September (USFWS 2013b).

The western yellow-billed cuckoo's breeding season varies regionally with the availability of its preferred food. Nesting peaks later (mid-June through August) than in most co-occurring bird species, and may be triggered by an abundance of cicadas (Cicadidae sp.), katydids (Tettigoniidae sp.), caterpillars (Lepidoptera sp.), or other large prey items that form the bulk of their diet. In Arizona, cicadas are an important food source.

At the landscape level, the amount of cottonwood– willow-dominated vegetation cover and the width of riparian habitat influences western yellow-billed cuckoo distribution and abundance. Cuckoos require large blocks of riparian habitat for breeding and nests almost exclusively in low to moderate elevation riparian woodlands that cover 50 acres (ac) (20 hectares (ha)) or more within arid to semiarid landscapes. Biologists have hypothesized that this species may be restricted to these extensive, moist habitats because of humidity requirements for successful hatching and rearing of young (USFWS 2013b).

Occupied habitat in Arizona may contain box elder (*Acer negundo*), Arizona alder (*Alnus oblongifolia*), Arizona walnut (*Juglans major*), Arizona Sycamore (*Platanus wrightii*), oak (Quercus spp.), netleaf hackberry (Celtis reticulata), velvet ash (*Fraxinus velutina*), Mexican elderberry (*Sambuccus mexicanus*), tamarisk (*Tamarix* spp.), and seepwillow (*Baccharis*

glutinosa). Surveys conducted by the Arizona Breeding Bird Atlas reported 68 percent of the yellow-billed cuckoo observations were in lowland riparian woodlands, often containing a variable combination of Fremont cottonwood, willow, velvet ash, Arizona walnut, mesquite, and tamarisk. In Arizona, streamside cottonwood, willow groves, and larger mesquite bosques for migrating and breeding preferred. This species is rarely observed as transient in xeric desert or urban settings (USFWS 2013b). The Upper San Pedro River has had the largest yellow-billed cuckoo population in Arizona and yellow-billed cuckoo do use habitat along the Babocomari River (USFWS 2013b).

The curtailment and decline in the habitat of the western yellow-billed cuckoo is primarily the result of the long-lasting effects of habitat loss from manmade features that alter watercourse hydrology so that the natural processes that sustained riparian habitat in western North America are greatly diminished. Loss and degradation of habitat has also occurred as a result of livestock overgrazing and encroachment from agriculture. All of these have the potential to promote, and are exacerbated by, the conversion of native habitat to predominantly nonnative vegetation. The curtailment, degradation, fragmentation, and loss of habitat for the western yellow-billed cuckoo is ongoing and, absent changes in the landscape, hydrology, or other factors, it will likely continue to be negatively impacted or lost into the future. Climate change is a critical issue with potentially severe wide-ranging effects on the species and its habitat. The available scientific literature suggests that the effects of climate change will likely exacerbate multiple existing threats to the western yellow-billed cuckoo and its habitat. These threats include habitat loss and degradation from altered hydrology, with secondary effects from increases in nonnative vegetation and wildfire. These threats may result in smaller patch sizes of habitat such that many will be no longer occupied by the western yellow-billed cuckoo. Conservation actions, such as habitat protection and restoration described above, have strong potential to be beneficial to the species by increasing the amount of available habitat and patch size. However, these efforts offset only a small portion of past losses and degradation of riparian habitat in the range of the western yellow-billed cuckoo (USFWS 2013b).

Critical Habitat

Within the Gila District, there is critical habitat designated within the upper Gila district on the Gila River, Bonita Creek, San Pedro and Cienega Creek (USFWS 2014).

Critical habitat unit AZ–20 is 23,399 ac (9,469 ha) in extent and is a 59-mi (95-km)-long segment of the Lower San Pedro River from above the Town of Mammoth in Pima County downstream to join the Gila River, where it continues downstream to below the Town of Kearny in Pinal County, Arizona. Approximately 17,431 ac (7,054 ha), or 75 percent, of proposed unit AZ–20 are privately owned; 729 ac (295 ha), or 3 percent, are Tribal lands located on the San Carlos Indian Reservation; 2,282 ac (923 ha), or 10 percent, are in State ownership and managed by the Arizona State Lands Department; and 2,957 ac (1,197 ha), or 13 percent, are in Federal ownership managed by BLM. This is an important breeding area for western yellow-billed cuckoos and is consistently occupied by a number of pairs during the breeding season. The site

also provides a movement corridor and migratory stopover location for western yellow billed cuckoos moving farther north. Tamarisk, a nonnative species that reduces the habitat's value, is a minor to major component of habitat in this unit.

Based on our current knowledge of the physical or biological features and habitat characteristics required to sustain the species' life-history processes including breeding, foraging and dispersing, the Service (USFWS 2014) has determined that the primary constituent elements specific to the western yellow-billed cuckoo are:

(1) Primary Constituent Element 1—Riparian woodlands. Riparian woodlands with mixed willow-cottonwood vegetation, mesquite-thorn-forest vegetation, or a combination of these that contain habitat for nesting and foraging in contiguous or nearly contiguous patches that are greater than 325 ft. (100 m) in width and 200 ac (81 ha) or more in extent. These habitat patches contain one or more nesting groves, which are generally willow-dominated, have above average canopy closure (greater than 70 percent), and have a cooler, more humid environment than the surrounding riparian and upland habitats.

(2) Primary Constituent Element 2—Adequate prey base. Presence of a prey base consisting of large insect fauna (for example, cicadas, caterpillars, katydids, grasshoppers, large beetles, dragonflies) and tree frogs for adults and young in breeding areas during the nesting season and in post-breeding dispersal areas.

(3) Primary Constituent Element 3—Dynamic riverine processes. River systems that are dynamic and provide hydrologic processes that encourage sediment movement and deposits that allow seedling germination and promote plant growth, maintenance, health, and vigor (e.g. lower gradient streams and broad floodplains, elevated subsurface groundwater table, and perennial rivers and streams). This allows habitat to regenerate at regular intervals, leading to riparian vegetation with variously aged patches from young to old.

3.2.2 Analysis of Effects

Direct Effects

The primary direct effect of grazing is from altering riparian habitat. Adverse effects have the potential to occur in the riparian pastures of the eight allotments along the Gila and San Pedro rivers.

The project area has dense thickets of vegetation in the riparian-mesquite vegetation complex that should provide adequate cover for movement. Potential adverse effects come from reduction of cover for the movement and foraging of any cuckoo passing through the area, but the likelihood is very remote. Should livestock management activities disturb this species, the species can find refuge a short distance anyway. Livestock management activities such as gathering cattle, is likely to have little effect on cuckoo movements and no effect if the species move through the area at night. The primary indirect effect will be changes to habitat quality resulting from lowered ground cover density in the riparian-mesquite habitat complex. This

change will be modest as it only affects up to 1240 acres of otherwise continuous habitat which should not change the overall value of the habitat for migrating, foraging or nesting.

Indirect Effects

The primary indirect effect will be changes to habitat quality resulting from reduced canopy vegetation density in Gila and San Pedro River corridors in the riparian-mesquite habitat complex. This change will be modest as it only affects the lower 5 feet of the understory out of miles of otherwise continuous habitat which should not change the overall value of the habitat for migrating, hunting or resting. The action area outside the project area will not be affected, so that the size of riparian woodlands, in general, will continue to increase and decrease under current processes which will not be affected by the proposed project. Recreation activities facilitated by livestock trails include hiking, bird watching, hunting, and fishing. These low intensity activities are anticipated to disturb wildlife and potentially yellow-billed cuckoo for short periods of time at most sites. Sites that already have high levels of activity are centered on the Kelvin Road Bridge. The action area outside the project area will not be affected, so that the size of riparian woodlands, in general, will continue to increase and decrease under current processes which will not be affected by the proposed project.

Proposed Critical Habitat

Direct effects to primary constituent elements of proposed critical habitat will only be affected to a small degree from livestock grazing. Conservation measures incorporated from previous consultations for the Southwestern Willow Flycatcher and special measures devised to minimize impacts at each allotment are likely to prevent any meaningful degradation of the treatment sites. The Primary Constituent Elements are:

(1) Riparian woodlands. Riparian woodlands with mixed willow-cottonwood vegetation, mesquite-thorn-forest vegetation, or a combination of these that contain habitat for nesting and foraging in contiguous or nearly 30 contiguous patches that are greater than 325 ft. (100 m) in width and 200 ac (81 ha) or more in extent. These habitat patches contain one or more nesting groves, which are generally willow-dominated, have above average canopy closure (greater than 70 percent), and have a cooler, more humid environment than the surrounding riparian and upland habitats.

(2) Adequate prey base. Presence of a prey base consisting of large insect fauna (for example, cicadas, caterpillars, katydids, grasshoppers, large beetles, dragonflies) and tree frogs for adults and young in breeding areas during the nesting season and in post-breeding dispersal areas.

(3) Dynamic riverine processes. River systems that are dynamic and provide hydrologic processes that encourage sediment movement and deposits that allow seedling germination and promote plant growth, maintenance, health, and vigor (e.g. lower gradient streams and broad floodplains, elevated subsurface groundwater table, and perennial rivers and streams). This allows habitat to regenerate at regular intervals, leading to riparian vegetation with variously aged patches from young to old. The primary effect will be slight changes to habitat quality resulting from better managed grazing in the riparian-mesquite habitat complex. Banks will be

protected and riparian trees will be left in place. The project will affect 116,463 acres of BLM managed land, of which 1240 acres (1.0%) are considered to be riparian habitat. Change to vegetation along the river will be modest as it only affects up to 1240 acres out of 59 miles of otherwise continuous habitat. This should not change the overall value of the habitat along the river for migrating, foraging, nesting or riparian/river function.

Interrelated/Interdependent Effects

The BLM grazing program has assistance from adjacent land owners as part of a larger cooperative livestock management effort as described in the introduction. This larger effort would have both beneficial and adverse effects similar to those described in this document. Potential adverse effects come from these activities in small portions of the riparian corridor during a time when migration may occur, but the likelihood is very remote. Should livestock management activities disturb this species, it can find refuge a short distance anyway.

Cumulative Effects of State and Private Actions within the Action Area

Roads managed by Pinal County or the Arizona Department of Transportation cross the river or come close to it. Private properties in the community of Kelvin and Dudleyville come up to the river in many locations. These small communities pose a risk of unintended fire starts. Power lines in the area also present a source for wildfires. Potential fire starts may damage large areas of riparian vegetation used as cover that aids cuckoo's movement through the area. Vehicular activity likely acts as a source of disturbance that may displace cuckoo's to nearby areas.

Incidental Take

No take of western yellow-billed cuckoo is anticipated from this project.

Conservation Measures

A list of general measures is presented at the beginning of this document. Additionally, the Management Practices listed in the conservation measures specific to the Southwestern Willow Flycatcher apply to this area and species.

2. Habitat Management Guidelines: The BLM will implement the following guidelines:

a. Livestock grazing will be excluded within occupied and un-surveyed, suitable habitat during the breeding season (April 1-September 1).

b. Manage suitable flycatcher habitat so that suitable characteristics are not eliminated or degraded.

c. Manage riparian areas to allow natural regeneration and, therefore, allow those sites with potential to progress into suitable habitat.

3. Range Improvements: The BLM will locate range improvement projects outside of flycatcher occupied areas, except for fences, cattle guards, and gates needed to exclude or better manage

livestock. Within breeding habitat, implement construction, maintenance, or management activities outside of the flycatcher breeding season. Any range improvement project within two miles of occupied, suitable or critical habitat, including those proposed to improve flycatcher habitat, will be reviewed by the FWS for compliance with the Biological opinion.

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

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

b. The BLM will ensure that willow flycatcher surveys and nest monitoring take place at least every three years in the areas where the BLM controls significant breeding habitat and public land grazing is a predominate use on adjacent lands. This will be initiated along the Gila River between Winkelman and the Dripping Spring Wash confluence and between Kelvin Bridge and the Buttes. If jointly determined, other areas may be added.

Monitoring protocols will be updated as necessary and nest monitoring may use surrogate species.

c. If cowbird parasitism in monitored areas is determined to be ten percent of nests or greater, the BLM and the FWS will meet and discuss reasons for the parasitism and possible management actions.

5. On BLM lands with suitable or potential willow flycatcher habitat, restrict livestock grazing on riparian vegetation to winter use only from November 1 to March 30, and monitoring will be done to ensure utilization levels do not exceed 30 percent limits on apical meristems of woody vegetation 0-6 feet tall (e.g. cottonwoods and willows). Monitoring will be done prior to, during, and after the livestock have used a riparian pasture. Once the 30 percent utilization limit is met, all livestock will be removed from the pasture. To the extent feasible, the BLM shall offer to assist the permittee in managing livestock use in the non-BLM portions of the allotment for the benefit of the flycatcher.

7. The BLM will ensure that livestock are removed from occupied or un-surveyed suitable habitat before the start of each southwestern willow flycatcher breeding season (April 1); this could include sweeps (checking within exclosures for livestock and removing any livestock found).

Determination of Effects

The proposed action would pose very little risk of disturbance to migration, feeding, breeding or riparian resources that support the yellow-billed cuckoo. We do not expect changes to the habitat in the area to change the use by the cuckoos nor anticipate more than temporary dislocation of, perhaps a few individuals to locations a short distance away from project activities. In addition the timing of the project will not occur during the breeding season, therefore we conclude that the project **may affect, but is not likely to adversely affect** yellow-billed cuckoo or its proposed critical habitat.

The combination of time of year selected for grazing riparian areas (prior to nesting), and the grazing management practices listed above reduces risk to this species to a level that is discountable. The proposed project is likely to only have a slight effect on patch size (PCE 1), prey base (PCE 2), and the dynamics of the riverine processes (PCE 3).

3.3 Acuna Cactus (Echinomastus erectocentrus var. acunensis) E w/PCH

3.3.1 Background

The Acuna Cactus was listed as Endangered in 2013 (USFWS 2013d). Critical habitat was Proposed in 2013 (USFWS 2013e). Critical habitat includes Unit 5, Mineral Mountain, is 1,092 ha (2,697 ac) on BLM, Bureau of Reclamation (BOR), and State lands. Within this unit is 0 acres of federal lands affected by this proposed action. Proposed Unit 6, Box O Wash, 8,221 ha (20,314 ac); this land is distributed among Federal (3,404 Ac), State (13,729 Ac), and private landowners (3,180 Ac). Within this unit is 1659 acres of federal lands affected by this proposed action.

Acuna Cactus is a spherical cactus typically single-stemmed and with straight central spines. The cactus can be up to 40 centimeters (cm) (16 inches (in)) tall and 9 cm (3.5 in) wide with spine clusters borne on tubercles. Tubercles have a groove on the upper surface. There are 2-3 central spines and 12 radial spines. Radial spines are dirty white with a maroon tip. Rose, pink, or lavender flowers 3.6 to 6 by 4 to 9 cm (1.4 to 2.3 by 1.6 to 3.5 in) are produced in March. Immature plants look distinctly different from mature plants. Immature plants are disc-shaped or spherical and have no central spines until they are about 3.8 cm (1.5 in). (USFWS 2001).

This species is found in valleys and on small knolls and gravel ridges of up to 30 percent slope in the Palo Verde-Saguaro Association of the Arizona Upland subdivision of the Sonoran Desert scrub at 365 to 1,150 m (1,198 to 3,773 ft.) in elevation. The species is found in a number of disjunct localities in, Pinal and Pima Counties, Arizona, and Sonora, Mexico (USFWS 2013).

Soil texture in these locations varies between bedrock and both coarse and fine-textured substrates (Rutman 2007, pp. 1–2). Associated plant species include Larrea tridentata var. tridentate (creosote bush), Olneya tesota (ironwood), Cercidium microphyllum (palo verde), Ambrosia deltoidea (triangle-leaf bursage), and Acacia greggii (catclaw). The Acuna cactus is often noted growing under the protective canopy of these or other associated species (Phillips et

al. 1982, p. 6; Butterwick 1982–1992, entire; Felger 2000, p. 208; Service 2011a, p. 1; Service 2011b, p. 3), which may act as nurse plants, thereby sheltering seedlings from extreme temperatures and providing some protection from mechanical disturbance (Nobel 1984, p. 316; Suza´n et al. 1996, p. 635).

The acuna cactus populations are known from Maricopa, Pima, and Pinal Counties in Arizona and from Sonora, Mexico (AGFD 2004, p. 2). In western Pima County, plants are known from the Puerto Blanco Mountains and adjacent Aguajita Wash and in the foothills of the Growler Mountains south of Dripping Spring on National Park Service (NPS) lands within OPCNM; from the Sauceda Mountains on Bureau of Land Management (BLM) lands; from Department of Defense military lands on the Barry M. Goldwater Gunnery Range (BMGR); and from private lands near Ajo. There is an unconfirmed report of Acuna cactus individuals occurring on Tohono O'odham lands in the vicinity of known populations on BLM and BMGR lands; however this has not been verified (Howe 2012, pers. comm.). In Maricopa County, the Acuna cactus is known from the Sand Tank Mountains on BLM lands within the Sonoran Desert National Monument. In Pinal County, plants are known from Mineral Mountain on BLM, State, and private lands. Available information indicates that the current range of this species does not differ from the historical range, with the exception that the current Ajo populations likely had been part of a larger population that occurred before mining activity began there (Rutman 1996b, pers. comm.; Rutman 2007, p. 7). However, there are no survey records for this species in the area prior to mining activity.

Abundance and Trends

As the number of dead individuals documented within Acuna cactus populations has increased greatly since study began in the 1970s (when tracking first began), it is important to track the number of healthy, unhealthy, and dead individuals. This not only allows us to document trends in total plant numbers, but can help in our understanding of the cause and extent of mortality.

Mineral Mountain—There are 3 individual Acuna cacti growing on BLM land adjacent to 30 living plants and 22 dead plants on State lands. This population is discussed collectively below under State lands.

Mineral Mountain—Plants were collected by Hart in 1992, from the population straddling BLM and State land east of Florence (University of Arizona Herbarium 2011, entire). There were no details of the number of individuals seen, just a map with three locations. In the 1990s, the BLM revisited this site and estimated 100 individuals scattered across 3 ridgelines (Service 2008a, p. 1). In 2008, the Service and BLM searched this area. The Service and BLM found fewer than 20 living and many dead plants; no young plants were seen. In 2011, the Service and BLM botanists revisited the location and found 30 living and 22 dead plants scattered across 4 adjacent ridgelines on less than 5 ha (12.4 ac) of land; no juveniles were found (Service 2011b, p. 1).

Ninety-Six Hills - This population is in the vicinity of Florence on less than 1 ha (2.47 ac) of land. Parfit (1977, p. 1) noted that plants here were common, but very localized. Many plants of various ages and sizes were noted, as well as many dead plants. Engard (1977, p. 1) noted many seedlings and mature plants and also that the plants were abundant locally. Rutman and Krausman (1988, p. 1) found 29 live plants and 6 dead plants in a 2-hour survey in the same general area. Breslin (2008, pp. 3–5) reported that in over 60 hours of survey effort in the area he had located 45 plants, 1 seedling, and 17 dead plants. On March 20, 2008, the Service plant ecologist found 11 live plants and 10 dead plants in a 3-hour survey. In the same general area, C. Butterworth (2008, pers. comm.) found 32 live plants, of various sizes, except seedlings. He noted that seedlings were very noticeably absent. A 2011 2-hour survey by three Service and BLM botanists revealed no living and two dead adults in this same general area (Service 2011b, p. 3). Because this population was not mapped with Geographic Information Systems, it is impossible to know if survey efforts in 1977, 1988, 2008, and 2011 were all conducted in the exact same location within this general area. Therefore, it is not possible to conclude that this population has been extirpated.

Based on the habitat characteristics described above, potential factors that may affect the habitat or range of the Acuna cactus are: (1) Urban development and site degradation; (2) livestock grazing; (3) border activities; (4) nonnative, invasive plant species; (5) mining; and (6) drought and climate change. The reasons for the decline of this species are many. Threats include watershed degradation due to livestock grazing and development, trampling by livestock, diversion of water and dewatering of habitats, and flash flooding. Wetland habitats which once supported this species are rare and declining in the southwest (USFWS 2001).

3.3.2 Analysis of Effects

Direct Effects

Livestock can step on or knock over individual Acuna cactus. Although other species of cacti may be good survival forage for livestock, herbivory of the Acuna cactus has not been reported. Livestock grazing levels and habitat condition vary greatly between populations due to varied land ownership and management. Adverse effects have the potential to occur at the following sites: Whitlow allotment (Box O Wash A subunit 4 acres PCH). There is no known Acuna cactus on BLM lands within the Teacup allotment.

Indirect Effects

See critical habitat section below.

Critical Habitat

The primary constituent elements specific to the Acuna cactus are:

(i) Native vegetation within the Palo Verde-Cacti-Mixed Scrub Series of the Arizona Upland Subdivision of the Sonoran Desert-scrub at elevations between 365 to 1,150 m (1,198 to 3,773 ft.). This vegetation must contain predominantly native plant species that:

a. Provide protection to the Acuna˜ a cactus. Examples of such plants are creosote bush, ironwood, and Palo Verde;

b. Provide for pollinator habitat with a radius of 900 m (2,953 ft.) around each individual, reproducing Acuna cactus;

c. Allow for seed dispersal through the presence of bare soils immediately adjacent to and within 10 m (32.8 ft.) of individual, reproducing Acuna cactus.

(ii) Soils overlying rhyolite, andesite, tuff, granite, granodiorite, diorite, or Cornelia quartz monzonite bedrock that are in valley bottoms, on small knolls, or on ridge tops, and are generally on slopes of less than 30 percent.

Direct effects to primary constituent elements of critical habitat will only be affected to a small degree from livestock grazing. Conservation measures incorporated from previous consultations and special measures devised to minimize impacts at each site are likely to prevent nearly all potential degradation of the critical habitat. The primary effects may be from occasional trampling by livestock, but no plants are known from Federal lands in the project area. This level of activity is not likely result in some injury to plants.

Authorization of livestock grazing will not affect the Primary Constituent Elements of the Proposed Critical Habitat.

Interrelated/Interdependent Effects

The BLM assumes that the effects of grazing on the non-Federal portions of the allotments are interrelated and interdependent when the BLM lands exceed thirty percent of the total area within an allotment. Effects of livestock management actions outside of BLM lands in any allotments with less than thirty percent BLM land are considered cumulative effects.

Cumulative Effects of State and Private Actions within the Action Area

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. Cumulative effects include those described in the 1997 BO, Phoenix District BOs, 18 Allotments BO, and other BOs listed in the Consultation History. Refer to these BOs for more discussions of cumulative effects

Incidental Take

This does not apply to Federally listed plants. However, mortality is possible, but very unlikely since this plant is not widespread the Teacup allotment is the only ones where livestock may damage Acuna cactus plants, but due to the spiny nature of the plant livestock tend to avoid stepping on the plants.

Conservation Measures
A list of general measures is presented at the beginning of this document.

Determination of Effects
Designated critical habitat occurs on the Teacup allotment within the project area, although no known populations of the cactus occur on the allotment. The combination of range monitoring and allotment inspections and adherence to Arizona Standards for Rangeland Health and Guidelines for Grazing Management will keep affects insignificant and discountable.

We do not expect livestock grazing activities to result in mortality or result in habitat changes detrimental to future colonization of this plant, therefore, we conclude that the project **may affect, but is not likely to adversely affect** the Acuna Cactus or its critical habitat.

4 Conclusions

In this biological assessment, the effects of authorizing livestock on 8 allotments which are in or adjacent to riparian and mesquite bosque habitat that could be or is habitat for northern Mexican Gartersnake and proposed critical habitat, yellow-billed cuckoo and proposed critical habitat; and 2 allotments that may support Acuna Cactus and critical habitat.

No incidental take to western yellow-billed cuckoo, northern Mexican Gartersnake. Only a very limited level of alteration of habitat for these species is anticipated to occur from the livestock grazing authorizations proposed by BLM. While livestock grazing has a potential to affect these 4 species, their habitat and proposed/designated critical habitat, no adverse effects are likely due to conservation measures incorporated into the proposed project. The effects to all four species have been determined to be insignificant and or discountable through this analysis. Therefore the Bureau of Land Management has determined that this proposed project for the renewal of grazing leases of **may affect, but is not likely to adversely affect** northern Mexican gartersnake, yellow-billed cuckoo, or Acuna Cactus. In addition, the Bureau has determined that this project **may affect, but is not likely to adversely affect** the designated critical habitat for the Acuna Cactus or proposed critical habitat for the yellow billed cuckoo. The proposed project will not affect the proposed critical habitat for the northern Mexican gartersnake.

Table 4 Effect determinations summery.

Species Analyzed In Detail	Determination
Northern Mexican Gartersnake	May Effect, Not Likely to Adversely Effect
Northern Mexican Gartersnake Proposed	No Effect

Critical Habitat	
Yellow-billed Cuckoo	May Effect, Not Likely to Adversely Effect
Yellow-billed Cuckoo Proposed Critical Habitat	May Effect, Not Likely to Adversely Effect
Acuna Cactus	May Effect, Not Likely to Adversely Effect
Acuna Cactus Proposed Critical Habitat	May Effect, Not Likely to Adversely Effect

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7 Appendix

7.1 Grazing Allotments

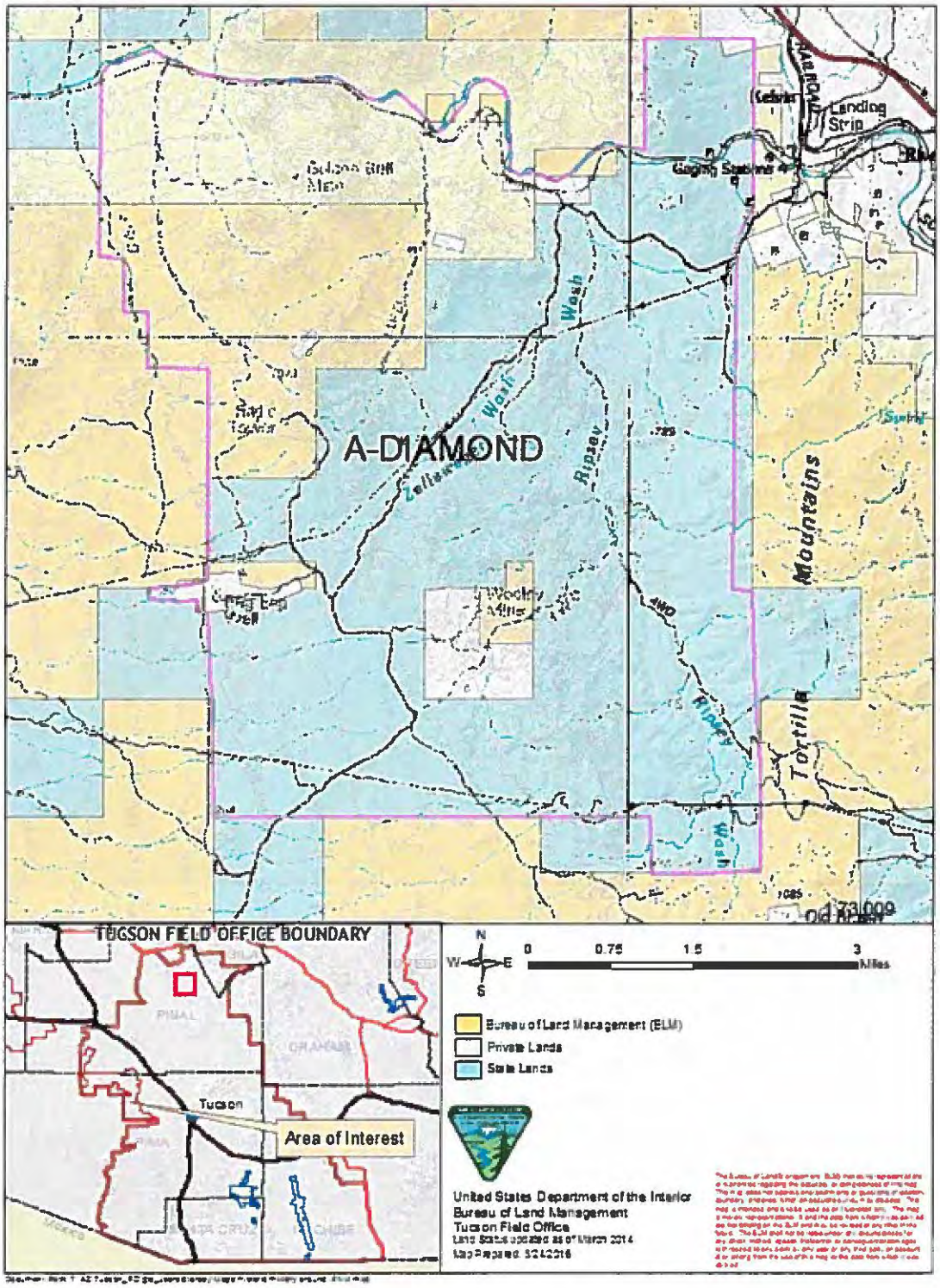
Allotment Number	Allotment Name	Mgmt. Category	Current Public Land Acres	Other Acres	Total Acres	Percent Federal Land	Federal AUMs	Current Grazing System	Riparian areas Present	Comments
06120	A Diamond	M	6,566	14,213	20,779	32	696	DR	X	02-21-00-F-0029
06059	Battle-axe	M	15,155	4,423	19,578	77	1,560	YL	X	02-21-00-F-0029
06042	Indian Camp	C	4,678	6,079	10,757	34	432	YL		02-21-96-F-422 and 423
06197	LEN	M	25,552	15,187	40,739	63	2,956	S	X	02-21-00-F-0029
06067	Rafter 6	M	15,962	10,999	26,961	59	1,668	DR	X	02-21-00-F-0029
06221	Smith Wash	M	5,890	12,336	18226	32	552	YL		02-21-00-F-0029
06168	Teacup	M	27,230	12,381	39,611	69	3,058	DR	X	02-21-00-F-0029
06032	Whitlow	M	10,255	11,215	21,470	48	588	DR	X	02-21-96-F-422 and 423

7.2 Allotment Condition

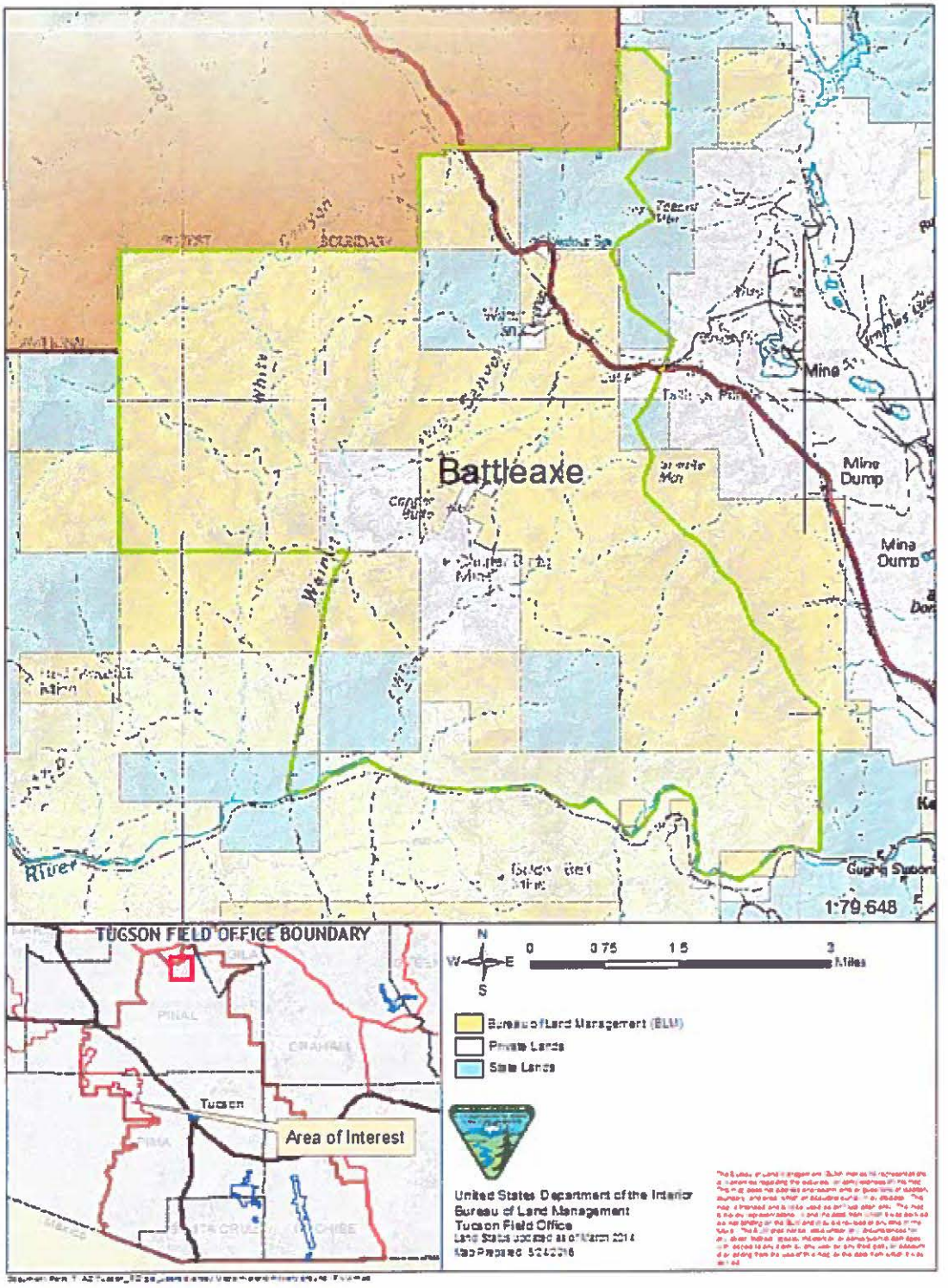
Allotment Number	Allotment Name	Current Public Land Acres	Potential Natural Community (Excellent)	Acres Late Seral (Good)	Acres Mid Seral (Fair)	Acres Early Seral (Poor)	Apparent Trend	Comments
06120	A Diamond	6566	263	3940	1969	394	Upward	02-21-00-F-0029
06059	battle-axe	15155	0	3925	9230	2000	STATIC	02-21-00-F-0029
06042	Indian Camp	4678	0	0	4678	0	STATIC	02-21-96-F-422 and 423
06197	LEN	25552	1457	67	23559	469	STATIC	02-21-00-F-0029
06067	Rafter 6	15962	272	5446	9622	622	STATIC	02-21-00-F-0029
06221	Smith Wash	5890	0	840	4300	750	STATIC	02-21-00-F-0029
06168	Teacup	27230	54	6015	13222	7939	STATIC	02-21-00-F-0029
06032	Whitlow	10255	500	2591	5229	1935	STATIC	02-21-96-F-422 and 423

7.3 Allotment Maps

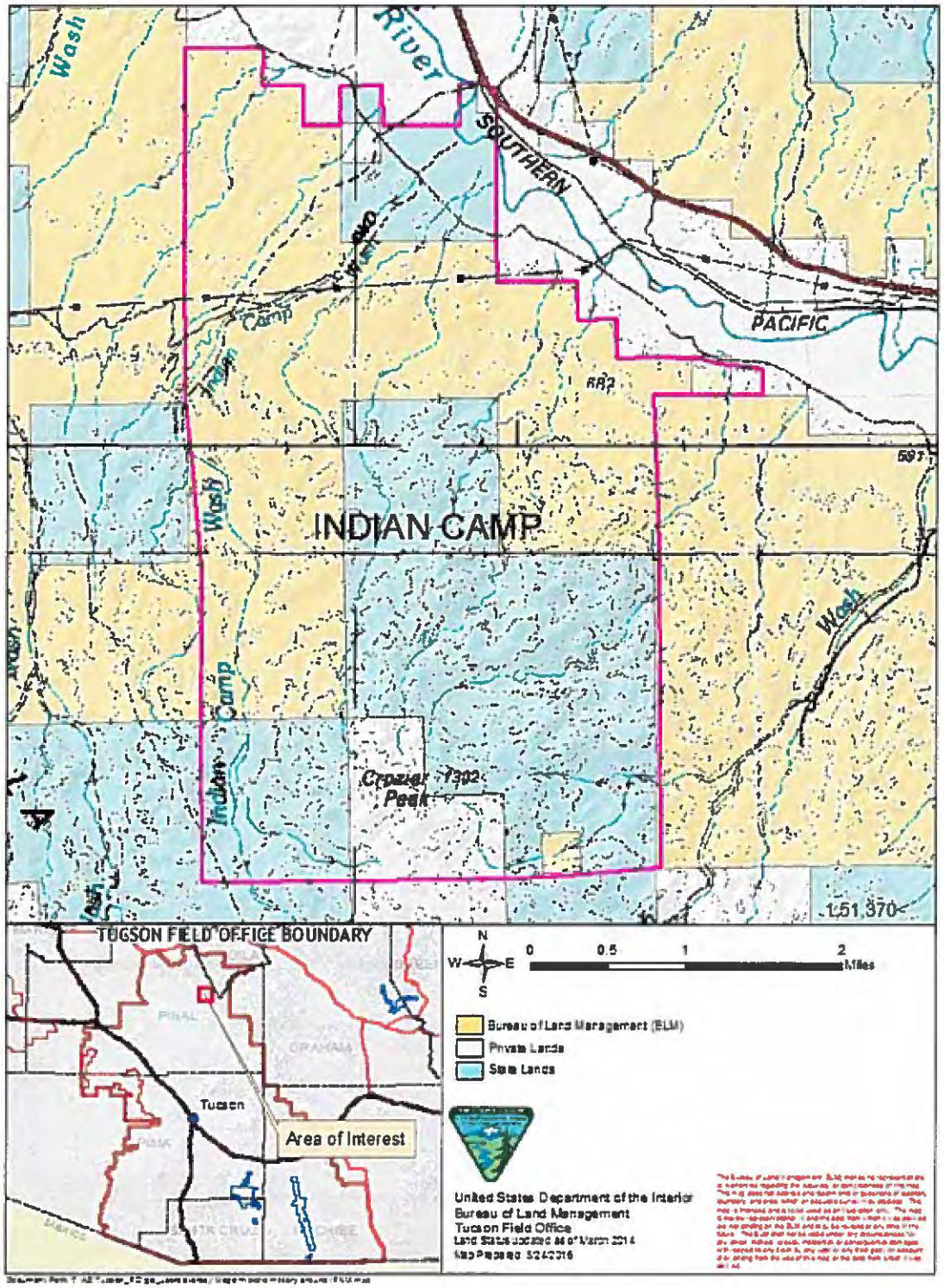
A Diamond allotment lease renewal



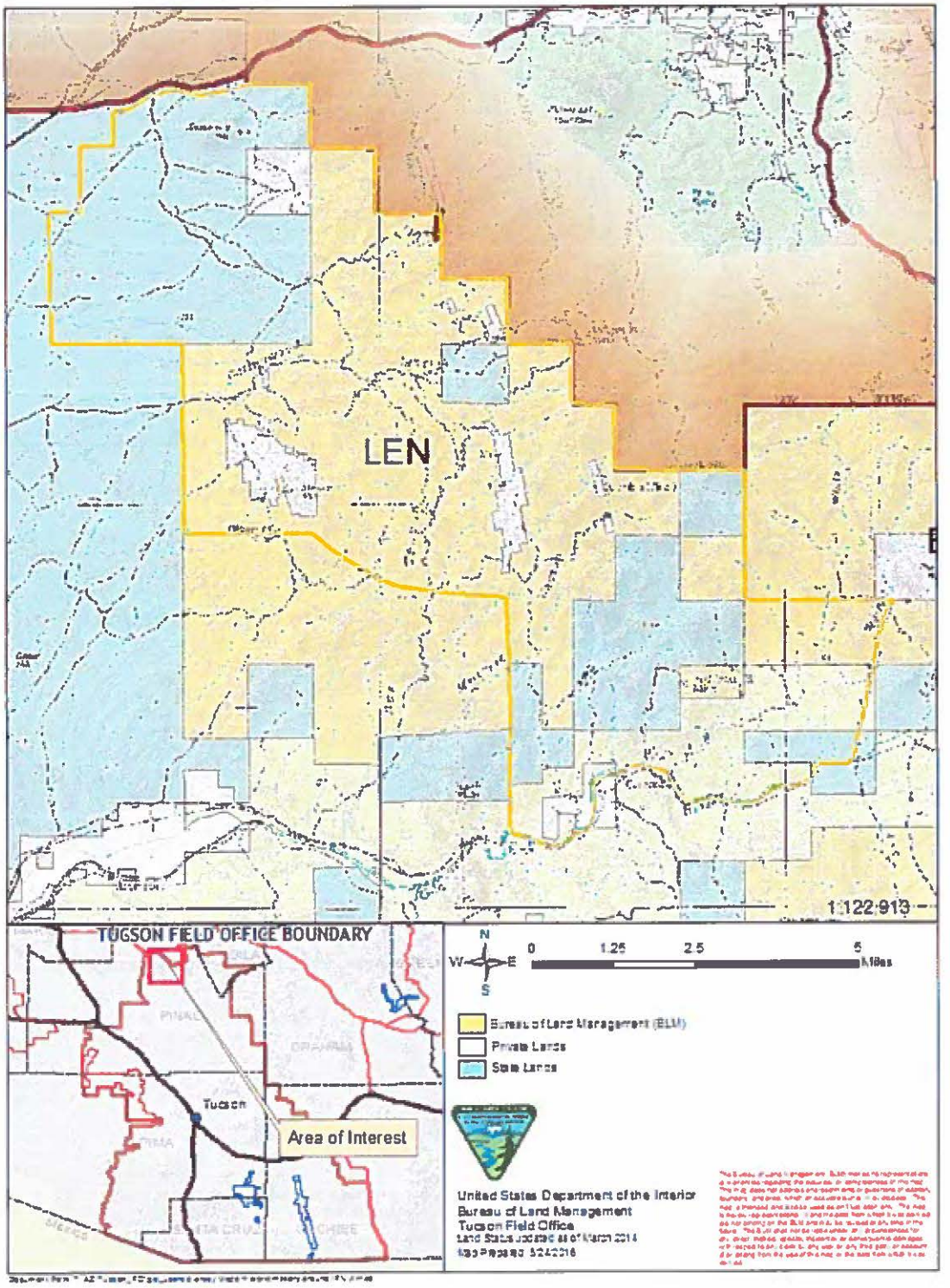
Battle Axe allotment lease renewal



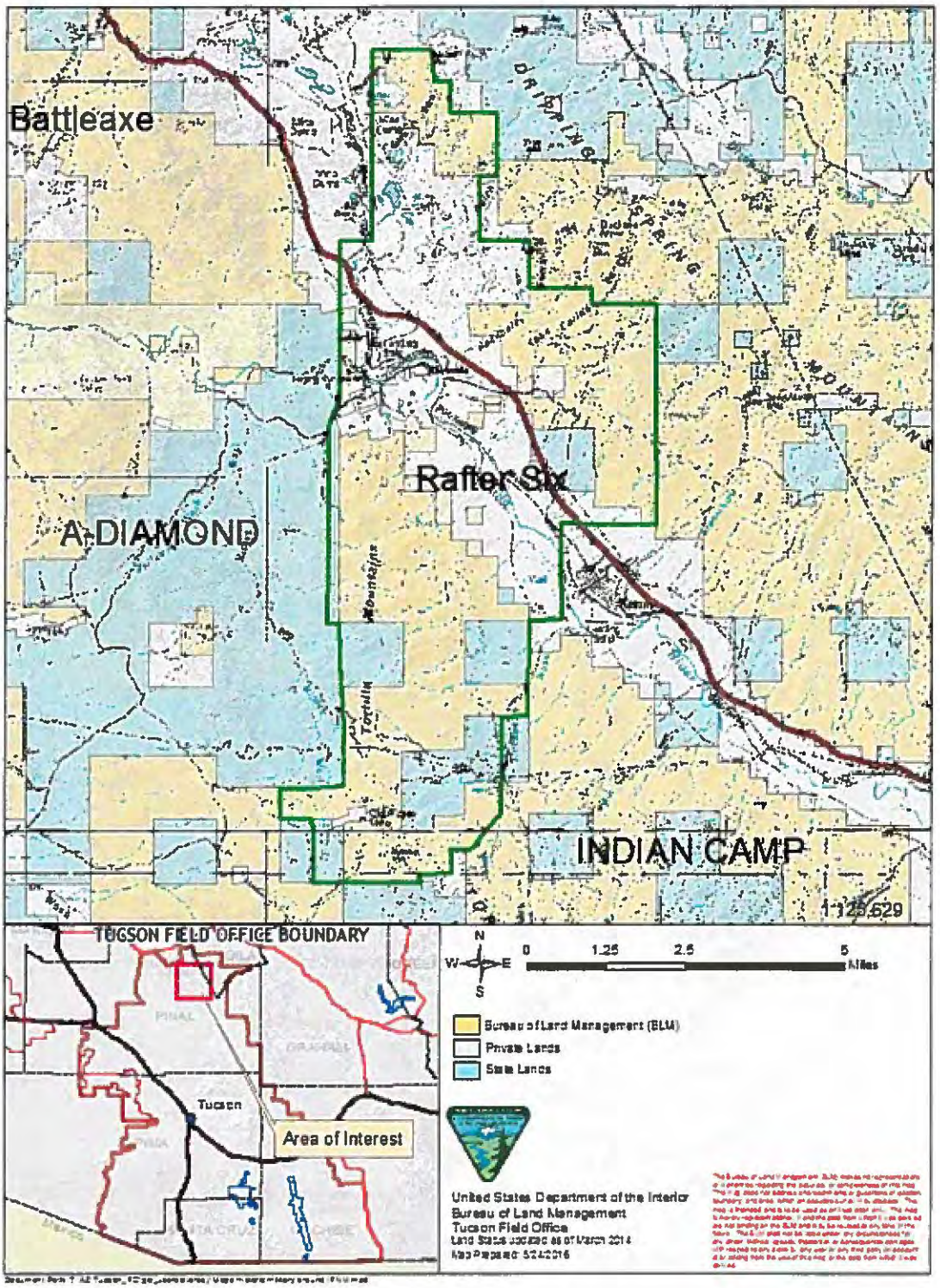
Indian Camp allotment lease renewal



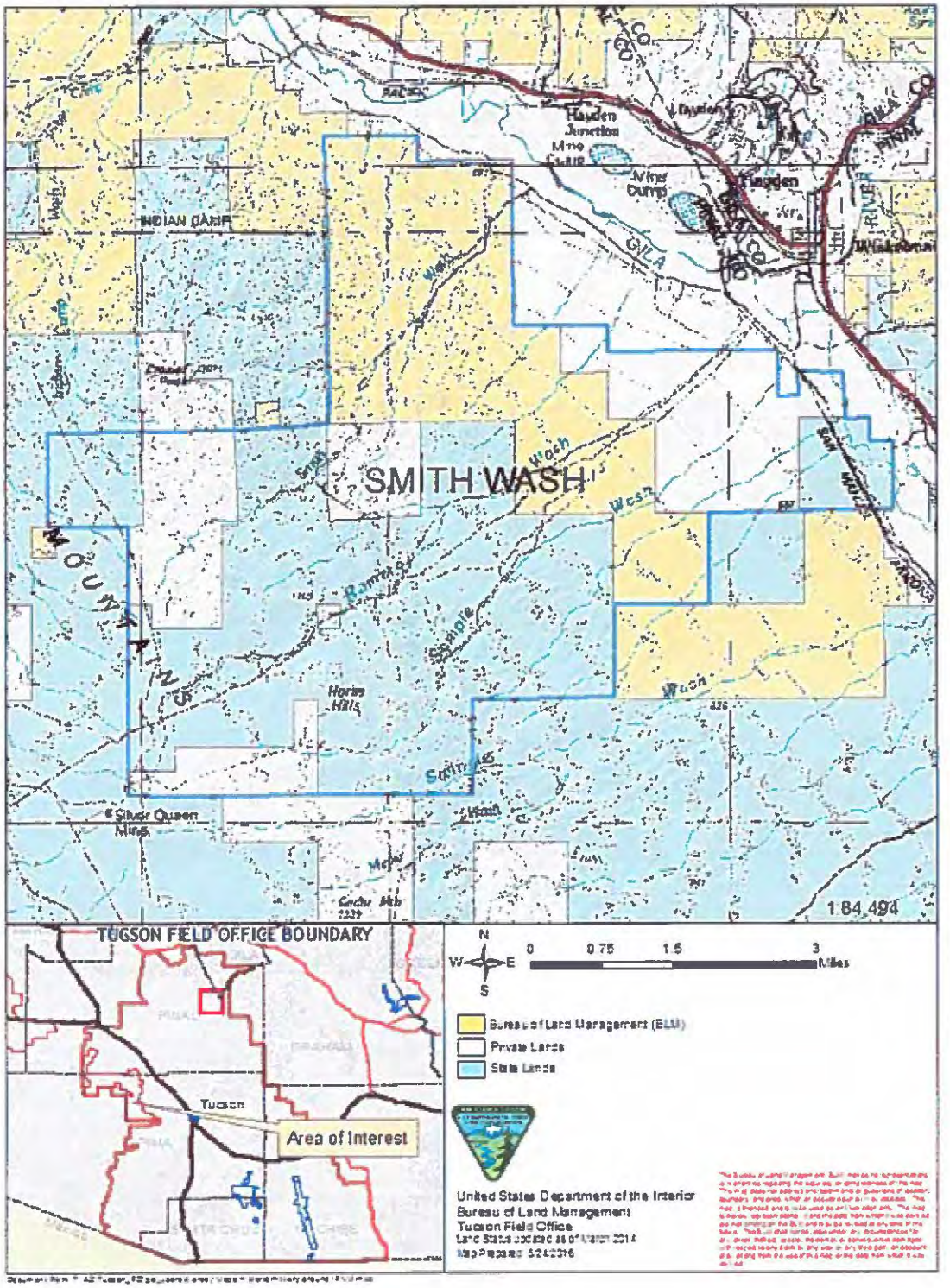
LEN allotment lease renewal



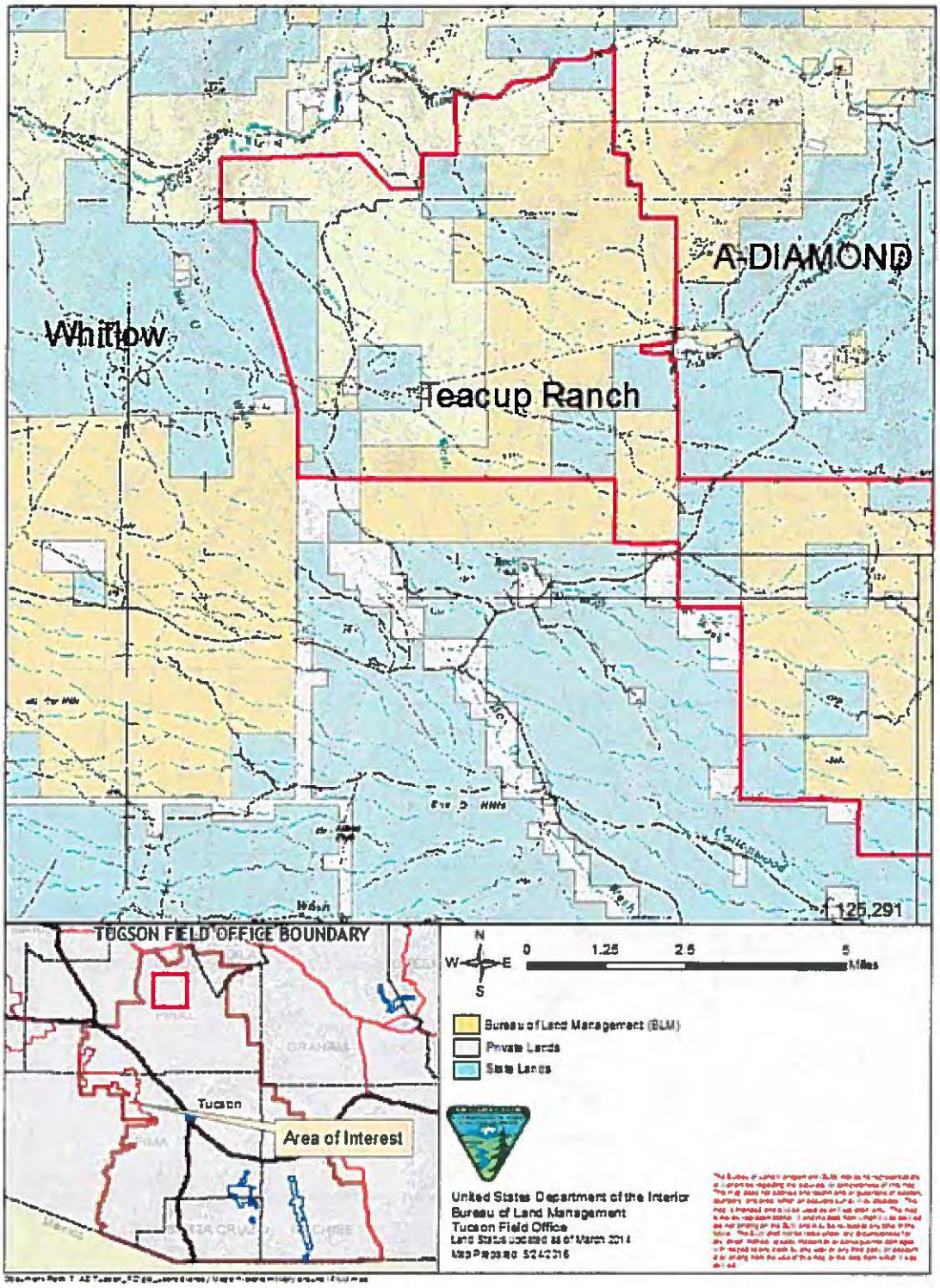
Rafter Six allotment lease renewal



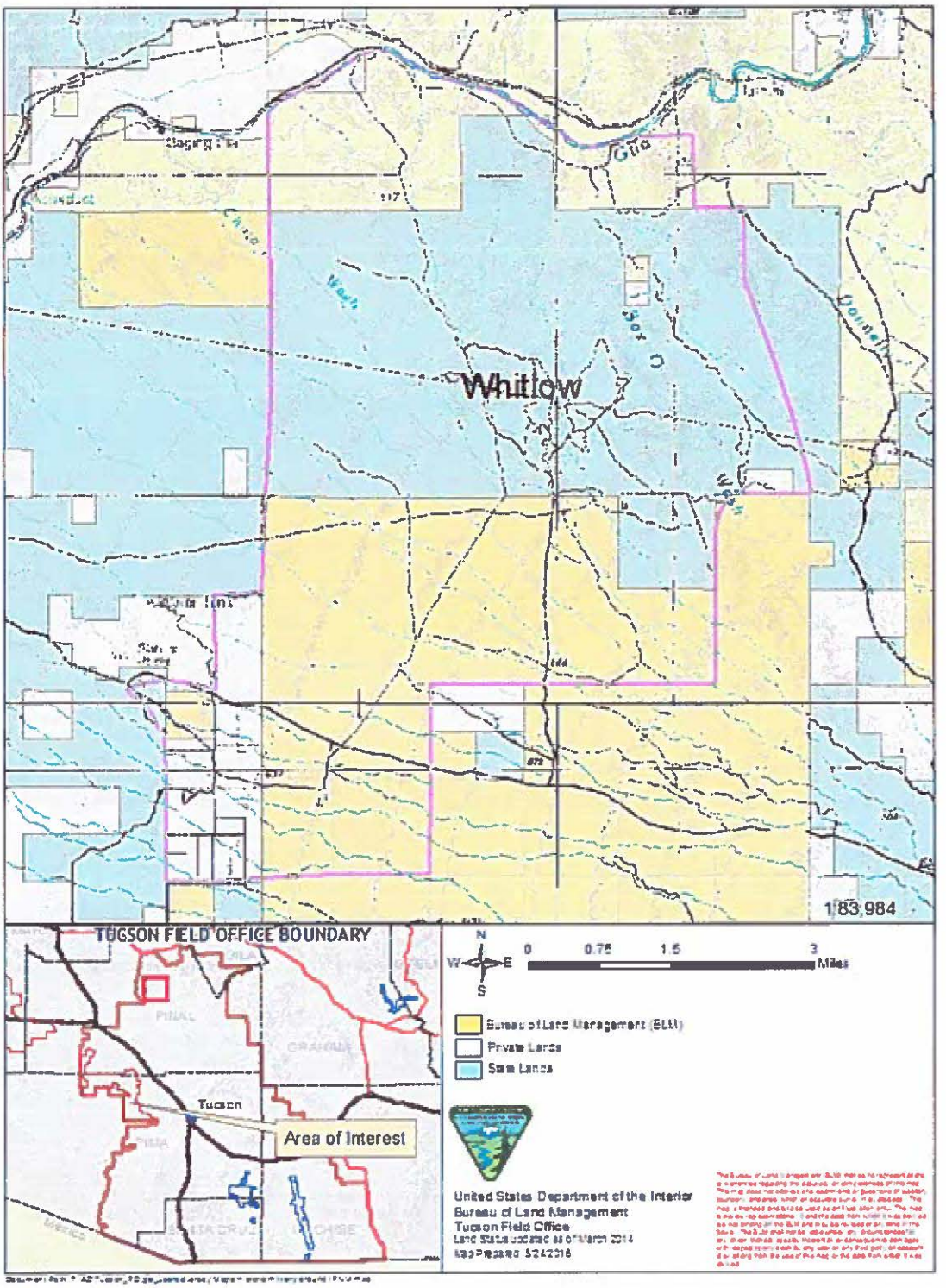
Smith Wash allotment lease renewal



Teacup allotment lease renewal



Whitlow allotment lease renewal



7.4 Arizona Standards for Rangeland Health and Guidelines for Grazing Administration Assessment

Standard 1: Upland sites: **Upland site exhibit, infiltration, permeability, and erosion rates that are appropriate to soil type, climate, and landform.**

Standard 2: Riparian- Wetland sites: **Maintain or improve riparian/wetland areas to facilitate proper functioning condition. These are riparian acres, not all public acres within the allotment.**
N/A = NO RIPARIAN PRESENT ON ALLOTMENT

Table 5 ***Standard 3: Desired Resource Condition:*** **Maintain or improve productive or diverse upland and riparian-wetland plant communities of native species.**

Allotment Number	Allotment Name	Standard 1	Standard 2	Standard 3
06120	A Diamond	MS or MSP	MS or MSP	MS or MSP
06059	Battle axe	MS or MSP	MS or MSP	MS or MSP
06042	Indian Camp	MS or MSP	N/A	MS or MSP
06197	LEN	MS or MSP	MS or MSP	MS or MSP
06067	Rafter 6	MS or MSP	MS or MSP	MS or MSP
06221	Smith Wash	MS or MSP	N/A	MS or MSP
06168	Teacup	MS or MSP	MS or MSP	MS or MSP
06032	Whitlow	MS or MSP	MS or MSP	MS or MSP

Note: This table represents information available at a point in time. Standards and guides evaluations are ongoing, current information is available at each field office.

MS or MSP **= Acres of public rangelands meeting the Standard or making significant progress toward meeting the standard**
NMS or NMSP Action Taken **= Acres of public rangelands not meeting the standards, or making progress toward meeting the standard but appropriate action has been taken to ensure significant progress toward meeting the standard. (livestock is a significant factor)**
NMS or NMSP No Action Taken **= Acres of public rangelands not meeting the standards, or making progress toward meeting the standard and no appropriate action has been taken to ensure significant progress toward meeting the standard. (livestock is a significant factor)**
NMS or NMSP Other Causes **= Acres of public rangelands not meeting the standard or making significant progress toward meeting the standard due to causes other than livestock grazing.**
NYE **= Acres of public rangelands not yet evaluated**