ENVIRONMENTAL ASSESSMENT

O BAR O CANYON, RED TAIL AND TEN ALLOTMENT MANAGEMENT PLANS

Safford Ranger District
USDA Forest Service
Graham County, Arizona

December 9, 1999

FOREWORD

The Council on Environmental Quality regulations (40 CFR Parts 1500 to 1508) outline the procedures the Forest Service uses to comply with the National Environmental Policy Act, commonly referred to as "NEPA." These regulations define an environmental assessment as a "concise public document" that "shall include brief discussions" of the need for the proposal, alternatives to the proposal, discussion of environmental effects based on the substantive issues, and a listing of agencies and persons consulted (40 CFR 1508.9). In order to meet the intent of the regulations with respect to "concise" and "brief", the text of this environmental assessment will contain references to the contents of the analysis record whenever possible. References to analysis record documents will be contained in parentheses following the conclusionary remarks abstracted from a particular document. For example, a reference "(Doc. 23, page 6)" would mean that a specific passage in the environmental assessment is linked to analysis record Document 23, page 6. A complete index to the analysis record contents is contained in the environmental assessment as Appendix A.

The Code of Federal Regulations (CFR) contains guidance concerning public review of environmental assessments. This guidance can be found at 36 CFR Part 215. These regulations prescribe a 30-day comment period for public review of this document (36 CFR 215.6.a). The 30-day comment period begins on the first day after publication of a notice of environmental assessment availability in the appropriate newspaper. The District Ranger must consider all comments received by the close of business on the 30th day of the comment period (36 CFR 215.6.c.2). The District Ranger's response will be written and added to the appendix of the environmental assessment. A copy of the written response will be forwarded to all who commented on the environmental assessment, with a copy of the final decision notice.

When the final project decision is made, the 36 CFR 215 regulations also provide an administrative appeal process to further review agency decisions. The final decision notice mailed to persons who have expressed an interest in this project will contain information on filing an appeal should you choose to do so. Decisions made at the Coronado National Forest level will be reviewed by the Regional Forester of the Forest Service Southwestern Regional Office in Albuquerque, New Mexico (36 CFR 215.12). Unless waived in a specific case, it is the position of the Department of Agriculture that any filing for Federal judicial review of a decision subject to review under the 36 CFR 215 regulations is premature and inappropriate unless the plaintiff has first sought to invoke and exhaust the procedures available under these regulations (36 CFR 215.20). When NEPA is completed relative to issuance of permits (e.g. special use, grazing, etc.), permittees may choose to appeal under the regulations listed at 36 CFR 251, Subpart C. Permittees must select which administrative review regulation they will opt to use, because they can not use both for the same appealed decision.

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USDA FOREST SERVICE
SAFFORD RANGER DISTRICT

SECTION 1 - PROJECT SCOPE

A. Introduction & Background

This environmental assessment describes a Forest Service proposal to authorize grazing on, issue grazing permits for, and develop allotment management plans (AMPs) for the O Bar O Canyon, Red Tail and Ten Allotments. All three allotments are located within the Pinaleno Ecosystem Management Area, Safford Ranger District, Coronado National Forest (Figure 1). The purpose of this Environmental Assessment is to describe the proposal and alternatives to the proposal, solicit comments on the proposal and alternatives, and disclose the effects of implementation of the proposal and alternatives. Final decisions on all three allotments are expected by January 2000. Federal actions such as authorization of grazing, issuance of term grazing permits and approval of allotment management plans must be analyzed to determine potential environmental consequences (National Environmental Policy Act of 1969).

B. Purpose and Need for Action

The purpose of the proposed action is to authorize livestock grazing on the O Bar O Canyon, Red Tail and Ten Allotments for a 10-year period, and provide long-term management direction through Allotment Management Plans (AMPs) for each allotment. Authorization is needed now for a variety of reasons. Generically, these include:

- Where consistent with other multiple-use goals and objectives there is Congressional intent to allow grazing on suitable lands (Multiple-Use Sustained Yield Act of 1960, Wilderness Act of 1964, Forest and Rangeland Renewable Resource Planning Act of 1974, Federal Land Policy and Management Act of 1976, National Forest Management Act of 1976).

- The O Bar O Canyon, Red Tail and Ten Allotments contain lands suitable for domestic livestock grazing in the Coronado Forest Plan and continued domestic livestock grazing is consistent with the goals, objectives, standards and guidelines of the Forest Plan (Forest Plan pages 9-11, 27-86).

- It is Forest Service policy to make forage available to qualified livestock operators from lands suitable for grazing consistent with land management plans (Forest Service Manual 2203.1).

- It is Forest Service policy to continue contributions to the economic and social well-being of people by providing opportunities for economic diversity and by promoting stability for communities that depend on range resources for their livelihood (FSM 2202.1).

- By regulation, forage-producing lands will be managed for livestock grazing where consistent with land management plans (36 CFR 222.2.c).

Authorization for a 10-year period is required by law (Federal Land Policy and Management Act Sec. 402.a & b.3).

In addition, there are specific conditions on the O Bar O Canyon, Red Tail and Ten Allotments that require authorization, including an expiring permit (Ten Allotment, 1999); changed resource conditions (Biological Opinions regarding threatened and endangered species [all allotments]); changes in use (O Bar O Canyon Allotment) and need for repairs to improvements (O Bar O Canyon Allotment, Ten Allotment). This Environmental Assessment (EA) analyzes the effects of the proposed grazing authorization and management practices to be included in AMPs, as well as alternatives to the proposal. The EA describes the existing and desired conditions of the affected environment within the allotments and proposed management practices that will resolve discrepancies between the two. Management practices that are approved will be incorporated into an AMP for each allotment. Current knowledge regarding existing and desired conditions, and potential management practices, is described in the following sections:

Existing Condition:

All three allotments are located in the Basin and Range Geographic Province of Southern Arizona that supports a wide variety of biotic communities due to the extreme changes in elevation over relatively short distances (Doc. 40). The allotments are located near Greasewood Mountain, the extension of the Pinaleño Mountains, south of Stockton Pass. Vegetation of the area consists of desert grassland and broadleaf evergreen woodland. (Table 1 summarizes the vegetation types for each allotment considered in this EA; Map 3 presents their distribution.) These vegetation types include elements of Brown's (1982) Madrean Evergreen Oak Woodland and Semidesert Grassland Biotic Communities. The lower elevations support vegetation associations typical of desert grasslands while woodland associations dominate the higher slopes. Evergreen woodland is represented in the analysis area by a mixed oak association. Dominant overstory trees include Arizona white oak (*Quercus arizonica*) and Emory oak (*Quercus emoryi*) along with one-seed juniper (*Juniperus monosperma*) and shrub live-oak (*Q. turbinella*). Open areas between trees are dominated by shrubs including manzanita, (*Arctostaphylos spp.*), burroweed (*Aplopapus tenuisectus*), beargrass (*Nolina microcarpa*), and agaves (cf. *Agave palmeri* and *A. parryi*).

The lowest elevations of the project area support desert grassland, which includes sideoats grama (*Bouteloua curtipendula*), Arizona cottontop (*Trichachne californica*), bullgrass (*Muhlenbergia emersleyi*), and bush muhley (*M. porteri*) in addition to ocotillo (*Fouquieria splendens*), mesquite (*Prosopis spp.*), various species of century plant (*Agave spp.*), and a variety of prickly pear and cholla (*Opuntia spp.*). Lechugilla (*Agave schottii*) is also found in patches throughout the project area. Some areas support almost pure stands of Lehmann's lovegrass (*Eragrostis lehmanniana*) that was planted for watershed protection. The lovegrass is found in other locations besides the former watershed project areas. Additionally, burroweed and snakeweed (*Guttierrezia sp.*) are becoming more widespread, partially as a result of past overgrazing and wildfire suppression, and partially as a result of recent climatic fluctuations that favor shrubs over grasses.

The Forest Land and Resource Management Plan (1986) identifies no riparian areas (Management Area 7) within the three allotments. However, deciduous riparian woodland associations are found, restricted to drainage bottoms, and are not well developed. Overstory riparian trees are found in portions of the drainages where water is closer to the surface in O Bar O, Wood, Reservoir, Sycamore, and Gillman Canyons. Typical overstory species include Arizona sycamore (*Plantanus wrightii*), velvet ash (*Fraxinus velutina*), and Arizona walnut (*Juglans major*). Some willow (*Salix spp*) grows in isolated patches near persistent surface water.

The Pinaleño Mountains are home to a diverse assemblage of animal species due to the variability of available habitat that occurs over a limited geographic area. The area supports a variety of species that either use the area seasonally or are found there year round. Typical mammals include Coues whitetail deer *(Odocoileus virginianus couesi)*, western spotted skunk *(Spilogale gracilis leucoparia)*, black bear *(Ursus americanus amblyceps)*, striped skunk *(Mephitis mephitis)*, ringtail *(Bassariscus astutus arizonensis)*, coati *(Nasua nasua)*, Mexican woodrat *(Neotoma mexicanus)*, and rock squirrel *(Spermophilus variegatus)*. The area is likely to be used for foraging by a variety of bat species such as fringed myotis *(Myotis thysanoides)*, big brown bat *(Eptesicus fuscus)*, and hoary bat *(Lasiurus cinereus)*.

Typical avifauna of the area includes songbirds such as black-chinned sparrow *(Spizella atrogularis)*, bushtit *(Psaltriparus minimus)*, Bewick's wren *(Thryomanes bewickii)*, Gray-breasted jay *(Aphelocoma ultramarina)*, bridled titmouse *(Parus wollweberili)*, and blue-gray gnatcatcher (*Polioptila caerulea*). Raptors such as red-tailed hawk *(Buteo jamaicensis)*, great-horned owl *(Bubo virginianus)* may also use the area for foraging or possibly nesting with Swainson's hawk (*Buteo swainsoni*) present in the summer.

Reptile species that may occur in the area include Arizona black rattlesnake *(Crotalis viridus cerberus)*, Yarrow's spiney lizard *(Sceloperous jarrovi)*, many-lined skink *(Eumeces callicephalus)*, and striped plateau lizard *(Sceloperous virgatus)*.

O Bar O Canyon: Located on the southwestern portion of the Greasewood Mountains (an extension of the Pinaleno Mountains), the O Bar O Canyon Allotment was created in 1995, when it was split from the O Bar O Allotment. The current grazing permit will expire in 2005 (Doc. 4). The O Bar O Canyon Allotment contains 6324 acres, of which 5241 are classified as capable for livestock grazing (Map 2). There are four pastures (Horse, Kane, O Bar O and Snake). At the time of the split from the O Bar O Allotment, the season of use was reduced from 6 months to four (November 1 to February 28), but with the number of cattle increased to maintain the same total cow/calf animal months (1100, which equates to a current permitted number of 275 cattle). Moves between pastures occur when key vegetation monitoring areas reach utilization levels established in Annual Operating Instructions (Doc. 37).

Vegetation on the O Bar O Canyon Allotment consists of Southwestern desert grassland (4926 ac.), and broadleaf evergreen woodland (1398 ac.). Lower-elevation flats are invaded by mesquite, acacia, burroweed, snakeweed and Lehmann lovegrass (Doc. 14), primarily as a result of the former presence of the ranch headquarters on adjacent land (Chuck Duncan, personal communication 1999). Rangeland conditions can be found in Tables 4a and 4b. Trend for the area is difficult to determine as a result of the presence of the invader species (Doc. 14). Annual Operating Instructions limit forage utilization to 50%

of forage species in upland vegetation and 40% of forage species in areas with riparian vegetation (Doc. 37). Full production-utilization studies were performed in 1998 (Doc. 9), and key areas were examined in 1999 (Doc. 11). Utilization was within established limits (up to 25% of forage species as measured during the key area examinations conducted in 1999), and permitted numbers appear to be in line with capacity. Other uses of the O Bar O Canyon Allotment consist of heavy recreational use during hunting season (Doc. 14).

Threatened, endangered or sensitive species potentially present on the O Bar O Canyon Allotment (Doc. 13) are the lesser long-nosed bat (*Leptonictorys curasoae yerbabuena*) the aplomado falcon (*Falco femoralis septentrionalis*) and the American peregrine falcon (*Falco peregrinus anatum*).

Improvements on the O Bar O Canyon Allotment include about 18 miles of fence, 11 water sources (Doc. 4) and 0.2 mile of pipeline (Map 6). The water storage tank at Walnut Springs is deteriorated and in need of replacement, to assure continued proper distribution of livestock. No other construction or reconstruction of improvements is needed (Doc. 14).

Red Tail: Located in the very southern portion of the Greasewood Mountains, the Red Tail Allotment consists of one pasture (Map 2) that is grazed by 85 cattle between November 1 and March 31 (425 cow/calf animal months). The permit for the allotment expires in 2003 (Doc. 2).

Vegetation on the Red Tail Allotment consists of 2181 acres of Southwestern desert grassland, with scattered oak and juniper (Table 1; Map 3). One drainage, Wood Canyon Wash, dissects the allotment, but is not a true riparian area. Vegetation in the wash consists of an oak and hackberry overstory, catclaw and Apache plume in the mid-story, and an understory of several cactus species. Most of the Red Tail Allotment (1973 acres, about 90%) is considered capable rangeland, with many species of perennial grass present. Rangeland condition can be found in Tables 4c and 4d. Annual operating instructions limit forage utilization to 50% of forage species in upland vegetation and 40% of forage species in areas with riparian vegetation (Doc. 36). A production-utilization study was conducted in 1998 (Doc. 10) and key areas examined in 1999 (Doc. 13); utilization appears to be within the established limits (up to 26% of forage species as measured during key area examinations conducted in 1999). Other uses of the Red Tail Allotment consist of heavy recreational use during hunting season (Doc. 14).

Threatened, endangered or sensitive species potentially present in the Red Tail Allotment area are the lesser long-nosed bat, aplomado falcon and American peregrine falcon (Doc. 14).

Improvements on the Red Tail Allotment consist of 9.3 miles of fence and four water sources (Map 6). No construction or reconstruction of improvements is needed (Doc. 14).

Ten: Located on the southeastern end of the Greasewood Mountains, the Ten Allotment consists of 6312 acres in one pasture (Map 2) grazed from November 1 to April 30. Eighty-four percent of the allotment (5326 acres) is considered capable for grazing. The permit for the allotment expires in 1999 (Doc. 1). The allotment management plan is not current. A cow/calf operation is used. In 1999, the numbers were reduced from 154 head for 6 months to 112 head for 6 months (or from 924 cow/calf animal months to 672 cow/calf animal months), to reflect actual use for the past 10 years (Docs. 22, 25, 26).

Vegetation on the allotment is 5465 acres of southwestern desert grassland and 847 acres of broadleaf evergreen woodland. Rangeland conditions can be found in Tables 4e & 4f. Annual operating instructions limit forage utilization to 50% of forage species in upland vegetation and 40% of forage species in areas with riparian vegetation (Doc. 35). A full production-utilization study was conducted in 1996 (Doc. 5), and key areas were monitored in 1999 (Doc. 12). Utilization in key areas appeared to be about 5%. Other uses of the Ten Allotment consist of beargrass gathering and gold exploration (Doc. 14).

Threatened, endangered or sensitive species potentially present in the Ten Allotment area are the lesser long-nosed bat, aplomado falcon and American peregrine falcon (Doc. 14).

Improvements on the Ten Allotment consist of about 18 miles of fence, 13 water sources and 1.5 miles of trail (Doc. 1) and 0.7 mile of pipeline (Map 6). Approximately 4 miles of allotment boundary fence reconstruction is needed on the west side of the allotment, where the fence is down and unauthorized use is occurring. No other construction or reconstruction of improvements is needed (Doc. 14).

TABLE 1 – VEGETATION TYPES, O BAR O, RED TAIL AND TEN ALLOTMENTS

Allotment	Vegetation Type	Capable Acres	Not Capable Acres	Total Acres
O Bar O Canyon	Desert Grassland	4453	473	4926
	Broadleaf Evergreen Woodland	788	610	1398
	Total	**5241**	**1083**	**6324**
Red Tail	Desert Grassland	**1973**	**208**	**2181**
Ten	Desert Grassland	4669	796	5465
	Broadleaf Evergreen Woodland	657	190	847
	Total	**5326**	**986**	**6312**
Total Acres		**17781**	**3360**	**21141**

Desired Condition:

All Allotments: The desired condition is to permit grazing in accordance with up-to-date AMPs for all three allotments. The AMPs will be based on the best information available and will support the following objectives:

- Permittee responsibilities for achieving the AMP objectives are clearly stated.
- Livestock stocking is consistent with capacity.
- Key areas accurately represent forage utilization on the allotment.
- Satisfactory soil conditions and fair or better range conditions are maintained.
- Range improvements are functional and support permitted livestock numbers and distribution.
- The likelihood of adverse effects to threatened, endangered or sensitive species is reduced, and habitat is improved.

C. **Proposed Action**

The Safford Ranger District proposes to issue new 10-year term grazing permits for the O Bar O Canyon, Red Tail and Ten Allotments, and to develop AMPs for each allotment. At the time the Scoping Report for this proposal was distributed (Doc. 16), the proposal included replacement of the water storage at Whiskey Springs (on the Red Tail Allotment). The tank to be replaced was misidentified; the tank in need of replacement is the water storage at Walnut Spring on the Gilman Allotment, which provides water for the O Bar O Canyon Allotment as well. In addition, review of actual use of the Ten Allotment and an adjoining BLM permit held by the same permittee revealed that numbers and season of use on the two permits are coordinated (Docs. 22, 25, 26), contrary to information contained in the Scoping Report. Hence, the proposed action has been revised to delete changes in numbers and season of use for the Ten Allotment that were described in the Scoping Report. The following is a revised description of proposed management practices for the allotments:

All Allotments: The Proposed Action provides for the following actions on the O Bar O Canyon, Red Tail and Ten Allotments:

1. Issue a 10-year term grazing permit for each allotment.
2. Maintain existing pastures and rotation systems.
3. Maintain existing range improvements.
4. Limit forage utilization in designated key areas to 50% of forage species in upland vegetation and 40% of forage species in areas with riparian vegetation.

O Bar O Canyon Allotment: In addition to the items above, the Proposed Action provides for the following actions on the O Bar O Canyon Allotment:

1. Maintain current stocking of 275 cattle between November 1 and February 28 (1100 cow/calf animal-months).
2. Replace water storage at Walnut Springs, which is deteriorated and which is needed to assure proper distribution of livestock (note: Walnut Springs is actually on the Gilman Allotment, but provides water for the O Bar O Canyon Allotment as well).

Red Tail Allotment: In addition to the actions pertaining to all allotments, above, the Proposed Action provides for the following actions on the Red Tail Allotment:

1. Maintain current stocking of 85 cattle between November 1 and March 31 (425 cow/calf animal months).

Ten Allotment: In addition to the actions pertaining to all allotments, above, the Proposed Action provides for the following actions on the Ten Allotment:

1. Maintain current stocking of 112 head from November 1 to April 30 (672 cow/calf animal months).
2. Reconstruct 4 miles of allotment boundary fence on the west (Stockton Pass) side of the allotment, to eliminate unauthorized use across allotments.

D. Decision to be Made

The Safford District Ranger will decide whether or not to issue new 10-year term grazing permits for the O Bar O Canyon, Red Tail and Ten Allotments. The District Ranger may decide to select the No Action alternative, defer action, or select an action alternative for each of the allotments. If a decision is made to authorize grazing, the Ranger will also decide which management practices and mitigation measures will be prescribed in the AMPs, including permitted number of animals and season of use, livestock facilities to be constructed, allowable utilization standards, and monitoring actions to be employed.

E. Planning Issues

On January 25 & 26, 1999, a Coronado National Forest interdisciplinary team met with Safford District staff to discuss the three allotments (Doc. 14). After discussing the allotments, a proposed action was developed along with needed mitigation measures that will eliminate the potential for significant environmental effects. Public scoping was conducted by means of a Scoping Report mailed to potentially interested parties on April 12, 1999 and requesting a response by May 13, 1999 (Docs. 15, 16, 17). Based on corrected data and the responses to the Scoping Report (Docs. 18-20, 22-24, 27), the original Proposed Action was dropped from detailed consideration (see below and Docs. 22, 25, 26). The Continue Current Management alternative is now the Forest Service Proposed Action. In addition, Issue 3 was revised to include the economic returns of the alternatives. The revised list of issues includes:

1. Effects to threatened, endangered, or sensitive species or their habitat. Species of concern are the lesser long-nosed bat (*Leptonictorys curasoae yerbabuena*), aplomado falcon (*Falco femoralis septentrionalis*), and American peregrine falcon (*Falco peregrinus anatum*).
2. Effects to wildlife from replacement of water storage at Walnut Springs on the Gilman Allotment.
3. Effects to economic viability of permittee operations, and returns to the local economy.

F. Measures (Evaluation Criteria)

1. Threatened, endangered and sensitive species
   Lesser long-nosed bat: Narrative describing effects, by alternative, as identified through a Biological Assessment and Evaluation.
   Aplomado falcon: Narrative describing effects, by alternative, as identified through a Biological Assessment and Evaluation.
   American peregrine falcon: Narrative describing effects, by alternative, as identified through a Biological Assessment and Evaluation.

2. Effects to wildlife from replacement of water storage
   Narrative describing overall changes in water availability in the allotments.

3. Economic viability of permittee operations, and returns to the local economy.
   Economic narrative and tables, addressing relative costs and returns of alternatives.

4. Effects to air, vegetation, wildlife and heritage resources
These standard evaluation criteria are discussed in narrative or table form.

G. Project Location/Analysis Area

The location includes all or part of:

O Bar O Canyon Allotment:

T. 10 S., R. 24 E., sections 35, 36
T. 10 S., R. 25 E., sections 29, 31-33
T. 11 S., R. 24 E., section 1
T. 11 S., R. 25 E., sections 3-6, 7-9, 17-19

Red Tail Allotment:

T. 11 S., R. 25 E., sections 22-27
T. 11 S., R. 26 E., section 30

Ten Allotment:

T. 11 S., R. 25 E., sections 1, 2, 10-14, 23-25
T. 11 S., R. 26 E., sections 5-7, 18, 19, 30

Past, present and foreseeable future projects that were evaluated for potential cumulative effects in the area are:

- Historic grazing impacts
- Recreation (hunting) in Red Tail Allotment
- Beargrass gathering in Ten Allotment
- Gold prospecting in Ten Allotment

The interdisciplinary analysis determined that there was no incremental impact from the proposed action or other alternatives when added to other past, present, or reasonably forseeable future actions.

H. Further NEPA Analysis Needed

This environmental assessment documents the site-specific project-level analysis that will support the decision to be made (see item D, above). No additional NEPA analysis will be needed to implement this project. This NEPA analysis is tiered to the analysis and documentation completed for the Coronado Land and Resource Management Plan in 1986. While this Environmental Assessment discloses the environmental effects for issuance of 10-year term permits and preparation of AMPs for three grazing allotments, separate decision notices will be issued for each allotment.

SECTION 2 - ALTERNATIVES

A. Alternative Development

One alternative to the Proposed Action was developed for the O Bar O Canyon, Ten and Red Tail Allotments. This alternative (No Action/No Grazing) discontinues livestock use of the allotments. (The current Proposed Action was originally described as "Continue Current Management," and was a second alternative to the Proposed Action in the Scoping Report, which was subsequently dropped from detailed study – see below).

B. Alternatives Dropped from Detailed Study

Based on new data concerning the actual numbers and season of use for the BLM permit adjoining the Ten Allotment (Docs. 22, 25, 26), the original Proposed Action was dropped from detailed study. The original Proposed Action (described in the Scoping Report, Doc. 16) sought to coordinate numbers and seasons of use on the Ten Allotment with numbers and seasons of use on an adjoining BLM permit. In fact, numbers and seasons of use are coordinated between the Forest Service and BLM permits. The two alternatives considered in detail (No Action/No Grazing and Continue Current Management) constitute the legally required range of alternatives and a feasible means of reconciling existing and desired conditions.

C. Alternatives Considered in Detail:

1. Objectives Common to All Alternatives: In addition to the objectives outlined in the *Desired Condition* (Section 1, Part B), the following objectives are also common to all alternatives:

- Implement Forest Service policy concerning availability of forage on National Forest System lands.

2. Alternative Mitigation/Monitoring

- Water developments - all new or reconstructed water developments will include wildlife access and escape ramps.
- Implement the following Best Management Practices for grazing: Prepare annual operating instructions with the permittees to allow for current allotment conditions; make periodic field checks to identify needed adjustments in season of use and livestock numbers including stock counts, forage utilization, assessment of rangeland to verify soil and vegetative condition and trend; and use necessary techniques to achieve proper distribution, or lessen the impact on areas which are sensitive or which would naturally be overused, including riding and herding to shift livestock locations, using salt or supplemental feed, range improvements, prescribed burning, trail construction or seeding, or prevention of intensive livestock grazing or concentrated livestock use on soils that have low bearing strength and are wet.
- Key monitoring areas will be established in each pasture. Measurement of forage utilization in key areas will be conducted as needed to ascertain when a grazed pasture has reached its utilization objective.

- Design range improvements to avoid impacting agaves. If impacts to agaves are unavoidable, ensure that no more than one percent of the agaves within 800 meters (0.5 miles) of the range improvement are impacted.
- If a *Leptonycteris* roost is found in or within 1 mile of these allotments, the District shall develop a mitigation plan in coordination with the U.S. Fish and Wildlife Service for each range project or road maintenance action undertaken as a part of the grazing program, within 1.6 km (1 mile) of the roost. The purpose of the mitigation plan shall be to minimize the disturbance to the roost (s) from construction and maintenance activities and to ensure that such activities do not facilitate public access to roosts.
- Contribute data as appropriate to the annual report to the U.S. Fish and Wildlife Service required by term and condition #3 on page 148 of the final Biological Opinion under consultation number AESO/SE 2-21-98-F-399.

3. Alternative Descriptions

The following alternatives were approved by the District Ranger to address the substantive issues defined during scoping. The alternatives considered in detail are described below:

Alternative 1: No Grazing (No Action): Under this alternative, use of the grazing allotments by domestic livestock would be discontinued. No term grazing permit would be issued. All existing structural improvements including water developments would remain in place but would not be maintained. Periodic monitoring of structural improvements (at least once every ten years) will be used to determine whether removal or maintenance is needed. Removal or maintenance would be authorized by a separate decision.

Alternative 2: Continue Current Management/Proposed Action

The **O Bar O Canyon Allotment** is being managed using a four-pasture rotation system. Two hundred seventy-five cattle are rotated through the pastures over the course of a 4-month winter grazing season (November 1-February 28; 1100 cow/calf animal months). Moves between pastures occur when utilization of forage species in designated key monitoring areas reaches the utilization levels established in Annual Operating Instructions. Utilization of forage species in designated key areas is limited to 50% in upland vegetation types and 40% in areas with riparian vegetation. Improvements on the O Bar O Canyon Allotment include 18 miles of fence, 11 water sources and 0.2 mile of pipeline. The water storage tank at Walnut Springs on the Gilman Allotment is maintained (replaced), to assure continued proper distribution of livestock on the O Bar O Canyon Allotment, which is also served by the tank. The replacement tank includes wildlife access and escape ramps. No other construction or reconstruction of improvements is undertaken.

The **Red Tail Allotment** consists of one pasture that is grazed by 85 cattle between November 1 and March 31 (425 cow/calf animal months). Utilization of forage species in designated key areas is limited by Annual Operating Instructions to 50% of in upland vegetation types and 40% in areas with riparian vegetation types. Improvements on the Red Tail Allotment consist of 9.3 miles of fence, and 4 water sources. No construction or reconstruction of improvements is undertaken.

The **Ten Allotment** consists of one pasture grazed as a component of a modified deferred rest rotation grazing strategy. A cow/calf operation is used, with 112 head permitted for six months (November 1 to April 30; 672 cow/calf animal months). Annual Operating Instructions limit utilization in designated key areas to 50% of forage species in upland vegetation types and 40% of forage species in areas with riparian vegetation. Improvements on the Ten Allotment consist of 18 miles of fence, 13 water sources, 1.5 miles of trail and 0.7 mile of pipeline. Approximately 4 miles of allotment boundary fence maintenance (reconstruction) is performed to prevent unauthorized use on the west side of the allotment, where the fence is down. No other construction or reconstruction of improvements is undertaken.

The following tables are included to facilitate comparisons of the alternatives using selected descriptive parameters:

TABLE 2a – SELECTED DESCRIPTIVE ALLOTMENT CHARACTERISTICS BY ALTERNATIVE, O BAR O CANYON ALLOTMENT

Descriptive Parameter	No Action/No Grazing	Current Management/Preferred Alternative
Season of use	None	11/1-2/28
Utilization (growing season)	0%	N/A
Utilization (non-growing season)	0%	50% upland 40% riparian
Permitted # (cow/calf Animal Months)	0	1100

TABLE 2b – SELECTED DESCRIPTIVE ALLOTMENT CHARACTERISTICS BY ALTERNATIVE, RED TAIL ALLOTMENT

Descriptive Parameter	No Action/No Grazing	Current Management/Preferred Alternative
Season of use	None	11/1-3/31
Utilization (growing season)	0%	N/A
Utilization (non-growing season)	0%	50% upland 40% riparian
Permitted # (cow/calf Animal Months)	0	425

TABLE 2c – SELECTED DESCRIPTIVE ALLOTMENT CHARACTERISTICS BY ALTERNATIVE, TEN ALLOTMENT

Descriptive Parameter	No Action/No Grazing	Current Management/Preferred Alternative
Season of use	None	11/1-4/30
Utilization (growing season)	0%	N/A
Utilization (non-growing season)	0%	50% upland 40% riparian
Permitted # (cow/calf Animal Months)	0	672

Table 3 below provides a comparison of planned improvements (rehabilitation activities and range improvements) associated with each alternative:

TABLE 3a – PLANNED IMPROVEMENTS BY ALTERNATIVE, O BAR O CANYON ALLOTMENT

Improvement Description	No Action/No Grazing	Continue Current Management/Preferred Alternative
Replace water storage at Walnut Spring	N	Y

TABLE 3b – PLANNED IMPROVEMENTS BY ALTERNATIVE, RED TAIL ALLOTMENT

Improvement Description	No Action/No Grazing	Continue Current Management/Preferred Alternative
N/A	N	N

TABLE 3c – PLANNED IMPROVEMENTS BY ALTERNATIVE, TEN ALLOTMENT

Improvement Description	No Action/No Grazing	Continue Current Management/Preferred Alternative
Reconstruct 4 mi. of boundary Fence	N	Y

4. Preferred Alternative Identification

In this Environmental Assessment the agency's Preferred Alternative is Continue Current Management (Proposed Action). That alternative implements Forest Service policy concerning livestock forage, while minimizing detrimental effects to threatened or endangered species, other wildlife, and the economic viability of permittee operations. New grazing improvements are not constructed in bat or peregrine falcon habitat, and wildlife access and escape ramps are provided when maintaining water developments. Economic impacts to permittees are those of current management, and provide economic returns that are not generated if the No Action/No Grazing alternative is selected.

SECTION 3 - AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS

A. Introduction

This Section shows the present condition (that is, the affected environment) within the O Bar O Canyon, Red Tail and Ten allotment areas and the changes that can be expected from implementing the Proposed Action or taking no action at this time. The No Action alternative sets the environmental base line for comparing the effects of the action alternatives.

The planning issues (see Section 1.E) define the scope of environmental concern for these allotments. The environmental effects (changes from present base line condition) that are described in this section reflect the identified major issues. Tabular data distinguish between acres capable for grazing and acres not capable for grazing, as the latter (primarily slopes too steep for cattle) are not subject to grazing impacts. Issue numbers are shown in parentheses after subheadings, where appropriate to cross-reference issues with the impact discussions that follow.

B. Vegetation

The following discussion is a summary of Document 38:

Affected Environment - The O Bar O Canyon, Red Tail and Ten Allotments are located in the Upper Sonoran life zone. Vegetation types are described in section 1.B, acreages are listed in Table 1, and the distribution of the vegetation types is shown on Map 3.

Environmental Effects - Grazing by domestic livestock for 10 years may impact vegetation by changing the mix of species in the plant community being grazed (vegetation composition); by changing the density and frequency of perennial forage plants (forage frequency); and by changing the vigor of the grazed plants. These three vegetation effects are combined into four vegetation condition classes that reflect the relative effects of grazing on vegetation: High, Moderately High, Moderately Low, and Low.

In addition to vegetation condition classes, the vegetation trend (Upward, Static, Downward) is also displayed to show whether vegetation conditions are improving or declining. In determining trend, the assumption is made that grazing is the only effect, therefore, acres that are not capable for grazing are classified as having a static trend. Tables 4a through 4f below display the rangeland vegetation condition and trend for the Proposed Action and alternative at the end of the permit period for each allotment. Riparian vegetation is not extensive enough to be mapped. A narrative discussion of effects to riparian vegetation is included here following the discussion of grazing effects on the Ten Allotment.

TABLE 4a - EXISTING AND PROJECTED UPLAND RANGELAND VEGETATION CONDITION AND TREND, O BAR O CANYON ALLOTMENT, PERCENTAGE OF ACRES CAPABLE FOR GRAZING

Condition Class	Existing Condition	No Action/ No Grazing (Alt. 1)	Current Management/ Preferred Alternative (Alt. 2)
HIGH			
% of Allotment	0	0	0
MODERATELY HIGH			
% of Allotment			
Upward Trend			
Static Trend	83	90	88
Downward Trend			
MODERATELY LOW			
% of Allotment			
Upward Trend	17	10	12
Static Trend			
Downward Trend			
LOW			
% of Allotment	0	0	0

TABLE 4b - EXISTING AND PROJECTED UPLAND RANGELAND VEGETATION CONDITION AND TREND, O BAR O CANYON ALLOTMENT, PERCENTAGE OF ACRES NOT CAPABLE FOR GRAZING

Condition Class	Existing Condition	No Action/ No Grazing (Alt. 1)	Current Management/ Preferred Alternative (Alt. 2)
HIGH			
% of Allotment	0	0	0
MODERATELY HIGH			
% of Allotment			
Upward Trend			
Static Trend	100	100	100
Downward Trend			
MODERATELY LOW			
% of Allotment	0	0	0
LOW			
% of Allotment	0	0	0

Grazing Effects, O Bar O Canyon Allotment: Currently, 83% of capable acres are in moderately high rangeland condition, and 17% of capable acres are in moderately low condition. All of the not capable acres are in moderately high condition. The trend for the capable acres is upward based on considerable improvement over the last 20 years. Because of the presence of shrubby species, it is unlikely that high condition will be achieved in any of the areas within the planning period. Significant reductions of the shrub component will not occur with moderate levels of grazing proposed, or even with removal of grazing livestock. These species can only be reduced using more intensive management than is proposed, i.e. prescribed fire or herbicides.

The No Action/No Grazing Alternative (Alternative 1) will have no effects from livestock grazing. Winter only grazing at the moderate level proposed is a good management strategy for native grasses; they will only be grazed in the dormant season. For this reason, and because of the presence of a shrubby component, the effects of the grazing alternative (Alternative 2) will be similar to Alternative 1 except in concentration areas such as cattle bed grounds and around water sources. More vegetation will establish in these areas under the No Action/No Grazing Alternative.

TABLE 4c - EXISTING AND PROJECTED UPLAND RANGELAND VEGETATION CONDITION AND TREND, RED TAIL ALLOTMENT, PERCENTAGE OF ACRES CAPABLE FOR GRAZING

Condition Class	Existing Condition	No Action/ No Grazing (Alt. 1)	Current Management/ Preferred Alternative (Alt. 2)
HIGH			
% of Allotment	0	0	0
MODERATELY HIGH			
% of Allotment			
Upward Trend	100	100	100
Static Trend			
Downward Trend			
MODERATELY LOW			
% of Allotment	0	0	0
LOW			
% of Allotment	0	0	0

TABLE 4d - EXISTING AND PROJECTED UPLAND RANGELAND VEGETATION CONDITION AND TREND, RED TAIL ALLOTMENT, PERCENTAGE OF ACRES NOT CAPABLE FOR GRAZING

Condition Class	Existing Condition	No Action/ No Grazing (Alt. 1)	Current Management/ Preferred Alternative (Alt. 2)
HIGH			
% of Allotment			
Upward Trend			
Static Trend	100	100	100
Downward Trend			
MODERATELY HIGH			
% of Allotment	0	0	0
MODERATELY LOW			
% of Allotment	0	0	0
LOW			
% of Allotment	0	0	0

Grazing Effects, Red Tail Allotment: The entire Red Tail allotment is in moderately high condition. There are areas within which are rated as high condition, however these areas have not been mapped. The trend for the capable acres is upward based on considerable improvement over the last 20 years.

The No Action/No Grazing Alternative (Alternative 1) will have no effects from grazing. Alternative 2 proposes winter only grazing at a moderate level. Winter only grazing is a good strategy for native grasses since they will only be grazed in the dormant season. Because of the moderately high current condition of the rangeland vegetation under current management, the effects of the grazing alternative (Alternative 2) will be similar to the Alternative 1 except in concentration areas such as cattle bed grounds and around water sources. More vegetation will establish in these areas under the No Action/No Grazing Alternative.

TABLE 4e - EXISTING AND PROJECTED UPLAND RANGELAND VEGETATION CONDITION AND TREND, TEN ALLOTMENT, PERCENTAGE OF ACRES CAPABLE FOR GRAZING

Condition Class	Existing Condition	No Action/ No Grazing (Alt. 1)	Current Management/ Preferred Alternative (Alt. 2)
HIGH			
% of Allotment	0	0	0
MODERATELY HIGH			
% of Allotment			
Upward Trend	98	98	98
Static Trend			
Downward Trend			
MODERATELY LOW			
% of Allotment			
Upward Trend	2	2	2
Static Trend			
Downward Trend			
LOW	0	0	0
% of Allotment			

TABLE 4I - EXISTING AND PROJECTED UPLAND RANGELAND VEGETATION CONDITION AND TREND, TEN ALLOTMENT, PERCENTAGE OF ACRES NOT CAPABLE FOR GRAZING

Condition Class	Existing Condition	No Action/ No Grazing (Alt. 1)	Current Management/ Preferred Alternative (Alt. 2)
HIGH			
% of Allotment	0	0	0
MODERATELY HIGH			
% of Allotment			
Upward Trend			
Static Trend	100	100	100
Downward Trend			
MODERATELY LOW			
% of Allotment	0	0	0
LOW			
% of Allotment	0	0	0

Grazing Effects, Ten Allotment: The presence of Lehmann lovegrass and shrubby species lowers the condition rating for this allotment, however there are no actions or alternatives proposed that will effectively reduce these species. The trend for the capable acres is upward based on considerable improvement over the last 20 years.

The No Action/No Grazing Alternative (Alternative 1) will have no effects from livestock grazing. Grazing in the winter season only is a good management strategy where Lehmann lovegrass is available as forage. The lovegrass will respond to available moisture and start growing in the spring, unlike most of the desirable native grasses on this range. Winter only grazing is also a good strategy for native grasses since they will only be grazed in the dormant season. For those reasons, the effects of the grazing alternative (Alternative 2) will be similar to the No Action/No Grazing Alternative (Alternative 1) except in concentration areas such as cattle bed grounds and around water sources. More vegetation will establish in these areas under the No Action/No Grazing Alternative.

Grazing Effects, Riparian Vegetation: Under the Proposed Action, the limited areas with riparian vegetation would be grazed in the dormant season with a proposed forage species utilization level of 40%. This management will not lead to deterioration of the riparian vegetation. The No Action/No Grazing alternative would also result in riparian vegetation sustainability. It is unlikely that riparian areas large enough to map will develop within the planning period under either alternative.

C. Soil

The following discussion is a summary of Document 38:

Affected Environment: Domestic livestock grazing affects soil functions that are important to maintenance of long-term productivity. Specifically, the soil's ability to accept, hold and release water is affected by physical compaction and trampling. The nutrient recycling function of the soil is affected by removal of vegetation that impacts aboveground nutrient inputs into the system. Finally, the soil's resistance to erosion is affected by changes in plant density and protective litter.

Environmental Effects: A soil condition rating system is used to measure the relative effects of livestock grazing on these critical soil functions. Tables 5a through 5f display the soil condition ratings at the end of the permit period for each allotment as a result of implementing the proposed action and alternatives.

TABLE 5a - SOIL CONDITION, O BAR O CANYON ALLOTMENT, PERCENT OF ACRES CAPABLE FOR GRAZING

Condition Class (percent of capable acres)	Existing Condition	No Action/No Grazing (Alt. 1)	Current Management/ Preferred Alternative (Alt. 2)
Satisfactory	83%	85%	84%
Impaired	17%	15%	16%
Unsatisfactory			

TABLE 5b - SOIL CONDITION, O BAR O CANYON ALLOTMENT, PERCENT OF ACRES NOT CAPABLE FOR GRAZING

Condition Class (percent of not capable acres)	Existing Condition	No Action/No Grazing (Alt. 1)	Current Management/ Preferred Alternative (Alt. 2)
Satisfactory	100%	100%	100%
Impaired			
Unsatisfactory			

TABLE 5c - SOIL CONDITION, RED TAIL ALLOTMENT, PERCENT OF ACRES CAPABLE FOR GRAZING

Condition Class (percent of capable acres)	Existing Condition	No Action/No Grazing (Alt. 1)	Current Management/ Preferred Alternative (Alt. 2)
Satisfactory	100%	100%	100%
Impaired			
Unsatisfactory			

TABLE 5d - SOIL CONDITION, RED TAIL ALLOTMENT, PERCENT OF ACRES NOT CAPABLE FOR GRAZING

Condition Class (percent of not capable acres)	Existing Condition	No Action/No Grazing (Alt. 1)	Current Management/ Preferred Alternative (Alt. 2)
Satisfactory	100%	100%	100%
Impaired			
Unsatisfactory			

TABLE 5e - SOIL CONDITION, TEN ALLOTMENT, PERCENT OF ACRES CAPABLE FOR GRAZING

Condition Class (percent of capable acres)	Existing Condition	No Action/No Grazing (Alt. 1)	Current Management/ Preferred Alternative (Alt. 2)
Satisfactory	83%	85%	84%
Impaired	17%	15%	16%
Unsatisfactory			

TABLE 5f - SOIL CONDITION, TEN ALLOTMENT, PERCENT OF ACRES NOT CAPABLE FOR GRAZING

Condition Class (percent of not capable acres)	Existing Condition	No Action/No Grazing (Alt. 1)	Current Management/ Preferred Alternative (Alt. 2)
Satisfactory	100%	100%	100%
Impaired			
Unsatisfactory			

Grazing Effects, O-O Canyon, Red Tail and Ten Allotments: The No Action/No Grazing alternative will lead to improved soil condition, inferred by more vegetation cover, at a faster rate than for Current Management in some areas; cattle bed grounds, around water sources and to a lesser extent in areas that are from 0 - 5% slope. The difference in soil condition between both of the alternatives for all three allotments will be immeasurable at slopes greater than 5% in the term of the proposed grazing permit (10 years).

Soils in non-capable areas are rated as satisfactory by definition, because they have been minimally affected by management activity. There will be minimal effects from grazing to soils in non-capable areas. For this reason, soil condition is predicted to remain static for both alternatives in the absence of fire or some other form of disturbance.

D. Water

The following discussion is a summary of Document 38:

Affected Environment:

Wilcox Playa Watershed: Most of the O Bar O Canyon Allotment and about half of the Red Tail Allotment lie within the Wilcox Playa 5th Code Watershed. This watershed is about 1,000,000 acres in size, of which 172,561 acres (17%) are National Forest. The O Bar O Canyon Allotment contains 6,278 acres of the watershed, or 0.6 %. The Red Tail Allotment contains 1,021 acres within the watershed, or 0.1%. Other ownerships within this watershed are private, Bureau of Land Management, and State Land Department. The City of Wilcox is within this watershed.

San Simon Creek Watershed: Most of the Ten Allotment and about half of the Red Tail Allotment lie within the San Simon Creek 5th Code Watershed. This watershed is about 1,400,000 acres in size, of which 183,564 (13%) are National Forest. The Ten Allotment contains 6,291acres of the watershed, or 0.4%. The Red Tail Allotment contains 1,160 acres of the watershed, or 0.08%. Other ownerships within this watershed are private, Bureau of Land Management, and State Land Department. Numerous small towns are within this watershed.

Lower Gila River Watershed: Both the O Bar O Canyon and the Ten Allotment contain small areas that are within the Lower Gila River 5th Code Watershed. This watershed is about 1,700,000 acres in size, of which 158,153 acres (9%) are National Forest. The combined acreage for both allotments in this watershed is 60 acres, or (0.003%). The City of Safford and numerous small towns are within this watershed.

Land uses on private land are those associated agriculture and rural development. Uses on Federal and State lands are primarily grazing and recreation.

No tests have been made within the project area to determine water quality parameters that may be affected by watershed condition. However, none of the downstream waters are listed in the 1998 Arizona Department of Water Quality Assessment as "water quality limited". This means that the project area is contributing to a high quality system.

Environmental Effects: Cattle grazing has been identified as a source of concern for water contamination in Arizona where appropriate management of cattle is lacking. Implementation of Best Management Practices (BMPs) will be effective in managing cattle grazing to maintain or improve water quality. See FSH 2509.22 for appropriate BMPs. Because soil conditions are satisfactory over much of the project area and areas with soil impairment are improving under current management, it is not expected that the proposed grazing under Alternative 2 (Continue Current Management) will be detrimental to the quality of downstream water.

E. Air

The following discussion is a summary of Document 38:

Affected Environment: The project area is not located in an air quality non-attainment area for any air quality constituent. This means that air quality is excellent. The project area is not located in a Class I Wilderness Area.

Environmental Effects: There will be no measurable effects to air quality under Alternative 1 or Alternative 2.

F. Wildlife (Issues #1 & 2)

The following discussion is a summary of Document 40:

Affected Environment:

Threatened, Endangered, Proposed, and Sensitive Species: Federally listed species included in this analysis are derived from the list of species analyzed for these three grazing allotments in the Biological Assessment (BA) of on-going and long-term grazing on the Coronado National Forest (USDA 1998). That BA was the subject of Section 7 consultation with the U.S. Fish and Wildlife Service (Consultation Number # AESO/SE 2-21-98-F-399). Determinations of "may affect" were made for only two species: Aplomado falcon and lesser long-nosed bat. For the remaining 28 species of plants and animals, the determination was either "no effect" or it was determined that neither the species nor its habitat are present on the allotment. A non-jeopardy Biological Opinion was received from the USFWS that included terms and conditions for 135 allotments. Since the proposed action only differs slightly from that assessed in the Forest-wide BA, the effect determinations made for all but two species previously remain un-changed. The two exceptions are those determinations for the previously mentioned falcon and bat. The determination of effect and associated rationale for those two species are included below.

Recently, the Region 3 Regional Forester's Sensitive Species List was revised and includes many more species than the 1988 Regional Forester's list. The 1999 species list should be considered a work in progress because occurrence data and threats to many of the species are currently poorly understood. As information is gathered, analysis of these species in biological documents will expand. Species included in this analysis are primarily taken from the 1988 list about which more is known. It should also be noted here that the American peregrine falcon has recently been delisted by the U.S. Fish and Wildlife Service (Fed. Reg. Vol 64. No 164). It will still be included as a Forest Service Sensitive species at least through the mandatory five-year monitoring period associated with the delisting process. Forest Service Sensitive species analyzed in this document are included in the following list:

TABLE 6 - SPECIAL STATUS SPECIES CONSIDERED IN THE ANALYSIS OF THE O BAR O CANYON, RED TAIL AND TEN ALLOTMENTS

Common Name	Scientific Name	Status
Lesser long-nosed bat	*Leptonicteris curasoae yerbabuena*	Endangered
Aplomado falcon	*Falco femoralis septentrionalis*	Endangered
American peregrine falcon	*Falco peregrinus anatum*	FS Sensitive
Chiricahua leopard frog	*Rana chiricahuensis*	FS Sensitive
Lowland leopard frog	*R. yavapaiensis*	State Wildlife Species of Concern

Environmental Effects:

No Action: Implementation of the no action alternative would mean the removal of livestock from the three allotments within two years of the decision. All existing structural improvements including water developments would remain in place but would not be maintained. Cattle related localized impacts to vegetation and soils in concentration areas would be eliminated. Watershed, soil, and vegetation condition would improve at a faster rate than the action alternative. Waters would not be maintained and so would eventually be unavailable to wildlife.

Continue Current Management: Very little difference is expected between the effects of current management as compared to the no action alternative except recovery of livestock concentration areas will be slower and structural improvements such as water developments will be maintained under current management and will therefore be available to wildlife. If access ramps are included in the redevelopment of Walnut spring, there will be no net loss of water sources available to wildlife.

Effects of current management on threatened, endangered, proposed (TEP), and sensitive species are analyzed in a Biological Assessment and Evaluation (BA/E). Formal determinations of effect to federally listed TEP species and suggested were made. The table below summarizes the findings of the BA/E for the two alternatives considered in detail.

TABLE 7 - SUMMARY OF EFFECTS ON THREATENED, ENDANGERED AND FOREST SERVICE SENSTIVE SPECIES

Species	No Action/No Grazing (Alt. 1)	Continue Current Management/ Preferred Alternative (Alt. 2)
Lesser long-nosed bat	NE	NE
Aplomado falcon	NE	NE

American peregrine falcon	NI	NI
Leopard frogs	MI	MI

NE=No Effect
NI=No Impact
MI=May Impact individuals, but is not likely to result in a trend toward Federal listing

The finding for current management differ from the Final Biological Assessment (BA) for On-Going Grazing that was submitted the to the U.S. Fish and Wildlife Service for consultation (Consultation number # AESO/SE 2-21-98-F-399). Because the effect determinations were developed using programmatic level Regional Guidance Criteria instead of site-specific analysis, the determinations were appropriately conservative. More site-specific information was available for this analysis and resulted in different determinations of effect than the on-going grazing BA/E. A discussion of effects and of the variance between the programmatic and site-specific biological findings for the bat and falcon is included below.

Lesser Long-nosed Bat

The BA for on-going grazing activities on the Coronado National Forest determined that grazing on these three allotments was likely to adversely affect the lesser long-nosed bat. These determinations were based on the guidance criteria developed at the Regional Office on February 13,1998 and were a short-term assessment of effects for a three year period. The determination was based on the presence of livestock on the allotments during the agave bolting season and 50% maximum utilization (see BA of On-going and Long-Term Grazing on the Coronado National Forest p II-21 and II-22, Table LNB-6). The Biological Opinion generated from that consultation determined that existing management activities "...in this EMA are not expected to negatively affect survivorship of lesser long-nosed bat" (USFWS 1999, p.142). So, no take of lesser long-nosed bat was assigned for grazing in the Pinaleno EMA. Continuation of grazing consistent with that identified in the BO will mean that take will not be exceeded and, therefore consultation with the U.S. Fish and Wildlife Service does not need to be reinitiated.

The agave bolting period was defined in the guidance criteria as 15 April through 15 September. The proposed action and current management call for the following grazing periods:

O Bar O Canyon	- November 1 through February 28
Ten	- November 1 through April 30
Red Tail	- November 1 through March 31

Therefore, cattle will not be present on the O Bar O Canyon and Red Tail allotments during the agave bolting period. A fifteen-day overlap at the beginning of the agave bolting season occurs on the Ten allotment, but since there are no known roost sites in the Pinaleno EMA potential impacts to the food source for this species are not significant.

This species has been observed in the south end of the Pinaleno Mountains when a single juvenile was captured in a mist net. Recently, two lesser long-nosed bats were observed on the western flank of the Galiuro Mountains some 25-30 miles from the project area. No roost site was confirmed for that observation, so the nearest known roost for this species is about 40 miles to the southeast.

Maximum utilization is set at 50%, which contributed to the logic behind the adverse effect call in the on-going grazing BA/E based on the guidance criteria. In an early 1999 meeting between U.S. Fish and Wildlife Service, Forest Service, and applicants (interested parties) it was stated that the direction of 45% maximum utilization was based on mutual agreement. Although there are no data to support a link between quality of lesser long-nosed bat habitat and that level of utilization, the on-going grazing BA noted that 50% utilization exceeded the agreed to level of 45%. In this case, the maximum allowable utilization standard of 50% is actually more conservative, since it only occurs during the winter and a portion of early spring (e.g. November through April). From April through October, livestock utilization is 0%. The most critical period for warm season grasses is late June through September when the rains arrive and aboveground growth occurs. No grazing occurs in the allotments during that period. Such a grazing system should promote maintenance of existing plant communities in the area. Recent monitoring data on the allotment show that actual utilization has been around 30% even though 50% is maximum allowed and the range condition is improving. The District Range Staff has indicated that 50% utilization is rarely reached (only in exceptionally dry years).

Because the livestock are not present during the bolting period (except for only 15 days on the Ten allotment), and grazing promotes improved range condition, and since the nearest confirmed roost site is greater than 40 miles from the area, continuation of current management will have **no effect** on the lesser long-nosed bat for the O Bar O Canyon, Ten, and Red Tail allotments.

Northern Aplomado falcon

This species of falcon generally is described as having formerly been observed in the "grass-yucca plains" (Phillips et al. 1964). This type of habitat is typical of mixed grass-yucca series of Semidesert Grassland vegetation of the southeastern Arizona (Brown 1982), which is equivalent to desert grassland described elsewhere in this document. There are no recent sightings of this species on the Coronado National Forest although the Sulphur Springs Valley supports likely habitat and it is likely that these birds nested historically in the Pinaleno EMA. The on-going grazing BA determined a May Affect, Not Likely to Adversely Affect this species.

Currently, the majority of grassland in all three allotments is in fair or good range condition with an upward trend that should continue to provide potential habitat for this species. Comparison of photographs taken about 25 year ago with present conditions shows an improvement in ground cover and species diversity. Annual monitoring data are gathered in these allotments that provide information as to the condition of the range and that are used to adjust management as needed. Recent monitoring has shown that actual use on these allotments has been around 30%, far less than the maximum allowable 50%. Seasonal use of the allotment which allows rest every year during the warm season will promote warm season grasses, and will not facilitate the spread of invasive shrubs.

Continuation of current management action **will have no effect** on this species. This determination is based on the following logic: 1) The historic improvement in management of the allotments. 2) Promotion of a management scheme that will favor warm season grasses over shrubs. 3) Actual utilization of forage is expected to be around 30%.

Leopard Frogs

Neither the Chiricahua nor the Lowland leopard frog is Federally listed or Proposed at this time, but declining amphibian populations are a concern. There are no records of these frogs from any of the three allotments although Chiricahua leopard frog records do occur in the Sulphur Springs Valley watershed and Lowland leopard frog has been found on the northeast flank of the Pinaleño Mountains. Suitable habitat may exist at some of the springs on the allotments. Since cattle are only present on the allotments during the winter and early spring and maximum utilization is set at 40% by weight on riparian vegetation, livestock impacts to springs will be minimal.

Continuation of current management will not impact either of the frog species listed above. There will be no loss of individuals because they are not known to occur in the area. Implementation of the no action alternative may result in deterioration of potential habitat since existing water developments would not be maintained. Loss of viability is not expected to occur as a result of any of the alternatives.

Other Wildlife Species

Potential effects to other wildlife species in the allotments such as mule deer and whitetail deer are limited to the potential for reduction in habitat quality. Most critical to these large mammals are fawning areas, food, and water sources. Fawning areas must have adequate hiding cover to be effective, particularly in mid-summer when fawns are small. Limited grazing in the winter and early spring typically will not reduce hiding cover in the first few months of a fawn's life. Climatic factors may limit the production of range grasses and so the quality of fawning areas will vary from year to year.

The range vegetation report suggests that an increase in shrub species has occurred in the area as a result of past heavy grazing and prolonged periods where winter precipitation was greater than summer. In general, wildlife species diversity of shrub-invaded desert grasslands are less than desert grasslands with fewer shrubs. In particular, the composition of the bird community has probably shifted as the shrubby species have become more prevalent. It is likely that fewer grassland sparrows and their allies are present in the desert grassland now compared to before the increase in snakeweed and burroweed. The absence of livestock on the allotments during the summer growing season will allow grasses to grow and produce seed with minimal disturbance, which should, in-turn, result in a stabilization of shrub populations. Continuation of current management should result in positive effects to avifauna and a variety of other wildlife in the area.

Of particular management concern is Mearn's quail (*Cyrtonyx montezumae*). This species of game bird has a very limited distribution in the United States with the Coronado National Forest supporting the highest densities and greatest area of suitable habitat. Much work has been done on this species and direction for its management is included in the Coronado National Forest Land Management Plan (LMP). Mearn's quail occur on the allotments. This species is found primarily in the Madrean Evergreen Oak Woodland (Brown 1982) in its more open form, which is equivalent to broadleaf woodland described elsewhere in this document. Coveys, composed primarily of family groups, break up in March as pairs bond for breeding. Breeding pairs establish territories of approximately 15 acres that include wooded slopes and open, grass covered bottoms. The birds feed on a variety of tuberous roots, seeds, and insects. Hiding cover in the form of herbaceous vegetation is most important for this species because of its habit of remaining motionless when it feels threatened, relying on its excellent grassland

camouflage for survival. Reduction in ground cover makes this bird more vulnerable to predation. As a result, perhaps the most important factor in Mearn's quail management is retention of hiding cover of adequate height in summer before the monsoon rains stimulate growth.

At least 3,245 acres in the upper elevations of the Ten and O Bar O Canyon Allotments support evergreen woodland. Although no map of High Density Mearn's quail habitat has been generated for the Pinaleño Mountains, it is likely that at least some of these acres would be considered High Density habitat based on certain characteristics such as canopy cover and density of oaks. The Red Tail Allotment is described as desert grassland, but does include scattered oaks and junipers, so portions may be suitable for Mearn's quail. Management direction for Mearn's Quail in the Coronado LRMP calls for maximum utilization of 45% by weight in key habitat areas. The Forest Service Manual provides additional guidance stating that 30-40% maximum utilization is preferable and that stubble height will be used as the primary indicator for meeting Mearn's quail herbaceous cover needs. Average minimum residual stubble height of six inches should be provided in key habitat areas of high quality Mearn's quail habitat (FSM 2631.07).

The proposed grazing actions all include maximum utilization in key areas of 50% during the period of November through April. No utilization will occur between May and October, which includes the summer dry period when this species is most sensitive to reductions in hiding cover. Thus, continuation of current management is consistent with Forest Plan standards for this species.

G. Other Effects

Economic Viability of Permittee Operations, and Returns to the Local Economy (Issue #3)

Affected Environment: Livestock has impacts on local and regional economies as well as on the ranching operation. Economic impacts generally can be expressed as employment (number of jobs), government receipts, and revenue sharing (payments in lieu of taxes) to counties. Specific economic effects to permittees are mostly dependant on market fluctuations in the price of cattle, which makes quantification of the specific economic effects to the permittee for any alternative nearly impossible. However, the tracking of overall government receipts can serve as an indicator of permittee income trends.

The value of employment opportunities is calculated at the rate of 1.14 jobs per 100 animal unit years (Doc. 3). This represents the total jobs supported by the activity throughout Arizona and New Mexico, including local area employment. Government receipts are calculated based on the 1999 grazing fee of $1.35 per head month (Forest Service Manual, Interim Directive 2230-99-2). Payments to counties are calculated at 25% of total government receipts.

Environmental Effects: Tables 8a through 8c summarize the improvement costs associated with each alternative. Costs are based on Document 32. No Action/No Grazing generally requires the least investment; Continue Current Management requires the most. The exception is the Red Tail Allotment, where no improvements or maintenance of improvements are planned. Costs for maintenance of range improvements are typically borne by the permittee, but in some cases the government shares the costs, usually on a 50/50 basis.

Tables 9a through 9c show the economic differences between alternatives based on the permitted numbers depicted in Tables 2a through 2c, above. These calculations were completed to facilitate a relative comparison of alternatives. Actual use of the allotments will cause actual numbers to vary from year to year.

TABLE 8a – COST OF PLANNED IMPROVEMENTS BY ALTERNATIVE, O BAR O CANYON ALLOTMENT

Improvement Description	No Action/No Grazing (Alt. 1)	Continue Current Management (Proposed Action; Alt. 2)
Replace existing water tank at Walnut Springs	$0	$4,000

TABLE 8b – COST OF PLANNED IMPROVEMENTS BY ALTERNATIVE, RED TAIL ALLOTMENT

Improvement Description	No Action/No Grazing (Alt. 1)	Continue Current Management (Proposed Action; Alt. 2)
N/A	$0	$0

TABLE 8c – COST OF PLANNED IMPROVEMENTS BY ALTERNATIVE, TEN ALLOTMENT

Improvement Description	No Action/No Grazing (Alt. 1)	Continue Current Management (Proposed Action; Alt. 2)
Reconstruct 4 mi. of boundary fence	$0	$14,000

TABLE 9a - ECONOMIC EFFECTS, O BAR O CANYON ALLOTMENT

Economic Effect	No Action/No Grazing (Alt. 1)	Continue Current Management (Proposed Action; Alt. 2)
Number of jobs	0	0.9
Government receipts	$0	$1,114
Payments to counties	$0	$371*

TABLE 9b - ECONOMIC EFFECTS, RED TAIL ALLOTMENT

Economic Effect	No Action/No Grazing (Alt. 1)	Continue Current Management (Proposed Action; Alt. 2)
Number of jobs	0	0.4
Government receipts	$0	$430
Payments to counties	$0	$144*

TABLE 9c - ECONOMIC EFFECTS, TEN ALLOTMENT

Economic Effect	No Action/No Grazing (Alt. 1)	Continue Current Management (Proposed Action; Alt. 2)
Number of jobs	0	0.6
Government receipts	$0	$680
Payments to counties	$0	$227*

*Total payments to Graham County, resulting from National Forest grazing, were $55,481 in 1997 (Carol Boyd, personal communication, November 29, 1999.)

Implementation of the No Action/No Grazing Alternative would result in a slight reduction in jobs, government receipts, payments to Graham County, and permittee income compared to the Proposed Action (Continue Current Management).

Heritage Resources

Affected Environment - Heritage resources (formerly called "cultural resources") include archaeological and historical sites, and properties important to maintaining the traditional beliefs and lifeways of local social groups ("traditional cultural properties"). The Pinaleno Ecosystem Management Area (EMA) has a long history. Remains of the prehistoric Archaic, Hohokam, Mogollon, and Anasazi cultures have been found within the EMA. Historically, the Chiricahua and Western Apache used the EMA. Mormon pioneers settled the nearby Gila Valley in the 1870's. Today, the area is of interest to the Hopi Tribe, Pueblo of Zuni, Western Apache (primarily San Carlos Apache and White Mountain Apache), Chiricahua Apache (Fort Sill Chiricahua and Mescalero Apache), Tohono O'odham, and the descendants of the nineteenth-century settlers. The Pinaleno EMA includes *Dzil nchaa si'an*, a sacred place of paramount importance to the Western Apache.

Environmental Effects: The alternatives considered in this Environmental Assessment either eliminate grazing (No Action/No Grazing, Alt. 1) or maintain current levels of grazing (Continue Current Management, Alt. 2) within the O Bar O Canyon, Red Tail and Ten Allotments. Grazing which maintains rangeland in satisfactory condition has little impact on heritage resources. Concentration of livestock on archaeological and historical sites can result in damage to artifacts and structures, and alteration of the spatial relationships between artifacts. Such alterations can compromise the ability of the remains to provide historical information. No such effects have been observed on archaeological or historical sites in the O Bar O Canyon, Red Tail or Ten Allotments (Doc. 29).

Concentration of livestock generally occurs around range improvements. The Walnut Springs storage tank, proposed for reconstruction in Alternative 2, has been surveyed and no archaeological or historical sites were found. Fence reconstruction is not normally subject to consultation under heritage resource regulations, and in this instance there are no circumstances (such as high site densities) that would suggest the need for inventory of the portion of fence to be reconstructed. A report with a determination of "no effect" has been submitted to the Arizona State Historic Preservation Office, which concurred with the determination (Doc. 29).

The Cultural Preservation Office of the Hopi Tribe commented that livestock grazing can cause adverse impacts on archaeological sites and ethnobotanical plants such as tobacco, and asked whether the allotments would be surveyed, and how the allotments would be managed to avoid impacts to the sites (Doc. 18). The letter also inquired how the allotments would be managed to avoid impacts to native

plants, such as tobacco. The Tribe also pointed out the need for intensive traditional cultural property studies and ethnohistorical research, in order to fully identify Hopi interests and needs. Survey and grazing impacts on archaeological sites are discussed in the preceding paragraphs. Since there are no plant inventories for the allotments, there are insufficient data to arrive at a definitive statement of impacts on ethnobotanical plants (Mima Falk, personal communication, 1999). However, allotments will be managed to maintain or increase acres of upland vegetation in satisfactory condition (see above), which should also minimize changes in existing native plant populations. While it might be expected that No Action/No Grazing (Alternative 1) would be more beneficial to the growth of plants of interest to the Hopi, this is not necessarily the case. For example, tobacco is a disturbance species on local rangelands (Mima Falk, personal communication, 1999; Josh Taiz, personal communication, 1999), and would be favored by grazing levels that could be detrimental to other native plants. With regard to ethnohistorical research, the Forest is negotiating a Memorandum of Understanding with the Hopi Tribe that, among its provisions, recognizes the need for financial support of research on traditional use issues (Doc. 34).

The O Bar O Canyon, Red Tail and Ten Allotments include lands that fall within the *Dzil nchaa si'an* area, currently defined as "that area of the Pinalenos above the 5,000-foot contour." Efforts are underway to gather information sufficient to prepare a National Register of Historic Places nomination for *Dzil nchaa si'an* (Doc. 31). *Dzil nchaa si'an* is one of four (or according to some information, two) Western Apache sacred mountains. In a response to the Scoping Report, the San Carlos Apache Elder's Cultural Advisory Council stated "These allotments are in areas of great traditional cultural significance to Apaches. We still utilize some of these areas for traditional cultural practices. We ask that you design the plans to have a minimum impact on the vegetation, particularly on new Emory Oak growth (Doc. 27)." Potential changes in vegetation condition are described in preceding sections, and there should be no significant impacts on Emory oak. From the standpoint of traditional Western Apache, No Action/No Grazing (Alternative 1) is likely to have qualitatively lesser impacts than Continue Current Management, as there is less manipulation of the environment (by cattle, or through maintenance of range improvements), which is viewed as a physical wound when vegetation and earth are disturbed (Doc. 33).

While allowing more human intervention in the environment (undesirable from the Apache viewpoint), the Continue Current Management Alternative (Proposed Action) would have minimal, perhaps imperceptible impacts on vegetation, as indicated by rangeland vegetation and soil conditions (Tables 4 & 5, above). There would be no change in the visual character of *Dzil nchaa si'an* under either alternative.

H. <u>National Forest Management Act Findings</u>

The Coronado Land and Resources Management Plan became effective on August 4, 1986. Forest planning is currently guided by the Code of Federal Regulations (CFR) at 36 CFR 219. The planning regulations state that projects implemented after the LRMP is in place must be "consistent with the plan" (36 CFR 219.10.e). The O Bar O Canyon, Red Tail and Ten Allotment projects have been deemed consistent with the long-term goals and objectives listed on pages 9-11 of the current Coronado LRMP. The LRMP identified the O Bar O Canyon, Red Tail and Ten Allotments as suitable for grazing, and the

area was included in Management Area 4 (LRMP, pages 62-66). Other NFMA consistency findings relate to the management of suitable timberlands. The allotment does not contain any suitable timberlands; therefore, the other NFMA consistency check requirements do not apply.

SECTION 4 - LIST OF PREPARERS

The following individuals contributed to the completion of this project analysis:

Name	Contribution
Jerry Conner, Core Team Leader	Analysis team leader, reviewer/editor for Environmental Assessment
Jennifer Ruyle, Range and Soils Specialist	Analysis team member; specialist input on range conditions, soil, riparian, water and air resources
Jim McDonald, Planning Specialist	Analysis team member; specialist input on heritage resources; writer/editor for Environmental Assessment
Mark Moore, Soil Technician	Analysis team member; technical input on soil conditions
Josh Taiz, Wildlife Biologist	Analysis team member; specialist input on wildlife (incl. Biological Assessment for TE&S species)
Chuck Duncan, Safford District Range Staff	Coordinated with permittees, provided resource data
Kathy Makansi, Archaeologist	Specialist input on heritage resources
Ron Senn, Planning Staff Officer	Overall management of Environmental Assessment process
Carol Boyd, Rangeland Management Specialist	Provided economic data and input on range management
Carrie Templin, Safford District Public Affairs Specialist	Provided input on recreation use
Genice Froehlich, Safford District Wildlife Biologist	Specialist input on wildlife and fish

OTHER CONTRIBUTORS

Name	Contribution
Joan Scott, Arizona Game & Fish Dept.	Participated with analysis team; provided comments on utilization

SECTION 5 - CONSULTATION WITH OTHERS

Public participation in the O Bar O Canyon, Red Tail and Ten AMP Project has occurred throughout the analysis process. A general scoping letter was mailed on April 12 to over 70 individuals (Docs. 15 & 16). A copy of the mailing list is included in the project record as Document 17. Seven comments were received from April 29 to June 3, 1999 (Docs 18-20, 22-24, 27). A content analysis of the comments

was conducted and is included in the project record as Document 41. The comments resulted in the revision of one planning issue, the deletion of the original Proposed Action and substitution of the Continue Current Management alternative as the Proposed Action. A 30-day comment period will be provided for public review of this Environmental Assessment.

SECTION 6 – GLOSSARY

Animal Month: A month's tenure on the range by one animal. In the case of the Temporal Allotment, one cow/calf pair equals one animal month, as the un-weaned calves do not directly consume range resources.

Best Management Practices (BMPs): Practices determined by the Arizona Department of Environmental Quality to be the most effective and practicable means of preventing or reducing pollution generated by non-point sources to a level compatible with water quality goals. In the case of grazing, these include preparation of annual operating plans, monitoring, techniques to achieve proper distribution, and other practices.

Grazing Capability: A qualitative expression of the ability of a land area to support grazing on a sustained-yield basis, and the optimum use of that land area by grazing cattle. In the Temporal Allotment, slopes above 40% are not capable for grazing and have no capacity assigned, even though light livestock use may occur in these areas.

Rangeland Condition: Rangeland condition is a subjective expression of the status or health of the vegetation and soil relative to their combined potential to produce a sound and stable biotic community. Soundness and stability are determined through analysis of composition, density and vigor of the vegetation and physical characteristics of the soil.

Soil Condition: An evaluation of soil quality based on an interpretation of factors that affect vital soil functions. Ecological land units are assigned a soil condition category that is an indication of the status of soil functions. Soil condition categories reflect soil disturbances resulting from both planned and unplanned events. Following is a brief description of each soil condition category:

a. *Satisfactory* - Indicators signify that soil function is being sustained and soil is functioning properly and normally. The ability of soil to maintain resource values and sustain outputs is high.

b. *Impaired* - Indicators signify a reduction of soil function. The ability of soil to function properly has been reduced and/or there exists an increased vulnerability to degradation.

c. *Unsatisfactory* - Indicators signify that loss of soil function has occurred. Degradation of vital soil functions result in the inability of soil to maintain resource values, sustain outputs, and recover from impacts.

Water Quality Limited: A water body that does not maintain surface water quality standards for its designated uses, and neither existing technology nor permit controls is sufficient to maintain water quality standards. In the case of Temporal Gulch, designated uses include aquatic and wildlife, partial body contact (non-swimming recreation), and agricultural livestock watering.

Coronado National Forest

Santa Catalina, Douglas, Nogales, Safford, and Sierra Vista Ranger Districts

O-O Cnyn., Red Tail & Ten Allotments

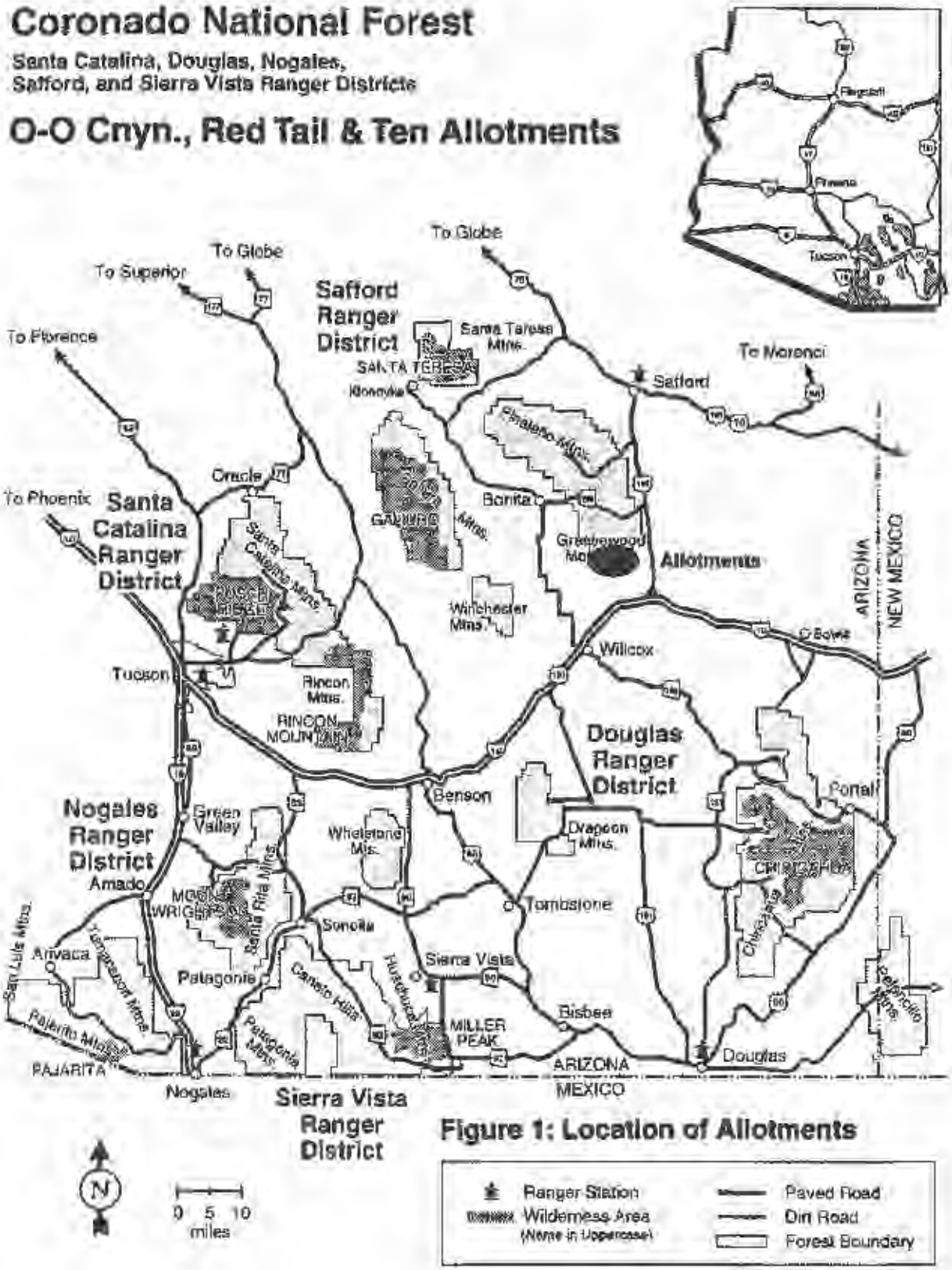
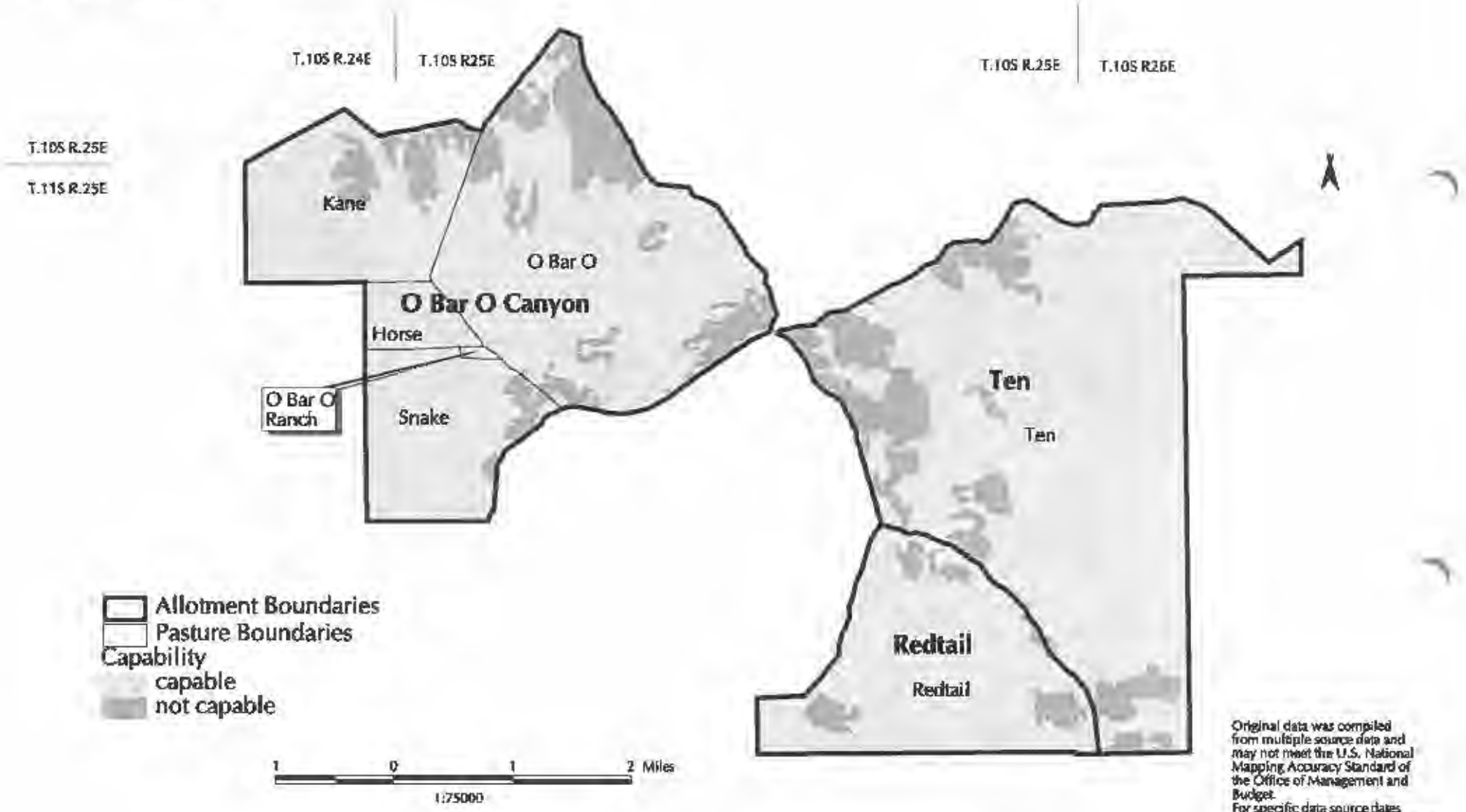


Figure 1: Location of Allotments

Map No. 2
O Bar O Canyon, Ten, & Redtail Allotments
Range Capability



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Map No. 3
O Bar O Canyon, Ten, & Redtail Allotments
Vegetation



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Map No. 4
O Bar O Canyon, Ten, & Redtail Allotments
Range Condition/Trend



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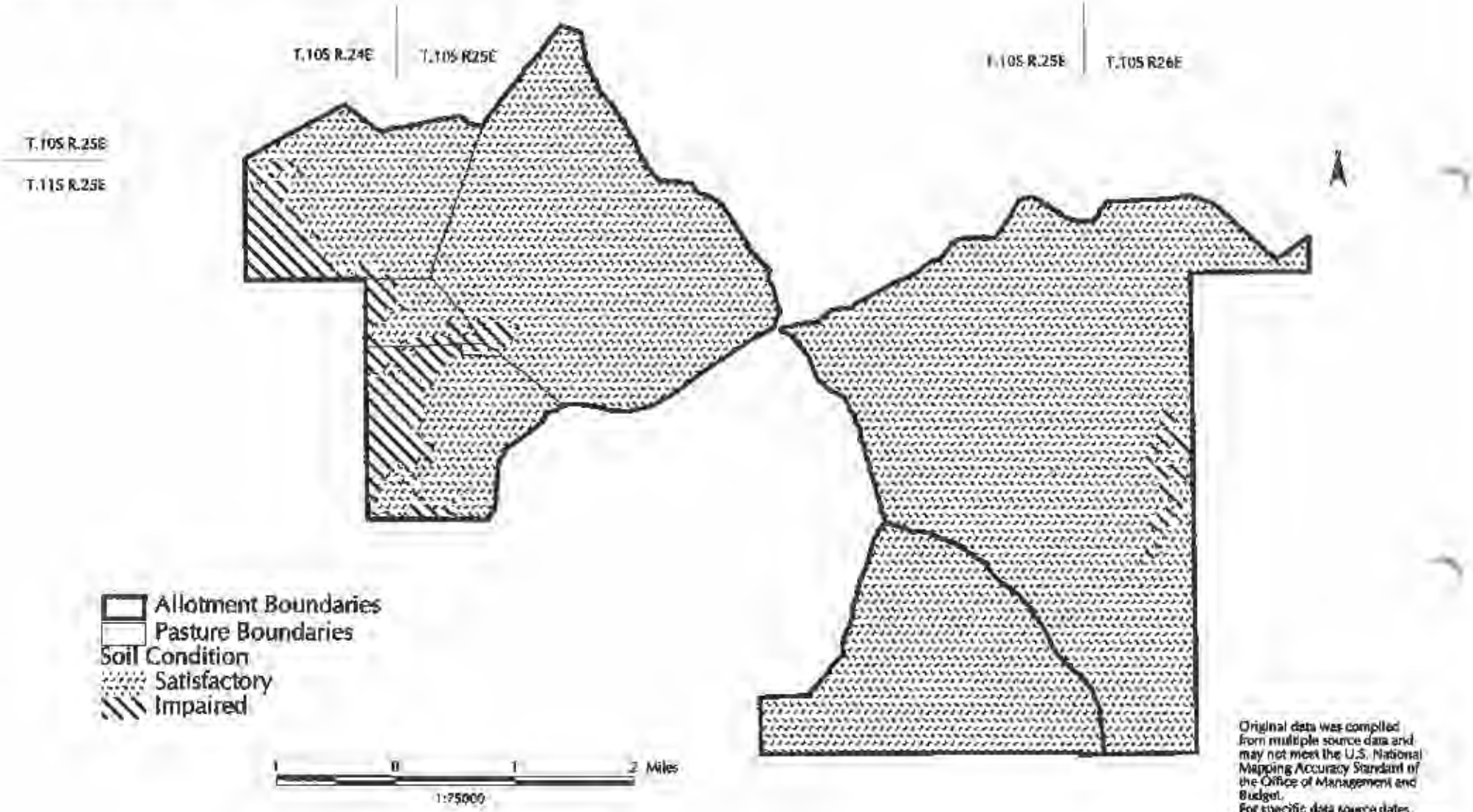
Map No. 5
O Bar O Canyon, Ten, & Redtail Allotments
Soil Condition



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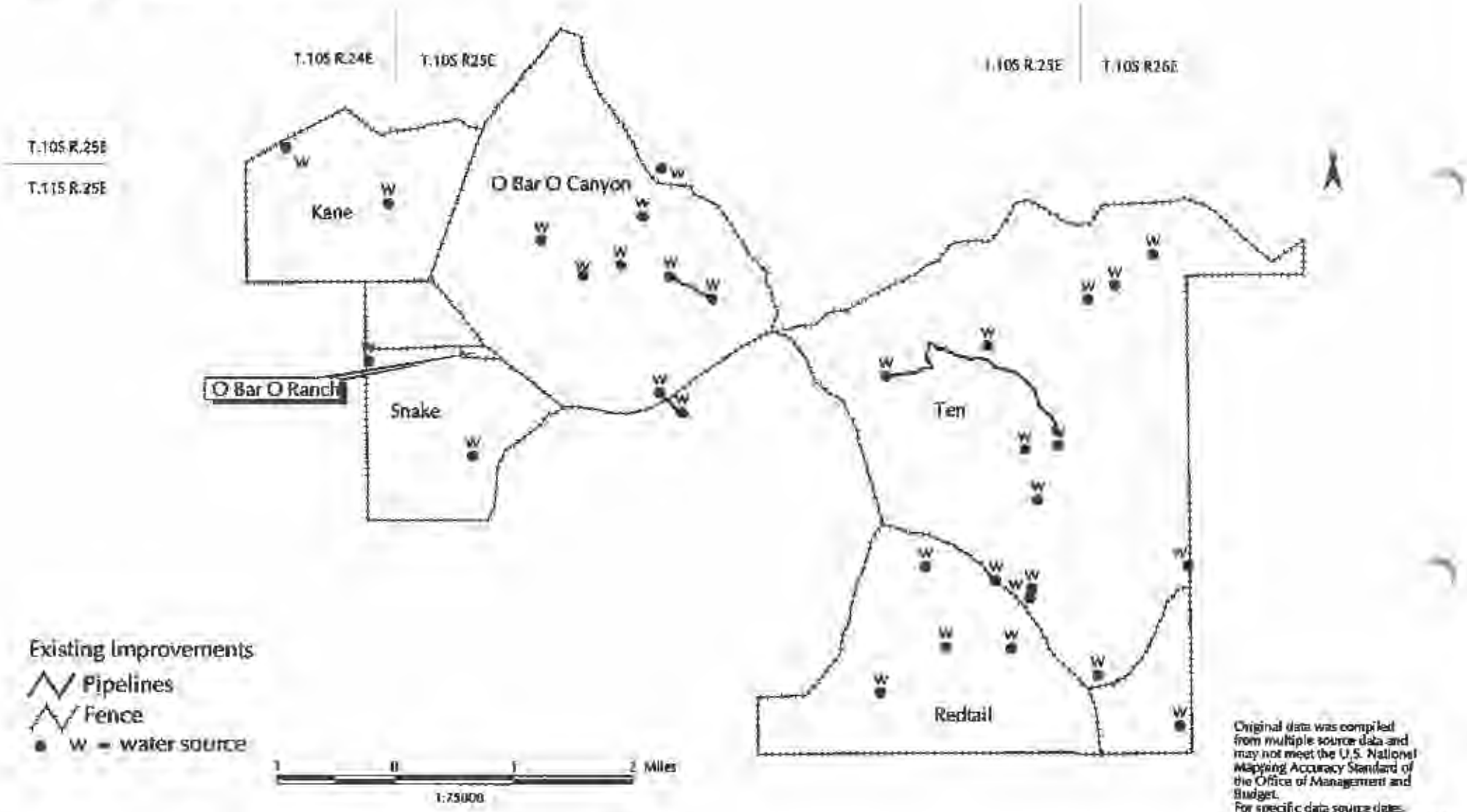
Map No. 6
O Bar O Canyon, Ten, & Redtail Allotments
Existing Improvements



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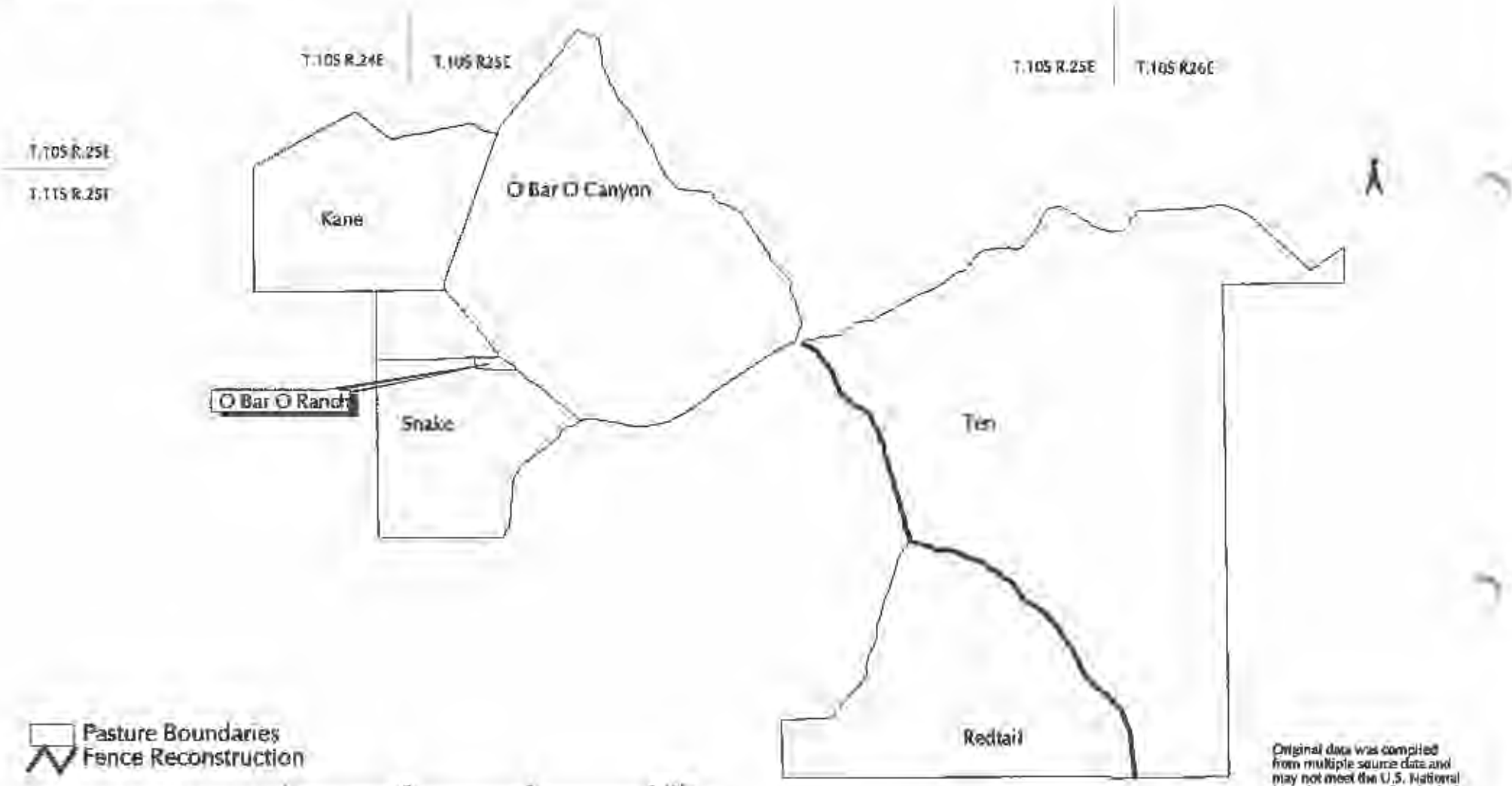
Map No. 7
O Bar O Canyon, Ten, & Redtail Allotments
Fence Reconstruction



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