

ENVIRONMENTAL ASSESSMENT
of
PERMIT ISSUANCE
for the
A-DRAW ALLOTMENT

Coronado National Forest
Sierra Vista Ranger District
Santa Cruz County, Arizona

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CHAPTER 1. - PROJECT SCOPE

A. BACKGROUND

The A Bar Draw (A-Draw) Allotment is located in the northeast end of the San Rafael Valley in eastern Santa Cruz County, Arizona. It is bounded to the east by the crest of the Canelo Hills; to the west by the Coronado National Forest boundary; to the north by the San Rafael Allotment; and to the south by the Lone Mountain Allotment. It lies primarily within Management Area 4 in the Coronado National Forest Plan. A very small area lies within Management Area 1. This area is not considered capable for grazing. The entire allotment contains about 4,800 acres. The allotment has been permitted to the current permittees for less than a year.

For about twenty years prior to 1993 the allotment was permitted to the Ki-He-Kah Ranch. The permit was transferred in 1993 and transferred again in 1995. Both of these permittees attempted to use the allotment year round with only 40 acres of private land to supplement the operation. This resulted in increased grazing pressure on the forest. In 1997 the permit was transferred to the current permittees who have substantially more private land involved in the ranch operation.

During the Lone Mountain / San Rafael ecosystem planning effort of 1992-94 desired conditions were described for the forest land in the area of the San Rafael Valley. The desired conditions and objectives in this document are strongly influenced by that planning effort.

B. PURPOSE AND NEED FOR ACTION

The purpose of this proposed action is to authorize livestock grazing on the A-Draw Allotment and provide long-term management direction. The district goals for the proposed action are to improve rangeland and watershed resources on the A-draw Allotment within the guidelines of the Forest Plan; retain the legitimate commercial use of livestock on the National Forest lands; provide for the protection of Threatened, Endangered or Sensitive (TES) species, and their habitat; and comply with NEPA and related laws.

1. Existing Condition

The allotment contains 5 pastures. There is no long term management plan and livestock management is administered through the use of annual operating plans. The current permittees have had the allotment for less than a year.

The current permit is issued for 142 cattle year-long. Actual stocking consists of a combination of cows and yearlings. Stocking is based on forage conditions and water availability, and fluxuates frequently. Cattle are rotated through the forest and private land, leaving the forest allotment vacant at times.

The allotment contains, or is upstream of habitat for, several special status species of plants and animals that could or do occur in the area.

The allotment has been monitored infrequently. Recent monitoring of two plains grassland sites show them to be in fair condition. The oak woodland sites are in good condition

Over most of the allotment, wildlife habitat is sufficient to support a wide range of species, including species that require ground cover. Cover on some mesas in the western portion of the allotment, which is on the fringe of habitat for a small herd of pronghorn, may not meet pronghorn fawning requirements. Sufficient cover does exist in wide canyon bottoms in the same area.

Fire suppression has changed the vegetation by allowing a build up of brush and ladder fuels in the higher elevations, and the encroachment of woody species into the grasslands at lower elevations.

2. Desired Condition

The grazing management plan is approved and is improving watershed, riparian, and vegetative conditions while providing for an economically viable livestock operation.

Stocking is variable based on rainfall and resource conditions. The permit reflects a realistic stocking rate.

Habitat needs for special status species are being met and grazing is not contributing to the decline or extirpation of species. A mosaic of vegetation exists that provides for the habitat needs of diverse wildlife species.

A monitoring plan is in place that provides data on vegetative, soil and watershed conditions; and documents the effectiveness of the grazing management plan. Changes in management and stocking are made through annual operating plans, as necessary, based on monitoring results.

Sufficient vegetation and litter exists for normal water infiltration. Plant composition is at or moving toward potential.

Fine fuel is available for prescribed fire and prescribed natural fire. The AMP functions in conjunction with a fire management plan to restore fire to the ecosystem.

3. Objectives

Maintain sustainable grazing at a level that will maintain or improve watershed and range conditions to satisfactory or better with a stable or upward trend.

Maintain a livestock operation that will meet multiple use resource objectives and provide for an economically feasible ranching operation.

Give all forage plants sufficient growing season rest to fully recover from the effects of grazing.

Implement a livestock management plan that will compliment the restoration of fire to the ecosystem by providing for fine fuel to carry fire.

Provide for the habitat needs of a wide diversity of wildlife and retain or increase habitat for threatened or endangered species.

C. PROPOSED ACTION

The Sierra Vista Ranger District, Coronado National Forest, proposes to authorize livestock grazing on the A-Draw Allotment with an allotment management plan (AMP). The AMP will provide for a deferred rotation grazing system with the new construction or extension of three pipelines and one well, with optional development of a spring, and optional manzanita control in some areas.

Livestock will be run in a combination cow-calf and yearling operation in conjunction with deeded lands. Appropriate Forest Plan standards and guidelines will be incorporated into the AMP.

D. DECISION TO BE MADE

The district ranger will decide whether or not to authorize grazing on the A-Draw Allotment and, if so, which alternative would be implemented. If a grazing alternative is selected, the District Ranger will decide on permitted numbers and the term of the new permit.

E. MAJOR ISSUES

The following issues have been identified through field visits to the allotment, discussions with the permittees, consultation with forest resource specialists, and by soliciting comments from interested publics:

1. Manzanita is encroaching into some of the grasslands on the allotment. Resource experts agree that fire is an important, but missing, component in this ecosystem and needs to be restored. The brush encroachment situation can be largely attributed to interruption of the fire regime. Fine fuels must be available to support prescribed or natural fires.
2. Portions of the grassland dominated mesas have been determined to be in impaired soil condition due to lack of vegetative cover and litter accumulation, particularly in the west side of the Apache Pasture (Lefevre, 1998).
3. The allotment is inhabited by some species, such as pronghorn and Mearns' quail, that require grass cover for fawning and/or hiding cover.
4. Some drinkers are not accessible to small animals. Water should be provided to wildlife along the planned pipelines.
 - A desire was expressed that separate drinkers be provided and fenced for wildlife away from cattle drinkers.
5. Ranching has been identified as a crucial force in maintaining the open grasslands in the private portions of the San Rafael Valley. Many livestock operations in the area must be able to maintain a Forest grazing permit to remain economically viable.
 - During the Lone Mountain / San Rafael Ecosystem planning effort this was one of the biggest concerns expressed by residents of the area who want to maintain the open, undeveloped landscape.
6. The proposed action needs to provide for long term grazing management.
 - A concern was expressed that there is no proposed long term grazing rotation and that rest is the most urgent need for this allotment at this time.
7. Surface installed pipelines may interfere with multiple use and may increase utilization in areas already heavily grazed.
 - A concern was expressed that pipeline laying on the ground may interfere with other uses and is susceptible to damage, and a new water tank would degrade the aesthetics of the area.

F. MEASURES

The following measures will be used to evaluate issue resolution, evaluate attainment of objectives and describe environmental impacts.

Issue 1 Brush encroachment and fire:

- Residual forage to carry fire.

Issue 2 Soil condition:

- Percent impaired and satisfactory soils.

Issue 3 Cover for wildlife:

- Residual forage.

Issue 4 Wildlife water:

- Compliance with Forest Plan guidelines for wildlife.

Issue 5 Viability of ranching:

- Permittee's ability to maintain the livestock operation and to preserve private land as ranchland.

Issue 6 Life of management plan/rest:

- Flexibility in management to respond annually to precipitation and production, and to provide rest where needed.
- Long term goals and objectives revisited annually.

Issue 7 Viability of improvements and aesthetics:

- Compliance with Management Area 4 Prescription in Forest Plan and with U.S. Forest Service Range Improvement Handbook

CHAPTER 2 - ALTERNATIVES

A. ALTERNATIVE DEVELOPMENT

03/06/98 Scoping letter sent to interested publics. Twenty responses were received.

04/22/98 Draft permittee's proposal sent to those who responded to scoping letter.

04/29/98 Tour of allotment for interested publics and Interdisciplinary Team. The draft proposal (Alternative B) was presented and discussed. The group was made aware that Alternatives A and C would also be analyzed and they were given the opportunity to comment.

06/24/98 Alternatives reviewed by ID team and finalized. Concerns were expressed about the 45% utilization level on impaired soils. Utilization levels under Alternative B were revised to allow for more conservative use on impaired soils until they return to satisfactory conditions.

B. ALTERNATIVES CONSIDERED BUT ELIMINATED

No alternatives were eliminated.

C. ALTERNATIVES CONSIDERED IN DETAIL

1. Alternative A

This alternative would consist of removing all domestic livestock from the A-Draw Allotment. There would be no further construction of improvements. Those improvements contributing to resource improvement or enhancement, such as water developments used by wildlife, would be maintained only if special funding is allocated to do so. Where necessary, maintenance of allotment boundary fences would

be reassigned to adjacent neighboring permittees who still hold grazing permits, with the understanding that all livestock are to be kept off the closed allotment. Interior fences would need to be removed so they do not pose a hazard to horseback riders and hikers due to lack of maintenance. All roads that have been maintained in the past for use by the permittee would be closed. If funding allows, a monitoring program would be established to address the other uses within the allotment.

2. Alternative B (Proposed Action)

This alternative would authorize grazing on the A-Draw Allotment for another 10 years and implement an allotment management plan. A permit for 142 head of cattle year long would be issued. A deferred rest rotation grazing schedule would be implemented. The livestock would be run in a combination cow-calf and yearling operation. The cow-calf herd would graze the Apache and Picnic pastures in conjunction with the deeded lands. The Upper Forest, Lower Forest, and Gertrudis pastures would be grazed by yearlings, primarily during the dormant season. Under this rotation, every pasture would receive at least partial growing season rest every year, with some receiving total growing season rest. Moves would be regulated by water and forage availability, utilization, and ensuring every pasture has adequate rest to recover from the effects of grazing before livestock return. Utilization levels would range from 35 to 45% of annual production. Three pipelines would be constructed or extended to improve water availability and livestock distribution. Optional improvements would include drilling a well in the Apache Pasture, reconstruction of the existing corrals at the corner of the Gertrudis, Lower Forest, and Upper Forest pastures, reconstruction of the Middle corrals, location and development of a mountain spring; and mechanical control of manzanita. Maintenance actions on existing improvements are also included in the plan. The permittees are aware Forest Service funding may not be available for improvements, therefore construction would be dependent on their ability to finance them. Monitoring techniques will be described in the monitoring plan and will measure such things as utilization, condition and trend of vegetation, and soil condition. Permitted numbers would not change for now because little data exists on which to base a change in numbers. A general analysis based on suitable and capable acres, and on regional guidelines for distance to water, etc., produced a capacity estimate of 1434 head months. An existing non-use agreement would allow flexibility in stocking while the plan is implemented. This agreement will keep the total head months within the 1434 range until a site specific capacity analysis can be done based on the new management plan. In five years, an analysis would be completed to determine capacity under this plan. At that time the permit would be adjusted, if necessary, probably to a range of numbers so stocking can continue to fluctuate annually as resource conditions dictate.

3. Alternative C

This alternative would implement a management plan that would continue the present management on the allotment without the construction of new improvements. The livestock rotation would be similar to that described in **Alternative B**, but livestock distribution would not be as effective without additional water developments. Permitted numbers would remain at 142 cattle year long for a ten year term starting in 1997.

D. ALTERNATIVE COMPARISON

Table 1 - Alternative Descriptive Parameters

Parameter	A	B	C
Permitted Animals (numbers)	0	142	142
Total Time of Use (months)	N/A	12*	12*
Animal Unit Months (AUM's)	0	2280	2280
Allowable Use in Key Areas (%)	0	35-45	45
New Fence Construction (miles)	0	0	0
New Water Developments (#)	0	3	0
Kind/Class of Animals	0	c/cc.yr	c/cc.yr

* Time on allotment will vary from year to year as cattle are rotated through the private land.

NOTE: Kind: c=cattle, h=horses, s=sheep

Class: cc=cow-calf, yr=yearling

1 cow-calf unit = 1.32 AUM

The following is a comparison of how each alternative addresses the issues identified in Chapter 1.

Alternative A

- Maximum fine fuel loads to carry fire.
- Most rapid transition from impaired to satisfactory soil conditions.
- Water improvements not maintained and/or removed.
- Ranching operation entirely dependent on private land.
- Forest plan direction for recreation and uses other than grazing will guide management
- No new improvements.

Alternative B

- Flexibility to allow fuel build up for future prescribed burns. Possible mechanical manzanita control.
- Transition from impaired to satisfactory soil conditions within five years.
- All drinkers made accessible to wildlife with optional installation of separate wildlife drinkers.
- Private land and forest allotment managed together to provide maximum flexibility.
- Long term goals and objectives with management plan that is reviewed annually and adjusted based on monitoring.
- UV and damage resistant high density polyethylene pipe installation based on sound engineering principles, buried in roads or other areas where necessary. Storage tanks screened from view as much as possible. Improvements mainly financed by permittee.

Alternative C

- Flexibility to allow fuel build up for future prescribed burns. No mechanical control of manzanita.
- Transition from impaired to satisfactory soil conditions within five years.
- Existing drinkers made accessible to wildlife.
- Higher grazing pressure on private land than Alternative B due to water limitations on forest.
- Management plan based on current management.
- No new improvements.

CHAPTER 3 - AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This Chapter shows the present condition (i.e., affected environment) within the project area and the changes that can be expected from implementing the action alternatives, or taking no action at this time. The no action alternative sets the environmental baseline for comparing effects of the action alternatives.

The major issues (see Chapter 1) define the scope of environmental concern for this project. The environmental effects (changes from present baseline condition) that are described in this chapter reflect the identified major issues. Issue numbers are shown in parenthesis where pertinent. Some of the environmental effects are confined to the action and the project areas. Others are cumulative with environmental effects for other actions and cover an issue area beyond the project area. Cumulative effects are discussed for each major issue when they occur.

A. VEGETATION

1. Vegetation Description

The allotment contains five pastures, and can be characterized into three distinct ecological units: Plains Grassland, Shrub and Oak Woodland. The Lone Mountain Ecosystem Plan contains detailed descriptions of these.

The plains grassland type on the A-Draw allotment dominates the tops and south slopes of the western most hills and ridges, which extend into the San Rafael Valley. It is primarily composed of mixed perennial short- and mid-grass species. These pastures can be used any time of year, provided there is adequate water. These are the most productive areas for livestock production and, as such, have historically received the majority of the livestock use, which range conditions indicate has been excessive at times. Marginal stands of Lehmann lovegrass occur on the allotment, but are at the upper elevation range for the species. In some areas manzanita is encroaching on the grassland. Most of the mesas are in fair bordering on good range condition. Heavy use during drought periods by a previous permittee resulted in noticeable plant mortality and contributed to impaired soil conditions on portions of the mesas. The grassland type makes up about 35% of the allotment.

The shrub ecological type is found in the eastern portions of the Apache, Picnic, and Gertrudis pastures, and the western portions of the Upper Forest and Lower Forest pastures. It is typified by manzanita on relatively steep slopes with shallow, poorly developed soils. Marginal stands of perennial short- and mid-grasses are supported in some areas. The shrub type tends to divide the plains grassland and oak woodland types on the allotment. Potential for grass production is marginal on many of these sites, due to young, poorly developed soils. The vegetation these areas currently supports is near potential. These areas will not be considered for manzanita reduction projects. This type comprises about 20% of the allotment.

The oak woodland type is found throughout the Upper Forest and Lower Forest pastures, and on north slopes and canyon bottoms in the other pastures. It is characterized by oak species over mixed perennial mid-grasses on slopes ranging from 0 to over 40%. It is generally found on deeper, coarse soils where the woody species can out compete many of the short grasses. Soils are often strongly granitic or shale-like in nature. The oak woodland type comprises about 40% of the allotment and is in good condition.

The larger canyons on the allotment also support oak woodland. All of the drainages are ephemeral in nature, and obligate riparian tree species are only found near scattered springs, seeps, or stock tanks. Most of the larger canyons have very sandy soils due to the granitic materials upstream. They support large, mature oaks with a strong understory of mixed perennial mid-grasses. These large canyons are only found in the Picnic and Gertrudis pastures, and make up less than 5% of the allotment. These sites are in good range condition.

2. Alternative Comparison

Under **Alternative A**, utilization levels would decrease, but low use levels would still occur due to browsing deer and pronghorn. Grasses would incur very little use as deer prefer browse, and there are no other animals in the area that use grasses extensively. The number of grass plants would not be expected to increase, but understory canopy cover would. On the plains grassland type a shift towards more mid-grass species would be expected. Grass species composition in the higher elevations would not be expected to change greatly. The increase in fine fuels would be expected to lead to more frequent fires which would curb brush encroachment in the grasslands (Issue 1). Some negative effects associated with the build up of litter may include shading of young plants and decadence and death of mature grasses due to excessive build up of dead materials.

Under **Alternatives B and C** utilization levels in key grazing areas would not exceed 45% and would be more conservative in areas of impaired soils (Issues 2 & 3). The grazing rotation would allow for recovery of grasses from the last grazing period before cattle are placed in a pasture. This could lead to rapid improvement in production and species diversity but the rate of improvement will be greatly influenced by climate and precipitation. Under average rainfall conditions dramatic improvement is expected within five years under **Alternative B**. This improvement may take longer in areas close to water under **Alternative C** because there will be fewer water sources and hence, more pressure around existing water sources. Under **B**, grazing distribution would be more uniform due to additional water sources (Issue 7). The grazing rotation would contain some flexibility to support prescribed fire under both **B and C** (Issue 1).

B. SOIL, WATER AND AIR

1. Description

A detailed description is in the Soil, Water and Air Report (Lefevre 1998) in the project record. Soils on this allotment are generally well developed and deep, with gentle slopes where they support plains grassland; shallow and poorly developed with moderate to steep slopes in the shrub vegetation type; and gravelly to rocky on moderate to steep slopes in the oak woodlands. In the canyon bottoms oak woodlands grow on deep, rich sandy loam. Only 9% of the allotment is considered non-capable due to slopes greater than 40%. Some soils in the shrub areas and portions of the grasslands support only sparse vegetative cover.

The vegetation types affected by grazing in these allotments have low water yield potential and even deliberate efforts to increase water yield will not result in significant changes. Watershed condition is controlled by topography and rock cover, rather than ground cover, in the steeper terrain which makes up about one fourth of this allotment. The remainder is more gentle country, with management options available to maintain watershed condition. Overall watershed condition can be improved by implementing the BMP's cited in the Soils section of the Soil, Water and Air Report.

2. Alternative Comparison (Issue 2)

No riparian areas are found on the allotment. Dove Canyon and A-Draw are watercourses where important hydrologic processes take place but they are not true riparian areas. There will be no effects on riparian areas as a result of implementing any of the proposed alternatives.

Upland soil conditions have been affected by Forest management in the past, resulting in some impaired conditions on part of the allotment (Issue 2). The observed parameters that indicate the impairment are that vegetative ground cover, including organic matter in the form of plant litter, is lacking and the vegetation community is not comparable to the potential community in impaired areas. These observations indicate that the soil has lost some ability to infiltrate water, resist erosion and recycle nutrients. Cattle grazing is one of the land uses that has caused these conditions. Changing cattle grazing management from past practices to some practice that will allow residual plant material to accumulate will result in recovery of impaired soil conditions. During the course of the permit, it could be expected that ground cover will

increase as the plant community approaches potential and residual plant material becomes more available. Based on observations in similar areas, it is estimated that about half of the impaired area can be improved to satisfactory in ten years under the most favorable conditions. Some utilization of grass by cattle will allow for less improvement. The following table displays estimated effects.

Table 2: Soil Condition

<u>Condition Class</u>	<u>Existing</u>	<u>Alternative A</u>	<u>Alternative B</u>	<u>Alternative C</u>
Satisfactory				
% of Allotments	70	85	78	75
Impaired				
% of Allotments	30	15	22	25
Unsatisfactory				
% of Allotments	0	0	0	0

There is no perennial surface water on the allotment. Water quality will not be significantly affected by implementing any of the alternatives.

This allotment is not within an Air Quality Non-attainment Area for any air quality constituent. It is not within a Class I Wilderness Area. Air quality will not be significantly affected by implementing any of the alternatives.

Management of the A-Draw allotment will contribute to the overall condition of the Upper Santa Cruz River watershed. Assuming a utilization level of 45%, the cumulative effect of grazing, plus anticipated road and recreation activities in the watershed, will be improved vegetation and soil conditions, no effects on water yield, and no negative effects on water quality.

C. WILDLIFE

1. Threatened and Endangered Species

a. Description

The A-Draw Allotment contains occupied or possible habitat for, or is upstream from 18 threatened or endangered species. Thirty-five sensitive species could also occur on the allotment or be impacted by grazing.

b. Alternative Comparison

The following threatened or endangered species could or do occur on the allotment or could possibly be affected by the proposed action. Effects determinations for Alternative B (Proposed Action) are also summarized.

Table 3: Threatened or Endangered Species

SPECIES	OFFICIAL STATUS	EFFECTS OF ALTERNATIVE B (PROPOSED ACTION)
lesser long-nosed bat (<i>Leptonycteris curasoae yerbabuenae</i>)	USFWS endangered	may affect, not likely to adversely affect
Sonora tiger salamander (<i>Ambystoma tigrinum stebbinsi</i>)	USFWS endangered	may affect, likely to adversely affect
Gila topminnow (<i>Poeciliopsis occidentalis occidentalis</i>)	USFWS endangered	may affect, not likely to adversely affect
Mexican gray wolf (<i>Canis lupus baileyi</i>)	USFWS endangered	will not effect
jaguar (<i>Panthera onca</i>)	USFWS endangered	will not effect
jaguarundi (<i>Felis yagouaroundi tolteca</i>)	USFWS endangered	will not effect
ocelot (<i>Felis pardalis</i>)	USFWS endangered	will not effect
black-footed ferret (<i>Mustela nigripes</i>)	USFWS endangered	will not effect
bald eagle (<i>Haliaeetus leucocephalus</i>)	USFWS endangered	will not effect
American peregrine falcon (<i>Falco peregrinus anatum</i>)	USFWS endangered	will not effect
northern aplomado falcon (<i>Falco femoralis septentrionalis</i>)	USFWS endangered	will not affect
Mexican spotted owl (<i>Strix occidentalis lucida</i>)	USFWS threatened	will not affect
cactus ferruginous pygmy-owl (<i>Glauclidium brasilianum cactorum</i>)	USFWS endangered	will not affect
southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	USFWS endangered	will not affect
desert pupfish (<i>Cyprinodon macularius</i>)	USFWS endangered	will not affect
<i>Lilaeopsis schaffneriana</i> ssp. <i>recurva</i> (Huachuca water umbel)	USFWS endangered	will not affect
<i>Spiranthes delitescens</i> (Canelo ladies' tresses)	USFWS endangered	will not affect

The may affect determination for the proposed action on lesser long-nosed bat is based on livestock not being in pastures with concentrated stands of agaves during the bolting season for these plants. For Gila topminnow, the may affect determination results from limited, if any, downstream sediment movement to occupied or potential habitat. For the Sonora tiger salamander, the likely to adversely affect determination is based on possible trampling by livestock of adults, larvae, and eggs in and around stock ponds, possible loss of vegetative cover in and around stock ponds, and the potential sediment movement into stock ponds from upland sites.

The effects of **Alternative C** on threatened and endangered species is the same as that for **Alternative B**. The contribution of sediment to stock ponds and downstream occupied or potential habitat is expected to be more under **Alternative C** than **B**.

For **Alternative A**, threatened and endangered species, except for the Sonora tiger salamander, will not be affected. For this species, a "may affect, likely to adversely affect" determination is based on possible loss of habitat due to little or no maintenance of stock ponds that are occupied or have habitat potential.

Under all alternatives, the stock pond maintenance plan for Sonora tiger salamander habitat (U.S. Forest Service 1997) would be followed. Any new improvement construction will require site-specific analysis of effects for all of the above species.

There are several sensitive species that could occur on the allotment and/or which the three alternatives could impact. A list of these species is attached to this assessment. For many of these sensitive

species, limited surveys have been conducted on the allotment and the extent of their occurrence is not known. The following sensitive species could occur on the allotment or be impacted by grazing.

Alternative B may impact individuals of the following species, but is not likely to result in a trend toward federal listing or loss of viability:

Amsonia grandiflora (large-flowered blue star)
Astragalus hypoxylus (Huachuca milk vetch)
Graptopetalum bartramii (Bartram's stonecrop)
Heterotheca rutteri (Huachuca golden aster)
Pectis imberbis (beardless chinch weed)
Gila chub (*Gila intermedia*)
Chiricahua leopard frog (*Rana chiricahuensis*)
Arizona ridge-nosed rattlesnake (*Crotalus willardi willardi*)
Sprague's pipit (*Anthus spragueii*)
Baird's sparrow (*Ammodramus bairdii*)
Arizona shrew (*Sorex arizonae*)
Mexican long-tongued bat (*Choeronycteris mexicanus*)

The effects determinations for these species were based on possible trampling of individuals; modification of habitat at a site specific level; loss of individuals, if any, during maintenance of stock ponds; possible movement, if any, of sediments to down stream habitats; and potential herbivory on agaves. No impact on other sensitive species is anticipated due to the presence of a limited amount of suitable habitat or lack of significant impacts on downstream occupied or potential habitat.

Under **Alternative A** no impacts or beneficial impacts are expected on most sensitive species. One exception would be the Chiricahua leopard frog if stock ponds were not cleaned out or maintained infrequently.

Under **Alternative C**, impacts on sensitive species would be the same as those given for **Alternative B**.

2. Grazing Wildlife

a. Description

The only ungulates in the project area that consume the same forage species as livestock are mule deer, white-tail deer, and pronghorn. The deer are primarily browsers and concentrate on plants such as mountain mahogany, buckbrush, skunkbush sumac, kidneywood, guajilla, shrubby buckwheat and other palatable shrubs. Cattle utilize shrubs mainly in the winter when the grasses are dormant. Pronghorn occasionally range onto the mesas, but rarely stay for extended periods. Their diet primarily consists of forbs, half-shrubs, and grass, but current populations are not concentrated enough to be in competition with livestock for forage resources. Lack of grass cover throughout the San Rafael Valley is considered to be a major factor in fawn mortality however, and may be a limiting factor in the growth of the antelope herd in the valley.

No studies have been done in the project area to determine the amount of forage taken by wildlife. Based on observations in other areas, an estimate of 10 percent utilization on browse species can be made. Utilization of grasses and forbs by deer and antelope is probably less than 5 percent. Some birds, such as meadowlark and Baird's sparrow, eat grass seeds and so may be affected by grazing.

b. Alternative Comparison

Under **Alternative A**, assuming approximately 10 percent of annual stem production of browse species would be consumed by deer, and less than 5 percent of grasses by weight, then 15% would be the maximum total utilization expected. In general, however, the total use would be 10% or less. Under **Alternatives B and C**, competition between cattle and wildlife for forage would be minimal. Under

Alternative A it is likely that no developed water would be available for wildlife except for dirt stock tanks. Under **Alternative B** additional water sources would be available for wildlife.

3. Non-grazing Wildlife

a. Description

Some wildlife species that occur in the project area include mountain lion, bobcat, Mearns's quail, ringtail cat, porcupine, raccoon, skunk, antelope jackrabbit, and black-tailed rattlesnake. Some species are associated with particular vegetation types, some need diverse habitats, and others are attracted to disturbed areas. For example, mule deer, javelina and Gambel's quail are all species that can persist in the presence of grazing or other disturbance. Their diets include forb species which tend to be more abundant in disturbed areas. White tail deer, on the other hand, need habitat with abundant cover that can be found in healthy riparian areas, and the woodlands of the higher elevations (Deecken, Pers. Comm.).

Many avian species occur in particular habitat types. The whiskered screech owl is more likely to be found in dense riparian or oak woodland in upper elevations, while the Western screech owl prefers the more open habitat of the semi-desert grassland with scattered shrubs. Some grassland species could include eastern meadowlark, Baird's sparrow, grasshopper sparrow, vesper sparrow, and Sprague's pipit. These species would be expected to decrease with the continued encroachment of manzanita or in wooded areas. Species that may increase with manzanita encroachment or more wooded conditions include canyon and spotted towhees and black throated and black-chinned sparrows.

b. Alternative Comparison

Under **Alternative A**, in 2 to 3 years, habitat for species requiring ground cover, such as Baird's sparrow and Mearns's quail, would show improvement (Issue 3). Under **Alternatives B and C**, this improvement would still occur but could take up to 5 years in key grazing areas. Under **Alternative B** additional water sources would be available for wildlife.

D. SOCIAL AND ECONOMIC EFFECTS OF PROPOSED ACTION AND ALTERNATIVES

1. Public Perceptions

a. Description

Public perceptions of appropriate use of public land have been identified as major issues connected to grazing on public lands in general. Two widely disparate perspectives predominate. One perspective represents that portion of the public that does not favor grazing on Forest lands. This group feels that grazing by domestic herbivores is detrimental to species diversity and the health of the land, and that grazing has caused forest health to deteriorate. Another perspective is represented by publics who feel grazing is a legitimate and sustainable use of Forest lands. For the most part, this group is also concerned with preserving the health and productivity of the land but feels the Forest should continue to support multiple uses, including grazing. This group is concerned about the effects on rural societies, economies and life-styles that might result from actions affecting grazing on Forest lands. During the Lone Mountain/San Rafael Ecosystem planning effort the preservation of open space and the ranching lifestyle was identified as a major concern of residents living in the San Rafael Valley area. A strong ranching industry was identified as the main force that would prevent the sale and subdivision of private land in the valley.

Probably the largest portion of the public falls into a diverse group who are generally neutral on the issue of grazing on public land, or who do not have a problem with it as long as it does not interfere with their own use of the land. This group does not tend to comment on Forest Service decisions, and

they are more difficult to contact than more vocal groups, so it is hard to determine how many people fall into this category.

b. Alternative Comparison

Alternative A would satisfy the category that represents the group who wishes to eliminate or reduce grazing on federal land. **Alternative B and C** would be more favorable to the second group, who supports multiple use of the land and wishes to preserve the ranching industry. The purpose of this EA is to provide a legitimate analysis of the effects of the proposed action to ensure that grazing, in the context of our multiple use mandate, does not lead to an irretrievable commitment of resources on the A-Draw Allotment.

2. Customs and Traditions in the Affected Area

a. Description

Although there have been several different types of land uses in the area of the San Rafael Valley, including mining, fuelwood cutting, dry-land farming and cattle ranching, ranching developed into the most stable and permanent land use (Hadley and Sheridan, 1995). Since the 1690's, when the Spanish introduced cattle, ranching has been a traditional use of this land. Ranching is a source of income as well as a tradition for families that graze cattle on the Forest allotments. In addition to the importance of ranching to individual families, it is probably the only economic activity that can be conducted on many of the private lands in Santa Cruz county, other than development. It is a major factor in maintaining the rural, undeveloped landscape that is cherished by residents and visitors alike.

Without Forest Service, State and BLM grazing leases, many ranchers would not have enough grazing land to maintain economically viable operations and could be forced to sell their land to developers. Development of these lands would change the appearance of the landscape and increase pressure on other resources, such as water. It would also bring with it a more urbanized society that may not appreciate the rural values of longtime residents. The increase in residences adjacent to the forest boundary would increase recreational impacts, decrease wildlife habitat and interfere with wildlife travel corridors. More housing in the area would also pose problems for fire management, making it more difficult to restore the natural fire regime. Grazing management on small "ranchettes" often is non-existent, and pleasure horses and other stock graze off all available vegetation. The resulting increased sediment in storm run off could negatively affect aquatic species, such as Gila topminnow, which occurs on private land in the valley. Decisions affecting these permits could have far reaching effects on the local society, as well as the environment.

b. Alternative Comparison

Alternative A would make it more difficult for the permittees to maintain the private land as ranchland because there would be less flexibility in the livestock operation to respond to changes in rainfall conditions, and the land base for the operation would be much smaller. **Alternatives B and C** would make maintaining the private land as ranchland more feasible for the permittees (Issue 5).

3. Economic Considerations

a. Description

Domestic livestock grazing contributes to the livelihood of permittees as well as to the economy of local communities and counties. Individual allotments provide incremental contributions to the economy. Livestock grazing provides a source of employment, income, and Forest Service payments to the county from grazing fee collection (Snyder and Gum, 1993). The economic importance of ranching...extends beyond the ranchers themselves...due to the economic linkages that exist in any economy (Snyder and Gum, 1993). Changes in several allotments will have cumulative impacts on the local economy. The number of direct and indirect jobs supported by the livestock industry and

payments to counties from federal receipts provide a relative comparison of economic effects from changes in livestock grazing.

b. Alternative Comparison

Table 3 shows the effects on these indicators from this proposed action and the cumulative impacts considering other reasonably foreseeable actions.

Table 4 - Economic Effects

<u>Economic Effect/Alternative</u>	<u>A</u>	<u>B</u>	<u>C</u>
DIRECT AND INDIRECT JOBS (Number of jobs = 1.14/100 head)	0	1.62	1.62
PAYMENTS TO COUNTIES \$ w/o PILT offset (\$0.34/HM)	0	\$587.70	\$587.70
LIVESTOCK PROPERTY TAX \$ (NM \$5/head, AZ \$0)	0	0	0

Under **Alternative A** there would be a loss of approximately 1.62 jobs in the local economy. This may be significant with respect to the limited opportunities for employment in a rural county like Santa Cruz. At current grazing fee levels this alternative would also result in a loss of \$587.70 per year in federal receipts to Santa Cruz county.

Under **Alternatives B and C** the number of jobs supported by the grazing permit would be approximately 1.62. At current grazing fee levels, these alternatives would result in \$587.70 in federal receipts to Santa Cruz county.

Although the figures presented for the A-Draw Allotment in the above table may not seem significant they must be considered as part of a larger whole. The cumulative effects would be greater when the economic effects of changes on this allotment are added to other changes in jobs and receipts from other ranches in the county, .

E. RECREATION

1. Description

Recreational uses on the A-Draw Allotment include hunting, horseback riding, camping and off road vehicle use. Occasionally gates are left open by recreational users, allowing livestock to stray, and much time and labor is spent rounding up cattle. For the most part, though, few conflicts between grazing and recreation have been identified. Vandalism of range improvements has not been identified as a big problem on this allotment. There is noticeable resource damage from off road vehicle use and several unauthorized jeep trails crisscross the allotment.

2. Alternative Comparison

None of the alternatives is expected to conflict with recreational uses. Under Alternative B, pipelines will be buried where they cross roads or trails, and storage tanks will be placed so as to be screened from view as much as possible (Issue 7).

F. CULTURAL RESOURCES

The permit area contains no known standing ruins or historic structures. Implementation of the allotment management plan is not expected to result in significant impacts to other archeological and historic properties. Locations of all new improvements will be surveyed for cultural resources prior to construction. A cultural resource report will be completed in compliance with the Southwest Region's Programmatic Agreement for implementation of the National Historic Preservation Act.

CHAPTER 4 - LISTING OF AGENCIES AND PERSONS CONSULTED

On March 16, 1998, a scoping letter was sent to interested publics to solicit comments on the implementation of an allotment management plan for the A-Draw Allotment.

A. Agencies, Groups, and Corporations Consulted

Ak-Chin Indian Community
Arizona Cattle Growers Association
Arizona Department of Environmental Quality
Arizona Game and Fish Department
Arizona House of Representatives - Rep. Griffen
Arizona Native Plant Society
Arizona State Parks Board
Arizona State Senate - Senator Bee
Arizona Wildlife Federation
Audubon Research Ranch
Brush Hill Ranch
Canelo Springs Ranch
Circle Z Ranch
Cochise County Range Riders
Coronado National Memorial
Dawn to Dusk Club
Ft. Sill Chiricahua-Warm Springs Apache Tribe
Forest Guardians and FCC
GABA of Cochise
Hopi Tribe
Huachuca Audubon Society
Hereford Natural Resources Conservation District
Huachuca Hiking Club
Little Outfit Ranch
Lone Mountain Ranch
Mescalero Apache Tribe
Native Ecosystems
Natural Resources Conservation Service
Patagonia Community Association
Patagonia Town Council
People for the USA
Pima Natural Resources Conservation District
Pueblo of Zuni
Ramsey Canyon Preserve
Salt River Pima-Maricopa Indian Community
SAMBA

San Antonio Ranch
 San Pedro 100
 San Pedro Natural Resources Conservation District
 San Rafael Valley Association
 San Rafael Ranch
 Sands Investment Company, LLC.
 Santa Cruz County Board of Supervisors
 Santa Cruz County Planning and Zoning
 SEAGO
 Sierra Club, Grand Canyon Chapter
 Sierra Club, Rincon Group
 Sierra Vista Riding Club
 Sky Island Alliance
 Sonoran Bioregional Diversity
 Southeast Arizona Governments Organization
 Southern Arizona Hiking Club
 Southwest Center for Biological Diversity
 Southwest Forest Alliance
 The Nature Conservancy
 The Sonoran Institute
 The Wilderness Society
 TNC - Patagonia/Sonoita Creek Preserve
 Tohono O'Odham Nation
 Tucson Audubon Society
 U.S. Fish and Wildlife Service
 University of Arizona Cooperative Extension Service
 University of Arizona County Extension Service
 Western Gamebird Alliance

B. Individuals Consulted

The scoping letter was also sent to 114 individuals.

Twenty four responses were received.

A. References

Coronado National Forest Land Management Plan. 1986. Amended 1992, 1995. Coronado National Forest, Tucson, AZ.

Deecken, Paul T. 1998. Species effects analysis for the A-Draw Allotment. Sierra Vista Ranger District, Hereford, AZ.

Escobedo, Francisco. 1998. A-Draw soil-vegetation potential. Sierra Vista Ranger District, Hereford, AZ.

Hadley, D., & T. E. Sheridan. 1995. Land Use History of the San Rafael Valley, Arizona. Rocky Mountain Forest and Range Experiment Station. U.S. Department of Agriculture. Ft. Collins, CO.

Lefevre, Robert. 1998. A-Draw Allotment riparian, soil, water and air report. Sierra Vista Ranger District, Hereford, AZ.

Snider, Gary and R. Gum. 1997. The Economic Effects of Livestock Grazing in the Redrock Canyon, Lone Mountain, San Rafael Valley Ecosystem Management Area. University of Arizona, Tucson, AZ.

U.S. Forest Service. 1998. Stock pond maintenance and management plan for Sonora tiger salamander. Coronado National Forest, Sierra Vista Ranger District. Sierra Vista, AZ.

APPENDIX A

SUMMARY OF COMMENTS

Several letters were received during the scoping process and in response to the Environmental Assessment (EA). These letters helped us identify major issues. Below is a summary of comments with an account of how we addressed the issues raised.

One person wrote informing us of at least two bicycling groups who use the area for mountain biking.
Recreation is discussed in Chapter 3, Part E of the EA.

The scarcity of water was identified as a concern in one letter.

The management plan in the preferred alternative is designed to be flexible so cattle can be moved to private land when water is scarce. Water developments are also planned in the preferred alternative.

One participant in the field trip afterward wrote expressing several concerns:

"There is no long term management plan for the allotment nor is the permittee prepared at this time to offer such a plan."

In the past, long term grazing schedules have been problematic because rainfall is not consistent so forage production varies annually and from pasture to pasture. There is no fixed amount of production upon which to base long term projections for stocking and duration of use for each pasture. Therein lies the need for a rotation that is based on annual forage production and can be flexible in both stocking and grazing periods to respond to changing conditions. Such a rotation can only be planned on a year to year basis, and must even be adjusted throughout the year in response to current conditions. The *objectives* of the proposed alternative are long term goals which will guide the management of the allotment.

"Weather and excessive livestock use have left the allotment in relatively poor condition, particularly the lower pastures."

The permittee suggested that it would be a good idea to temporarily fence the west half of the Apache Pasture, which has declined due to low rainfall in recent years, and was poorly managed by the previous permittee. This was met with approval by the participants of the 04/29/98 field trip. While this was inadvertently omitted from the EA, it is documented in the Decision Notice that a temporary electric fence will be used to keep cattle from grazing that part of the allotment until it recovers. Other management requirements for areas with impaired production are mentioned in Chapter 3, Part A, 2.

"Laying surface irrigation pipe over long distances interferes with multiple use and should be avoided on public lands. The new tanks would cause significant land disturbance and change the skyline as a large water tank would be placed on the top of a hill".

This method of supplying water to livestock has been used successfully on the Cononado National Forest in the past. High density polyethylene pipe is very resistant to UV radiation, freezing and physical damage. It will be buried where it may interfere with some other use of the Forest. In the installation of any water storage tanks an effort will be made to place them so they will not be highly visible from a distance. The fiberglass tanks commonly used on the Forest are 16 feet in diameter and require relatively little ground disturbance to install. As with every ground disturbing project, archaeological

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and biological surveys will be done prior to installation. The proposed water developments are consistent with the prescription for Management Area 4 in the Coronado National Forest Land Management Plan.

"Mobile attractants, primarily water, are much more likely to be successful (than waterlines). Overall, the cost of the water projects that the Forest Service proposes, when compared to the fees paid by the permittee, will lead to a negative monetary return."

The permittee has expressed an interest in using mobile water sources to help solve grazing distribution problems and the District will cooperate with her in that regard. The permittee understands that the Forest Service may not be able to commit any funds to the planned projects and that private dollars will likely be used to complete them. Any Forest Service funds spent will come from range betterment funds which are derived from grazing fees.

"Transects should be run on some of the bottom lands, including Dove Canyon..."

Some monitoring was done in 1998 on the old range analysis transects. A monitoring plan will accompany the Allotment Management Plan and will include transects situated in canyon bottoms as well as on mesa tops.

"The draft EA should contain specific measures that 1) will maintain herbaceous vegetation in riparian areas sufficient to protect and stabilize banks, and 2) will maintain or increase the population number of rare species....known to inhabit the allotment."

Chapter 1, Part F contains specific measures that address the major issues. Riparian areas are not an issue on this allotment as there are no wet channels. Meeting the objectives defined in Chapter 1, Part A, 3 of the EA will lead to proper management of the dry canyons on the allotment, and will provide for rare species' habitat needs.

"The cost effectiveness of public supported brush cutting on this small cattle operation is questionable. Herbicides should not be used to remove brush and noxious weeds on the allotment."

There is no guarantee Forest funds will be available for brush removal. Commercial cutters have been identified who may have an interest in cutting manzanita in this area in the future. If so, brush removal could be accomplished with little cost to the Forest Service. The District has no plans to use herbicides to remove brush on this allotment.

One writer, who did not attend the field trip, wrote expressing support for Alternative A (no grazing) and sent the book "Waste of the West" (L. Jacobs, 1991) as his argument.

The issue of grazing suitability in Management Area 4 was addressed in the Forest Plan, which will soon be updated. The preferred alternative is in compliance with the current Forest Plan. The suitability issue will be revisited during the Forest Plan revision process in the years 2000-2001, which will involve public input. Resting a portion of the A-Draw Allotment for a period of time to allow recovery from grazing and drought is provided for in the Decision Notice.

Most letters received in response to the proposed action and EA were positive, with few concerns expressed:

"I would like to commend the staff of the Sierra Vista Ranger District, and the Tucson Ranger District (Supervisor's Office), for an enjoyable tour conducted with a very positive attitude. It was my pleasure to attend.....My main concerns with water developments are: #1 Water pressure from the elevated storage tank in the Upper Forest Pasture affecting water line joints and float valves. Could a well be drilled? There are no wells, to my knowledge, in that pasture. Perhaps there is a minor conflict with cleaning Corenela Tank and repairing the silt trap above it. With little or no storage capabilities at that site it renders the existing water lines ineffective for efficient grazing of the pasture."

The effectiveness and viability of water developments will be fully evaluated before any are installed or renovated. Modification of the means by which water will be provided to a given area can be accomplished without a significant change in the proposed action as long as it does not involve diversion or damming of a drainage.

"In apache Pasture there is a well to the west end. Basically there is no service to the east end of the pasture. Could there be a way to have better water service to the east for expanded grazing potential? The pasture has had some severe grazing with no time control, but the plant community seems healthy. Soil loss seems to be at a minimum despite the usage. There is a minimum of pedestalling at the base of the plants. Some intensive, short term impact could improve the soil texture and improve water retention. This can only happen with temporary fencing of some sort and a water supply."

As stated earlier, electric fencing to allow recovery for the west side of Apache Pasture, and keep cattle on the East side, is included in the final decision. It is within the terms and conditions of the permit for the District to allow the use of temporary water sources to improve cattle distribution. Soil compaction has been noted in some areas of impaired soils and high intensity use, while it may improve the surface texture, may also cause further compaction of the B horizon which has a high clay content. Therefore this type of use would have to be carefully evaluated before implementation on those sites.

"Pertaining to the improvements. I have no problem with the permittee paying for the improvements as long as the permittee has continued use of the allotment. However, it should be written into the plan that , if at any time the permittee loses the use of the allotment, the Forest Service will reimburse the permittee for all cost for materials and labor for installing the improvements. After all, the improvements are as beneficial to wildlife as they are to the ranching operation."

It is Forest Service policy that once improvements are installed, they become Forest Service property. Loss of a permit can occur for a variety of reasons, including non-compliance with the terms and conditions of the permit, or transfer. It is beyond the scope of this decision to determine the ownership of improvements placed on Forest land, or guarantee compensation for them. This is a matter of national policy.

"I would like to propose that separate ground level drinkers within a thirty by thirty foot enclosure located beyond the area trampled to a barren condition by the cattle around the existing drinkers be constructed."

Escape ramps in drinkers for wildlife are required under the Forest Plan. If funding is available for further wildlife water developments, or if the permittee wishes to build them with private funds, the waterlines can easily be modified to include them.

A standard list of recommendations on goals, stocking levels, riparian areas, coordinated ranch management plans, flexibility, season of grazing, fences, gates, access, water, new developments, salt, special status species, Mearns' quail, predation control fire, and content of the EA was submitted by the Arizona Game and Fish Department. These comments were taken into account during the development of the proposed action. Many recommendations have already been incorporated into the Forest Plan.

We were asked if the annual animal unit months would be limited to the 1434 in the cursory capacity estimate, while a site specific capacity estimate is being completed based on actual management.

Because the allotment is stocked with more steers than cows (1 steer = .5 - .7 Animal Units (AU), 1 cow = 1.32 AU), and the cattle are on private land during part of the year, it is not likely the 1434 AUM estimate will be exceeded. Stocking will be based on meeting desired utilization levels.

A letter was received from Forest Guardians, much of which is a reiteration of regulations and case law. It appears that the specific comments in the letter originally addressed several allotment on the Apache-Sitgreaves National Forest, not the A Bar Draw allotment. The responses below address these comments with regard to the A Bar Draw allotment EA.

1. "Overall we believe the EA's describe unacceptable watershed and riparian conditions that are directly attributable to past, present and proposed livestock grazing on the allotment. We firmly believe that a period of rest is necessary to ensure the long-term productivity of the sites are restored." (page 1)

The existing soil condition is 70% satisfactory and 30% impaired. None of the allotment is in unsatisfactory soil condition. There is no perennial water nor any riparian areas on the allotment (EA pg 9). No additional information has been provided to lead to a different conclusion on the current condition or the effects of livestock grazing.

2. "While the FS does provide a cursory discussion of the cumulative impacts of the action on riparian resources, it does not even mention the cumulative effect of livestock grazing on riparian habitats throughout the district, forest or watershed." (page 3)

As stated in the response to comment 1, there are no riparian areas on the allotment.

3. "First and foremost, we believe that no term permits should be reissued until you conduct a thorough analysis of the area's suitability for grazing as defined in your regulations." (page 4)

Suitability, as defined by law and regulation, must be determined as part of the forest planning process and is not a requirement of project level planning. Suitability is outside the scope of the decision to be made.

4. "...the Forest Service, in the instance of these two allotments, appears to be willing to go to every expense to keep the permit viable. You can't continue to subsidize this activity on the back of taxpayers. This is particularly important in light of the fact that you intend to spend \$150,000 on an allotment that currently generates just over \$3,000 in revenue!" (page 5)

The EA considered here only pertains to one allotment, not two. The proposed action includes 3 new water developments. In addition, a temporary electric fence would be constructed. There is no cost identified for these developments in the EA but it would be much less than \$150,000. The revenue generated from the allotment is also not discussed, however with 1434 HMs at the current grazing fee (\$1.35/HM), the revenue would be \$1,936. The cost of range developments is borne by the permittee, funded with Range Betterment

Funds or a combination. Range Betterment Funds are a portion of the grazing fee that is returned to the Forest to be used for range improvements. Funding does not come out of the general allocation of funds.

5. "The proposed management plan and environmental analysis fail to meet NFMA and RPA requirements regarding management of Forest Service lands for the highest net public benefits." (page 5)

The NFMA regulations cited relate to forest planning, not project level planning. The regulations require that overall forest management maximizes long term net public benefits, not that each project implemented maximize benefits. The economic analysis required by the NFMA also relates to forest planning, not project level planning.

6. "Although the Forest Service handbook (2209.11, Range Project Effectiveness) requires a complete economic analysis of the project, the analysis does not rate environmental quality impacts with and without the proposed project as identified in Chapter 50." (page 7)

While the EA does not present a specific economic analysis as described in the handbook, the environmental quality impacts with and without the proposed projects are described in the analysis of effects of the alternatives. There is an alternative with no grazing and no developments, one with grazing and no developments and the proposed action, which has grazing and developments. Additionally, general economic impacts to the ranch and community are discussed.

7. "The Forest Service recognizes that the stream has an "impaired" water quality rating due to sediment in the stream caused by reduced streamside vegetation and destabilized stream banks." (page 7)

As stated on page 9 of the EA, there is no perennial surface water on the allotment. Water quality would not be significantly affected by implementing any of the alternatives.

8. "Virtually no background ecological information is provided in the allotment EA, including in the proposed action." (page 8)

There is a general existing condition description on page 1 of the EA. More specific ecological information regarding vegetation, soil condition and wildlife is contained in Chapter 3.

9. "The allotment does not describe a DFC, as is required by FS regulations." (page 8)

The desired condition description is on page 2 of the EA.

10. "Allotments included in this proposed action either support listed or proposed species, support habitat where such species may be present, and or support habitat important to the recovery of such species....You are therefore required to determine whether your proposed action will serve to conserve listed or proposed species and critical habitats, on or offsite the project area. You must also determine whether lands within the proposed action area are important to the recovery of proposed or listed species." (pages 8,9)

The Biological Assessment for the proposed action was completed on July 16, 1998. The USFWS concurred with the determination of may affect, not likely to adversely affect for lesser long-nosed bat, Sonora tiger salamander and Gila topminnow on September 18, 1998. All other species had no effect determinations.

11. "Our concern here is that the EA's make no mention of the existence of or critical role of cryptogamic soils, especially in the pinyon/juniper woodland ecosystem type." (page 9)

Again, this EA is for a single allotment, not multiple allotments. This allotment is not in a pinyon/juniper type. The vegetation types on the allotment are plains grassland, shrub and oak woodland (EA, pg 7).

12. "There is a large body of literature that indicates that livestock grazing, and not fire suppression, is the primary culprit in forest health problems, especially in ponderosa pine forests. We believe it is scientifically unsound to build upland waters in ponderosa pine or mixed conifer forests without--at a minimum--reducing livestock numbers." (page 9)

As stated in the response to comment 11, the vegetation types on this allotment are grassland, shrub and oak woodland. There are no ponderosa pine or mixed conifer vegetation types. The concern with building water developments in the ponderosa pine or mixed conifer types is irrelevant to this analysis.

"The impacts of additional fence construction, continued fence presence, water developments, and other livestock management associated developments will need to be fully analyzed in a draft EIS prior to issuance of any permit." (page 9)

The analysis for this project included 3 water developments and no fences. As part of the decision, a temporary electric fence will be installed in Apache Pasture to allow for the recovery of the impaired soils. The District Ranger has determined that the impacts of these developments are not significant and do not require completion of an EIS.

"Impacts on ecosystem functions like nutrient cycline and hydrologic cycling, and succession are a result of livestock grazing....Impacts to ecosystem physical structure including loss of vegetation strata from livestock trampling and foraging, loss of residual ground cover, soil litter and microbiotic crust, soil compaction, changes in fire regimes and increased water loss and erosion.

These impacts were either not examined, or were not examined in sufficient detail. While the EA contains a section on soil condition and erosion and claims that Studies showed that most of the allotment was in fair condition with respect to its rangeland and grazable wooded sites, no studies or summaries were included in the EA for a reviewer to evaluate design errors or other issues concerning credibility." (page 10)

The EA states that monitoring on the allotment has been done infrequently. The plains grassland type is in fair condition and the oak woodland in good condition (EA pg 3). The analysis of alternatives portion of the EA (Chapter 3) contains more discussion of the allotment condition for both vegetation and soils. Complete reports on conditions and results of the studies are in the project file or the allotment files. Studies have been conducted using Forest Service procedures.

"Due to the current and historic presence of special status species, riparian habitats must be *fully protected* from all effects of livestock grazing." (page 10)

As stated in the response to comment 1, there are no riparian areas on the allotment. This comment is irrelevant to this EA.

"Cultural resource clearance is required for all "surface disturbing projects", not just for future grazing improvements." (page 11)

The allotment was reviewed for cultural resources and was found to contain no known standing ruins or historic structures. Concurrence from the State Historical Preservation Officer was received on October 5, 1998.

APPENDIX B

SENSITIVE SPECIES ON WHICH GRAZING ON THE A-DRAW ALLOTMENT COULD HAVE AN IMPACT

SPECIES	OFFICIAL STATUS
<i>Amsonia grandiflora</i> (large-flowered blue star)	Forest Service sensitive
<i>Astragalus hypoxylus</i> (Huachuca milk vetch)	Forest Service sensitive
<i>Graptopetalum bartramii</i> (Bartram's stonecrop)	Forest Service sensitive
<i>Heterotheca rutteri</i> (Huachuca golden aster)	Forest Service sensitive
<i>Pectis imberbis</i> (beardless chinch weed)	Forest Service sensitive
Gila chub (<i>Gila intermedia</i>)	federal candidate
Great Plains narrowmouth toad (<i>Gastrophryne olivacea</i>)	Arizona species of concern Forest Service sensitive
Chiricahua leopard frog (<i>Rana chiricahuensis</i>)	Arizona species of concern Forest Service sensitive federal candidate
barking frog (<i>Hylactophryne augusti</i>)	Arizona species of concern Forest Service sensitive
Arizona ridge-nosed rattlesnake (<i>Crotalus willardi willardi</i>)	Arizona species of concern Forest Service sensitive
banded rock rattlesnake (<i>Crotalus lepidus</i>)	Forest Service sensitive
bunchgrass lizard (<i>Sceloporus scalaris</i>)	Forest Service sensitive
sharp shinned hawk (<i>Accipiter striatus</i>)	Forest Service sensitive
ferruginous hawk (<i>Buteo regalis</i>)	Arizona species of concern
Swainson's hawk (<i>Buteo swainsoni</i>)	Forest Service sensitive
zone-tailed hawk (<i>Buteo albonotatus</i>)	Forest Service sensitive
mountain plover (<i>Charadrius montanus</i>)	federal candidate
blue-throated hummingbird (<i>Lampornis clemenciae</i>)	Forest Service sensitive
violet-crowned hummingbird (<i>Amazilia violiceps</i>)	Arizona species of concern Forest Service sensitive
Lucifer hummingbird (<i>Calothorax lucifer</i>)	Forest Service sensitive
Sprague's pipit (<i>Anthus spragueii</i>)	Arizona species of concern
azure bluebird (<i>Sialia sialis fulva</i>)	Forest Service sensitive
varied bunting (<i>Passerina versicolor</i>)	Forest Service sensitive
Baird's sparrow (<i>Ammodramus bairdii</i>)	Arizona species of concern
Arizona shrew (<i>Sorex arizonae</i>)	Arizona species of concern
spotted bat (<i>Euderma maculatum</i>)	Arizona species of concern
California leaf-nosed bat (<i>Macrotus californicus</i>)	Arizona species of concern
Mexican long-tongued bat (<i>Choeronycteris mexicanus</i>)	Arizona species of concern
western red bat (<i>Lasiurus blossevillii</i>)	Arizona species of concern
southern yellow bat (<i>Lasiurus ega</i>)	Arizona species of concern
bat roosts	Coronado National Forest sensitive
black-tailed prairie dog (<i>Cynomys ludovicianus</i>)	Arizona species of concern
coati mundi (<i>Nasua nasua</i>)	Forest Service sensitive