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Standards for Rangeland Health and Guidelines for Grazing Administration
Implementation Project: Allotment Assessment
for

Penn's Well - 4852

I. INTRODUCTION

The Penn's Well Allotment Assessment was conducted in accordance with directions set forth in the Washington Office Instruction Memorandum No. 98-91 and Arizona State Instruction Memorandum No. 99-012 for implementation of Standards for Rangeland Health and Guidelines for Grazing Administration (Standards and Guides).

The purpose of Standards and Guides is to insure the health of public rangelands. These standards help the Bureau of Land Management (BLM), rangeland users, and interested members of the public achieve a common understanding of acceptable resource conditions, and work together to implement that vision (see appendices for a copy of the Standards and Guidelines).

Arizona's Standards and Guides were developed by the BLM State Standards and Guides Team and the Arizona Resource Advisory Council (RAC), a state level council appointed by the Secretary of the Interior.

The Secretary of the Interior approved the Standards and Guides in April 1997. The Decision Record, signed by the BLM State Director (April 1997) provides for full implementation of the Standards and Guides in all Arizona Land Use Plans.

This assessment was conducted by an interdisciplinary assessment team (IAT) of resource specialists from:

- BLM.
- Natural Resource Conservation Service (NRCS).
- Arizona Game and Fish Department (AGFD).
- Mohave County Extension.

The IAT was assisted by the Rangeland Resource Team (RRT), a diverse group of local residents formed and appointed under the RAC charter (see appendices for a list of members on both teams). The RRT may provide informal advice to the BLM Field Manager regarding implementation of Standards and Guides, and "will have opportunities to raise any matter of concern with the resource advisory council and ... to provide information and options to the council for their consideration" as provided for by regulations at 43 CFR 1784.6-2(a)(2)(iv)(A).

The BLM/RAC Implementation Strategy for Arizona states that the RRT's primary role is to assist BLM managers in assuring the S&G's are consistently applied and technically sound. The IAT analyzed all available information in cooperation with the RRT. Based on field

observations, team members determined whether rangeland conditions were meeting, progressing toward meeting, or not meeting the Standards for Rangeland Health.

The RRT, IAT, permittees and other interested parties were invited to attend an issue scoping meeting on March 14, 2001, and a field visit on May 1, 2001. In cases where standards were not being met, the group identified which resource uses needed to be addressed, and teams presented recommendations to improve resource conditions.

After consultation with interested persons, permittees, and the IAT, the Authorized Officer will select the appropriate actions. The selected management actions will be analyzed through the National Environmental Policy Act (NEPA) process and a proposed decision will be issued.

II. GRAZING USE

A. Total Grazing Privileges

Permittees: Afton N. and John N. Snyder

Active AUMs: 145

(Note: an AUM, or Animal Unit Month, is a unit of measurement indicating how much forage is eaten by a cow/calf pair in one month.)

B. Season(s) of Use

6/1 - 10/31

C. Kind and Class of Livestock

31 Cattle; Cow/calf operation

D. Percent Federal Range

93 percent

III. ALLOTMENT PROFILE

A. Description

The Penn's Well Allotment is located approximately 60 miles south of St. George, Utah in Arizona, on the Arizona Strip. The allotment is within the boundaries of T. 32 and 33 N., R. 11 and 12 W., on the Parashant Plateau. The main physiographic feature of the allotment is a natural broad valley (Penn's Valley) bisecting relatively flat basaltic plateaus from south to north, which surround the valley. Elevations range from 5,960' to 6,420'.

Penn's Well is comprised of 4,225 acres of federal land (BLM), 640 acres state land and 620 acres of private land. The allotment contains three major range sites. The plateaus and benches are a Clay Loam Upland (Gravelly) 13-17", the plateau sides are Basalt Slopes 13-17" and the valley bottom is a Clay Upland 13-17". Nearly the entire allotment falls within the Clay Loam Upland (Gravelly) site. These soils in general are slow in drying and are best suited for late spring, summer or fall grazing.

There are Seven individual pastures on the federal and state lands, which are grazed by livestock during the course of the grazing year. Other pastures also exist on the private ground which are used as transition in the grazing rotation.

B. Acreage

The allotment contains:

Public Lands (BLM)	4,525 ac.
State	640 ac.
Private	620 ac.
Total	5,785 ac.

C. Objectives

1. Land Use Plan Objectives

Program guidance decisions as well as specific resource objectives for the Penn's Well allotment are found in the Arizona Strip Resource Management Plan (RMP, 1992), the Shivwits Resource Area RMP Implementation Plan (SRAIP), and the Penn's Well AMP.

Land Use Plan Objectives: Shivwits Resource Area Implementation Plan for The Arizona Strip Resource Management Plan.

GZ17 Allowable use on key forage species is 50 percent on allotments with rotational grazing systems.

Recreation Objectives

Off Highway

OH-01 Designate Off-highway Vehicle use areas as follows:
a. Use of existing roads/trails: 1,031,341 (BLM designation: "Limited to

Existing Roads and Trails")

b. *Use of designated roads/trails: 278,921 acres (BLM designation: Limited to Designated Roads and Trails")*
c. *Closed 68,404 acres: (excludes wilderness, which is off limits to vehicular travel).*
d. *Open: 0 acres (for further evaluation).*

Recreation Resources

RR-02 *Evaluate requests for additional recreation permits through the National Environmental Policy Act process and for their consistency with management goals and objectives and process on a case-by-case basis*

RR-03 *Limit camping to 14 days at any one location unless otherwise authorized.*

RR-04 *Recreation management direction includes:*

- *Accommodate current uses, protect cultural values, and complement wilderness management plans where appropriate.*
- *Provide visitor information.*
- *Use various methods to acquire visitor use data on a annual basis.*
- *Maintain a system of traffic counters, monitor results monthly and field-verify results annually.*
- *Conduct compliance patrols by district ranger.*
- *Consider visual impacts on all proposed actions and protect scenic values by using mitigation measures where feasible, including alternative locations, camouflage, vegetation or topographic screening and other measures.*

RR-05 *Improve and increase road signs and develop a sign inventory system.*

RR-06 *Implement actions to restore and/or maintain natural conditions or appearance in all areas.*

RR-08 *Manage the majority of the Resource Area for extensive recreation while maintaining its naturalness/remoteness. The exception to this is the Cedar Pockets campground.*

RR-09 *Commercial recreation permits would be issued to the extent that their cumulative impacts are consistent with the overall objectives of this plan and in the public interest.*

RR-12 *In Visual Resource Management Class 3 and 4 areas, provide settings for recreational opportunities associated with motorized vehicle use such as exploring backcountry roads, vehicle camping and picnicking. Other management decisions in these areas are:*

- *Allow for some changes in Recreational Opportunity Spectrum classes from semi-primitive non-motorized to roaded-natural where necessary to meet recreational needs or other resource development. However, the goal is to maintain the desired recreational settings.*
- *Provide recreational settings where restrictions on visitors are not noticeable, but blend with the natural setting.*
- *Develop sign plans to provide road information for interpretation, public safety, and coordinate the plans with the Arizona Strip visitor map.*
- *Regulate visitor use only if monitoring indicates a need for limiting or restricting use.*

Visual Resources

VR-01 *Assign Visual Resource Management Classes for the Resource Area as follows:*
153,815 acres as Class 1
310,318 acres as Class II (Includes the primary travel corridors)
188,695 acres as Class III
879,652 as Class IV

WS01 *Manage vegetation cover towards ecological stability and sound long-term protective soil cover.*

WS22 *Manage watershed areas according to watershed categorizations to achieve identified objectives.*

The allotment was classified in the RMP as Category IV. This means that the watershed units currently are in unsatisfactory erosion condition and the soils would be responsive to treatment.

Wildlife and Special Status Species

General Program Guidance

TE01 *Manage areas consistent with multiple use to conserve candidate species and their habitats and ensure that actions authorized, funded, or carried out do not contribute to the need to list any of these species as threatened or endangered. Adverse impacts to listed species will be avoided.*

WL05 *Manage wildlife habitat through the Habitat Management Plan process to achieve DPC objectives.*

MD-5 *Increase the quantity and improve the quality of mule deer summer range within the HMP area to attain fawn survivals of 50 fawns per 100 does by 1995.*

MD-4 *Support the development and implementation of intensive grazing systems needed to maintain and enhance quality and quantity of rangeland resources.*

NG-1 *Support the development and implementation of intensive grazing management systems needed to maintain and enhance the quality and quantity of nongame habitat.*

SG-1 *Support the development and implementation of intensive grazing management systems to maintain and enhance quality and quantity of small game food and cover.*

R-2 *Provide acceptable nesting and feeding habitat conditions for birds of prey in riparian and semi-riparian areas throughout the HMP area.*

R-4 *Ensure that enough habitat is kept to maintain healthy accipiter and woodland owl populations and to ensure that silvicultural treatments are compatible with the ecology of these woodland species.*

MD-9 *Maintain adequate mule deer cover conditions to support 2,200 deer by 1995.*

NG-4 *Ensure that all the components needed to sustain certain populations of nongame species are conserved.*

2. Specific Resource Objectives

Penn's Well Allotment Management Plan (1982,1997) being evaluated in this process

- *Implement range improvements such as reservoirs, water catchments, fences and land treatments to enhance present range conditions and grazing management.*
- *Maintain or improve range condition and trend on public lands by implementing a rest-rotation grazing system on Penn's Well Allotment.*
- *Increase forage quantity and improve quality through proper management and provide suitable habitat for wildlife.*
- *Reduce the composition of pinyon-juniper from 83 percent to 2-35 percent and increase the composition of grasses, forbs and browse from 21 percent to 32-90 percent in the identified treatment area of Penn's Well Allotment.*

Desired Plant Community Objectives from the Parashant Interdisciplinary Management Plan

Desired Plant Community (DPC) Key Areas #1 & #2 (Clay Loam Upland gravelly 13-17" pz)

- *Maintain ecological condition in Early to Mid Seral through 2030*
- *Maintaining tree composition between 2-10 percent through 2030.*
- *Maintaining shrub composition between 12-65 percent through 2030.*
- *Maintaining perennial grass composition between 60-80 percent through 2030*
- *Maintaining forb composition between 2-10 percent through 2030.*

D. Key Species

Plant Category	Common Name	Scientific Name
Cool Season Grasses	Smooth brome	Bromus inermis
	Wheatgrass	Agropyron spp.
Browse	Cliffrose	Cowania mexicana

E. Grazing System

The Penn's Well Allotment is operating under the Penn's Well AMP (1982, revised in 1997 as a part of the Parashant Interdisciplinary Management Plan (1997). Penn's Well is the summer/fall unit (June 1-October 31). This system was developed and implemented following the Penn's Well chain and seed project completed in 1987. The chained area was divided into four separate units or pastures and is managed under a four-pasture rest-rotation grazing system. Each pasture is rested a full season every forth year. Each scheduled unit receives approximately 60 days grazing use, depending on water availability at the Penn's catchment. When water is absent in the chaining pastures, cattle are moved to state and private land pastures within the allotment boundaries.

The Dripping Spring Allotment is the winter/spring unit, and is grazed under a 2-pasture deferred rotation schedule. Cattle are generally turned out in the Dripping Spring Allotment by November 1, and stay until mid to end of May.

F. Other Uses

1. Special Status Species

Listed below are the Threatened and Endangered (T/E) species that may occur within or adjacent to the Penn's Well Allotment.

Threatened Species

- Bald eagle *(Haliaeetus leucocephalus)* (proposed for de-listing)

Bald eagles and peregrine falcon (*Falco peregrinus anatum*) (delisted in 1999) may occasionally fly over the area.

Bald Eagle

The bald eagle is currently listed as threatened, but is expected to be delisted soon. It is a seasonal migrant that forages in and along large bodies of water. Bald eagles may be using the Grand Wash fault as a travel corridor to Lake Mead. Bald eagles have not been observed on this allotment. No effect to this species is expected, and no further discussion will follow.

BLM Sensitive and State Species of Concern

Sensitive species are usually rare within at least a portion of their range. Listed below are the sensitive species that may occur within or adjacent to the Penn's Well Allotment:

- Ferruginous hawks (*Buteo regalis*)
- Western burrowing owls (*Athene cunicularia hypugea*)
- Swainson's hawk *(Buteo regalis)*
- Peregrine falcon (*Falco peregrinus*)
- Spotted bat *(Euderma maculatum)*
- Western small-footed myotis *(Myotis ciliolabrum)*
- Fringed myotis (*Myotis thysanodes*)
- Big free-tailed bats (*Nyctinomops macrotis*)
- Townsend's big-eared bat *(Corynorhinus townsendii)*

Ferruginous hawks (*Buteo regalis*), Swainson's hawk, and western burrowing owls (*Athene cunicularia hypugea*) are known to use habitat similar to that found on the Penn's Well Allotment, though specific sightings have not been recorded for any of these species. There are no monitoring programs in place to document changes in abundance of ferruginous hawks or western burrowing owls.

Bats are monitored annually at livestock waters in the area, though there are no widely accepted methods for monitoring bat populations. A variety of sensitive bat species have been captured on this and neighboring allotments, including Townsend's big-eared (*Corynorhinus townsendii*), spotted bats (*Euderma maculatum*), small-footed myotis (*Myotis ciliolabrum*), fringed myotis (*Myotis thysanodes*), and big free-tailed bats (*Nyctinomops macrotis*). No indications of declining populations were detected for any of these species.

Herpetological inventories have not been done for the spring sites found on the allotment. No sensitive reptiles or amphibians are known or suspected to occur on this allotment.

2. Other Wildlife Species

The Penn's Well chainings support a healthy population of mule deer (*Odocoileus hemionus*). While no population estimates are available specifically for the Penn's Well Allotment, the mule deer population in the southern half of Game Management Unit 13B was considered stable to gradually increasing over the ten year period from 1990 to 2000.

Nongame wildlife found on the allotment is typical of the area, including a variety of small mammals, grassland birds, raptors, and reptiles. All waters within this arid region are important for wildlife

3. Recreation

The Penn's Well Allotment is considered to have recreation values for its scenic qualities, remoteness, and solitude. General recreation activities include: recreational OHV use, driving for pleasure, camping, hunting, rock collecting, photography and bird watching.

Special Management Areas

This allotment has been included in the Grand Canyon - Parashant National Monument.

There are no Areas of Environmental Concern, Resource Conservation Areas, or Wild and Scenic River lands on this allotment.

4. Wilderness

There are no wilderness areas on this allotment.

G. Issues

1. Issues Relating to Rangeland Health

a. Noxious weed invasion, scotch thistle.

b. Vegetative diversity trend in old treatment area.

c. Desired plant community in pinyon/juniper area.

2. **Issues Not Relating to Rangeland Health and not discussed further in this document.**

a. Water catchment is not being left on.

During times of no livestock use in the Penn's Well chaining pastures, the livestock trough has been turned off to prevent possible malfunctions that would drain the storage tank. There is however, a wildlife drinker at the catchment that remains on year-long so wildlife has available water. The only time wildlife would be without water is when the storage tank is empty.

b. Proposed increase in allotment AUMs.

Since the implementation of the Penn's Well chain and seed project and grazing system in 1990, BLM has issued the use of temporary non renewable AUMs on Penn's Well Allotment. This was due to the significant increase of available forage in the seeding and to balance livestock numbers between the summer range (Penn's Well, 31 head) and winter range (Dripping Spring, 64 head).

Forage production in the 1,026 acre seeding has ranged from 900 lbs./ac. to 1,200 lbs./ac. When calculating the total number of AUMs in the seeding, the low end production figure of 900 lbs./ac. was used. Total available AUMs is 1,140. Total available AUMs for livestock is 570. The proposed increase is 156 AUMs which equates to 33 head of livestock. This proposed increase amounts to 27 percent of total available AUMs for livestock and 13 percent of total available AUMs.

IV. MANAGEMENT EVALUATION

A. Purpose of Evaluation

The purpose of this assessment is to determine if the existing permitted livestock use, Allotment Management Plan, and other activity plans, which identify terms and conditions for management on public lands within the Penn's Well Allotment are meeting/making progress toward meeting or are not meeting the Arizona Standards for Rangeland Health. If the current livestock grazing practices are determined to be causing the non-attainment of Standards then they will be modified to comply with the Guidelines for Grazing Administration. This assessment will also evaluate and update existing Activity Plan objectives to ensure multiple use objectives are tied to the indicators for rangeland health.

B. Summary of Studies Data

1. Actual Livestock Use

Actual use was determined from licensed use. Total active preference for the allotment is 144 AUMs. No new permanent AUMs have been assigned to Penn's Well since completion of the chain and seed project. However, temporary non-renewable AUMs have been authorized until such time as an official AUM increase is granted.

Year	Permit AUMs used	Non-Renewable AUMs Used	Total AUMs Used
1987	114	0	114
1988	144	59	203
1989	144	30	174
1990	144	146	290
1991	144	178	322
1992	144	148	292
1993	144	269	413
1994	144	271	415
1995	144	271	415
1996	144	287	431
1997	144	193	337
1998	144	113	257
1999	144	292	436
2000	144	248	392

2. Precipitation

Average annual precipitation on Penn's Well is approximately 17-19". Since there is no rain gauge on the allotment, the two nearest gauges at Salt House and Poverty Mountain are used to interpret annual rainfall amounts. The Salt House rain gauge is located in T32N, R13W, Sec.27, approximately 7 miles southwest of Penn's Well. Average precipitation is ~19" annually. Approximately 14 percent (2.63") comes in the fall, 34 percent (6.80") in the winter, 20 percent (3.99") in the spring and 32 percent (6.35") in the summer.

The Poverty Mountain rain gauge is located in T35N, R12W, Sec.33, approximately 13 miles northwest of the allotment. Average precipitation is 16"+ annually. Approximately 14 percent (2.31") comes in the fall, 36 percent (5.73") in the winter, 18 percent (2.91") in the spring, and 32 percent (5.20 percent) in the summer. Even though the two rain gauges differ in the amount of annual rain fall, seasonal distribution of the precipitation is very similar.

3. Utilization

Utilization is the portion or amount of a key plant species current years growth that is consumed or destroyed by animals.

Utilization data from 1993-2000 has been compiled for this evaluation. The Key Species Grazed Class method was used to collect the data. Utilization is read at or around the designated key area for each pasture.

Utilization levels during the analysis period have been well below the 50 percent allowable level. During the evaluation period, average utilization levels across all pastures, on all key species were 30 percent. Heaviest utilization occurred in years 1999 (37 percent) and 2000 (35 percent).

4. Trend

Trend monitoring was conducted at two key areas over the allotment. Both key areas were established in 1987, after the chain and seed project was completed. Trend data was collected using the Pace-Frequency method. This method of monitoring measures the frequency of bare ground, litter, rock and live vegetation. In addition, it measures the occurrence frequency of forage and non-forage species.

Key Area #1
Northeast Pasture, Clay Loam Upland gravelly 13-17" pz, 6300' elev.
Apparent Trend = Up, Live Veg. Cover 11 percent.

Key Area #2
Southwest Pasture, Clay Loam Upland gravelly 13-17" pz, 6300' elev.
Apparent Trend = Up, Live Veg. Cover 16 percent.

Table 1 summarizes the trend data collected at the two key areas since 1987. The occurrence of all key species and resulting trend (up, static, down), based on 10 percent points of variance of the base sample for each study site is shown. Also shown in the table are changes in percent live cover of all plants and percent litter.

Table 1. Summary of pace-frequency trend data on Penn's Well Allotment 1987 to 1996. Figures shown are percentages.

Pasture/ Key Area	Year	Composition Key species	Live Veg. Cover	Litter	Total
North #1	1987	32	0	7	39
North #1	1990	46	1	16	63
North #1	1993	51	3	20	74
North #1	1996	114	11	43	168 (up)
North #1					
South #2	1987	75	3	21	99
South #2	1990	81	6	22	109
South #2	1993	83	5	21	106
South #2	1996	146	16	47	209 (up)
South #2					

5. Ecological Site Inventory

Ecological condition is the present state of the vegetation on the ecological site in relation to the potential natural community for the site. Ecological status is also defined in terms of different seral stages. Seral stages are developmental stages of ecological succession. The ecological status classes correspond to a similarity percentage of the potential natural community (PNC).

Early Seral (0-25 percent)
Mid Seral (26-50 percent)
Late Seral (51-75 percent)
Potential Natural Community (>76 percent)

Key Area #1 - Clay Loam Upland gravelly 13-17" pz. (14 percent of PNC)
Key Area #2 - Clay Loam Upland gravelly 13-17" pz. (13 percent of PNC)

6. Wildlife Habitat

Mule deer and all big game species populations are monitored annually by the Arizona Game and Fish Department. Mule deer survey data for the Penn's Well area includes direct counts by sex and age class. The number of mule deer counted in this area varied considerably over the 15 year period from 1985 to 2000, from a low of 31 in 1992 to a high of 156 in 1996 see appendices). There is no estimate of mule deer numbers available specifically for this allotment. The number of mule deer counted

may not accurately reflect population trends due to variations and other inherent biases in survey techniques. In addition, overall population numbers are influenced, at least to a small degree, by removal of up to 70 deer per year from hunting. It is not known how many mule deer are taken illegally each year.

The following summary of mule deer habitat needs was taken from the literature. Most of the data used in this summary was derived from Colorado where mule deer are widespread.

The mating season for mule deer usually begins in November and continues through January. Gestation is about 6 or 7 months. The birthing season usually begins in June and can continue into August. Mature females commonly have twins, while yearlings have only single fawns. Does are mature at about 1½ years, while young males may not mate due to competition with older males. The lifespan for females may be as long as 22 years and as long as 16 years for males, though 8 to 10 years is considered old for both. Only males have antlers. They begin shedding in December and continue into March.

Mule deer are most likely to be found in open forested areas or on the plains and prairies. They prefer rocky or broken terrain at higher elevations during the summer and seek shelter at lower elevations during the winter. Cover becomes important to mule deer during the winter, although it is less important in areas such as the Arizona Strip where winters are mild with minimal snowfall. Optimal cover proportions for the region include 55 percent for foraging, 20 percent for hiding cover, 10 percent for thermal cover, 10 percent for fawn-rearing cover, and 5 percent for fawn habitat.

Mule deer are primarily browsers, feeding on a wide variety of plant species. They are capable of altering or severely damaging plant communities through overbrowsing. Mule deer consume leaves, stems, and shoots of woody plants most often during summer and fall, while grasses and forbs compose the bulk of spring diets. Some of the most common foods include: rabbitbrush (*Chrysothamnus* spp.), mountain-mahogany (*Cercocarpus* spp.), snowberry (*Symphoricarpos* spp.), buffaloberry (*Shepherdia* spp.), ceanothus (*Ceanothus* spp.), rose (*Rosa* spp.), serviceberry (*Amelanchier* spp.), sagebrush (*Artemisia* spp.), sumac (*Rhus* spp.), willow (*Salix* spp.), Gambel oak (*Quercus gambellii*), cliffrose (*Purshia mexicana*), mariposa (*Calochortus* spp.), juniper (*Juniperus* spp.), yucca (*Yucca* spp.), euphorbia (Euphorbia spp.), manzanita (Arctostaphylos spp.), milkvetch (*Astragalus* spp.), and dandelion (*Taraxacum officinale*). Grasses include bluegrasses (*Poa* spp.), wheatgrasses (*Agropyron* spp.), and bromes (*Bromus* spp.).
Mule deer populations in the early 1960s in this Game Management Unit (13B) were probably in excess of 2,500 animals. At that time, a variety of predator control measures were in effect to protect livestock that allowed mule deer numbers to build up in excess of the carrying capacity of the habitat. Many of those predator control methods were banned in the late 1960s and early 1970s. Mule deer populations took

several precipitous declines, leading the Arizona Game and Fish Department to restrict hunting in the mid-1980s. Since that time, mule deer numbers have been gradually increasing. Fawn production and survival suggest this is a low productivity area for mule deer.

Unit 13B is considered by Arizona Game and Fish Department to be low productivity habitat for mule deer. Summer range is limited to a few small areas on Black Rock and Poverty Mountains, Mt. Dellenbaugh and Whitmore Canyon. Much of the remainder of the area is covered by pinyon-juniper woodlands with little if any understory. Areas that have been chemically or mechanically treated, such as at Twin Points and Low Mountain, have seen dramatic increases in mule deer populations. Cliffrose is a favored browse species for mule deer in this area and appears to be readily available. Mule deer also rely on forbs which can be plentiful in years with adequate precipitation or nearly absent in dry years.

While this allotment does not provide optimum conditions for mule deer, the reasons are likely related to lack of precipitation on limited summer range habitat and encroachment of pinyon-juniper woodlands. Despite this, mule deer populations continue to increase slowly and are stable. Mule deer would benefit from increased treatments in decadent pinyon-juniper habitat. At present, habitat conditions are conducive to continued, though slow, expansion of the mule deer herd and are appropriate relative to site potential.

7. Riparian/Fisheries Habitat

There is no fisheries habitat on the allotment. Riparian systems are limited to a few small springs, most of which have been developed for use by livestock, wildlife, or both.

8. Wild Horse and Burro Habitat

There is no wild horse or burro habitat on the allotment.

9. Geological Resources

a. Lithology

The Penn's Well Allotment consists mainly of basalt capped mudstone and shale mesas.

b. Soils

Soil Map Units , SSA 623,(SCS,1993)

02 Albers silty clay, 0 to 1 percent slopes (stream terrace), basalt, Moenkopi; Clay Upland, 13" to 17" ppt

14 Boquillas family-Showlow complex, 25 to 50 percent slopes, (basalt mesas), basalt, shale; Basalt Slopes, 13" to 17"

69 Showlow-Thunderbird complex, 2 to 25 percent slopes, (basalt mesas), basalt; Clay Loam Upland (gravelly) PJ-Woodland, 13" to 17"

C. Information and/or Data Pertaining to Issues (from III.G.1.)

1. Issues Relating to Rangeland Health

a. Noxious weed invasion, scotch thistle.

A 1/4-acre patch of scotch thistle has been identified on a parcel of state land within the Penn's Well Allotment boundaries. There have been efforts over the past three years to treat this infestation. Although these efforts have not yet eradicated the noxious weed in the area, they have had an impact in reducing the size and plant numbers of the infestation. Presently, the infestation has not expanded beyond its located site.

b. Vegetative diversity trend in old treatment areas.

Maintaining the trend of vegetation diversity in the Penn's Well chaining treatment through timely maintenance is of concern to the Rangeland Resource Team (RRT), Arizona Game and Fish Department (AGFD) and the permittee. The current mix of diverse vegetation is desirable for all resource values and is reflected by the Desired Plant Community (DPC) objectives identified for the key areas. The Penn's Well treatment is relatively young, and presently needs no maintenance, however, vegetation diversity of similar, older age class treatments has decreased due to lack of timely maintenance.

c. Desired plant community in pinyon/juniper area.

It was determined during the planning effort for the Parashant Interdisciplinary Management Plan (October, 1992) that pinyon/juniper sites with soils of high production potential be considered and identified for restoration treatment. A 500 acre area on Penn's Well was identified for such treatment. The DPC objective for that area is to reduce the composition of pinyon-juniper from 83 percent to 2-35 percent, and increase grass, forb, and browse composition from 21 percent to 32-90 percent. Rational for the DPC objective was to stabilize a portion of watershed draining into Parashant Canyon and restore vegetation diversity. The RRT team felt it necessary to carry the issue through this assessment process.

V. CONCLUSIONS

A. Pertaining to Objectives

1. Land Use Plan Objectives

Program guidance decisions as well as specific resource objectives for the Penn's Well Allotment are found in the Arizona Strip Resource Management Plan (RMP, 1992), the Shivwits Resource Area RMP Implementation Plan (SRAIP), and the Penn's Well AMP.

Land Use Plan Objectives: Shivwits Resource Area Implementation Plan for The Arizona Strip Resource Management Plan.

GZ17 Allowable use on key forage species is 50 percent on allotments with rotational grazing systems.

This objective has been met. Utilization has not exceeded 50 percent of the current year's growth. Heaviest utilization occurred in years 1999 (37 percent) and 2000 (35 percent).

Recreation Objectives

Off Highway

OH-01 Designate Off-highway Vehicle use areas as follows:

a. Use of existing roads/trails: 1,031,341 (BLM designation: "Limited to Existing Roads and Trails")

b. Use of designated roads/trails: 278,921 acres (BLM designation: Limited to Designated Roads and Trails")

c. Closed 68,404 acres: (excludes wilderness, which is off limits to vehicular travel).

d. Open: 0 acres (for further evaluation).

This objective has been met.

Recreation Resources

RR-02 Evaluate requests for additional recreation permits through the National Environmental Policy Act process and for their consistency with management goals and objectives and process on a case-by-case basis.

This objective is being met. As new requests for Special Recreation use permits are received they are evaluated and reviewed for consistency with this objective and processed accordingly.

RR-03 *Limit camping to 14 days at any one location unless otherwise authorized.*

There have been no known violations of this objective on this allotment and it is being met.

RR-04 *Recreation management direction includes:*

- *Accommodate current uses, protect cultural values, and complement wilderness management plans where appropriate.*
- *Provide visitor information.*
- *Use various methods to acquire visitor use data on an annual basis.*
- *Maintain a system of traffic counters, monitor results monthly and field-verify results annually.*
- *Conduct compliance patrols by district ranger.*
- *Consider visual impacts on all proposed actions and protect scenic values by using mitigation measures where feasible, including alternative locations, camouflage, vegetation or topographic screening and other measures.*

This objective is being met. Current uses by recreationists on this allotment are minimal. Routine monitoring of resources is conducted by resource specialists in the area and by district rangers, visitor information is collected on use, through a system of traffic counters spread across the district. Impacts are routinely evaluated in NEPA documents related to any disturbing activities and mitigating measures recommended to protect the values in the area.

RR-05 *Improve and increase road signs and develop a sign inventory system.*

This objective is being met. Signs are monitored and replaced on a routine basis due to attrition and new information.

RR-06 *Implement actions to restore and/or maintain natural conditions or appearance in all areas.*

This objective is being met. This objective is an on-going effort, based on observations of range and other specialists, and restoration actions are evaluated through the planning and NEPA process for interdisciplinary input and review.

RR-08 *Manage the majority of the Resource Area for extensive recreation while maintaining its naturalness/remoteness. The exception to this is the Cedar Pockets campground.*

This objective is being met. Visitors to the allotment engage in hunting, camping, sightseeing, and a variety of other legitimate recreation activities,

and are monitored to see that the area's values are not degraded by overuse.

RR-09 *Commercial recreation permits would be issued to the extent that their cumulative impacts are consistent with the overall objectives of this plan and in the public interest.*

This objective is being met. This objective is being met: As new requests for commercial Special Recreation use permits are received they are evaluated and reviewed for consistency with this objective and processed accordingly.

RR-12 *In Visual Resource Management Class 3 and 4 areas, provide settings for recreational opportunities associated with motorized vehicle use such as exploring backcountry roads, vehicle camping and picnicking. Other management decisions in these areas are:*

- *Allow for some changes in Recreational Opportunity Spectrum classes from semi-primitive non-motorized to roaded-natural where necessary to meet recreational needs or other resource development. However, the goal is to maintain the desired recreational settings.*
- *Provide recreational settings where restrictions on visitors are not noticeable, but blend with the natural setting.*
- *Develop sign plans to provide road information for interpretation, public safety, and coordinate the plans with the Arizona Strip visitor map.*
- *Regulate visitor use only if monitoring indicates a need for limiting or restricting use.*

This objective is being met: ROS classes haven't changed for the area and recreationists can still enjoy the same quality of recreational settings existing at the time of the RMP. No recreational restrictions have been necessary to protect the area's resource values. No interpretive signing has been installed in this allotment. Roads and signs are maintained on a routine basis.

Visual Resources

VR-01 *Assign Visual Resource Management Classes for the Resource Area as follows:*
153,815 acres as Class 1
310,318 acres as Class II (Includes the primary travel corridors)
188,695 acres as Class III
879,652 as Class IV

This objective is being met: This allotment contains VRM Class 4. Review and protection of visual resource values is a routine part of the interdisciplinary NEPA process along with recommendations for mitigating measures if impacts to the visual resource are anticipated.

WS01 *Manage vegetation cover towards ecological stability and sound long-term protective soil cover.*

This has been accomplished.

WS22 *Manage watershed areas according to watershed categorizations to achieve identified objectives.*

The allotment was classified in the RMP as category IV. This means that the watershed units currently are in unsatisfactory erosion condition and the soils would be responsive to treatment.

Management has ben successful in increasing or maintaining vegetative cover, thus minimizing erosion over most of the allotment and the allotment will be re-categorized to II, meaning that the watershed units area in satisfactory erosion condition, but are susceptible to wind and water erosion following disturbance.

Wildlife and Special Status Species

General Program Guidance

TE01 *Manage areas consistent with multiple use to conserve candidate species and their habitats and ensure that actions authorized, funded, or carried out do not contribute to the need to list any of these species as threatened or endangered. Adverse impacts to listed species will be avoided.*

This objective is being accomplished on an ongoing basis. Biological evaluations are prepared to document the effects of any proposed action on listed or proposed species. Actions which may affect candidate or sensitive species are reviewed on a case by case basis through NEPA analysis.

WL05 *Manage wildlife habitat through the Habitat Management Plan process to achieve DPC objectives.*

This objective is being met, through the Parashant Habitat Management Plan (HMP), dated November, 1982.

MD-5 *Increase the quantity and improve the quality of mule deer summer range within the HMP area to attain fawn survivals of 50 fawns per 100 does by 1995.*

This objective is being met in most years. While fawn survival has approached or exceeded 50 fawns per 100 does in unit 13B, typical fawn to doe ratios are closer to 35 (see appendices). This unit is considered to a low productivity area for mule deer, primarily due to dry conditions and encroachment by pinyon and juniper communities.

MD-4 *Support the development and implementation of intensive grazing systems needed to maintain and enhance quality and quantity of rangeland resources.*

This objective is being met. The Penn's Well Allotment has an intensive grazing systems that maintains and enhances wildlife habitat.

NG-1 *Support the development and implementation of intensive grazing management systems needed to maintain and enhance the quality and quantity of nongame habitat.*

This objective is being met through the Standards and Guidelines assessment process and through development of interdisciplinary activity plans such as allotment management plans and habitat management plans.

SG-1 *Support the development and implementation of intensive grazing management systems to maintain and enhance quality and quantity of small game food and cover.*

This objective is being met through the Standards and Guidelines assessment process and through development of interdisciplinary activity plans such as allotment management plans and habitat management plans.

R-2 *Provide acceptable nesting and feeding habitat conditions for birds of prey in riparian and semi-riparian areas throughout the HMP area.*

This objective is being met. Habitat for birds of prey was assessed through the Standards and Guidelines process and found to be acceptable in meeting the needs of wildlife.

R-4 *Ensure that enough habitat is kept to maintain healthy accipiter and woodland owl populations and to ensure that silvicultural treatments are*

compatible with the ecology of these woodland species.

This objective is being met. Raptor perches are available throughout the habitat. Cliff nesting areas are protected from development impacts. Chainings and other land treatment areas include large open areas for raptors to hunt and piles of woody debris as habitat for prey species.

MD-9 *Maintain adequate mule deer cover conditions to support 2,200 deer by 1995.*

This objective is not being met. Summer range has not been increased. This could only be accomplished through increased precipitation or large scale treatment projects in pinyon-juniper habitat. This unit is considered to a low productivity area for mule deer, primarily due to dry conditions and encroachment by pinyon and juniper communities. It is doubtful that the area could ever support 2,200 mule without long term intensive and costly manipulation of the habitat.

NG-4 *Ensure that all the components needed to sustain certain populations of nongame species are conserved.*

This objective is being met through the Standards and Guidelines assessment process, through development of new desired plant community objectives and interdisciplinary activity plans for wildlife habitat management.

2. Specific Resource Objectives

Penn's Well Allotment Management Plan (1982,1997) being evaluated in this process

- *Implement range improvements such as reservoirs, water catchments, fences and land treatments to enhance present range conditions and grazing management.*

This objective has been met. One thousand twenty-six acres of land treatment was completed in 1985. The water catchment was installed in 1987. Additional water storage for the catchment was identified in the 1997 Penn's Well AMP revision and is in the process of being implemented in cooperation with AGFD. The last division fence was constructed in 1992, making it possible to implement the grazing system.

- *Maintain or improve range condition and trend on public lands by implementing a rest-rotation grazing system on Penn's Well Allotment.*

  This objective has been met. In 1992, after the completion of the last division fence, a 4-pasture, rest-rotation grazing system was implemented. This system allows one of the four pastures to receive one years rest each year.

- *Increase forage quantity and improve quality through proper management and provide suitable habitat for wildlife.*

  This objective is being met. Through implementation of the land treatment and grazing system, forage quantity and quality has been improved. The area continues to provide suitable habitat for wildlife using the area. It is identified as high quality mule deer habitat by AGFD.

- *Reduce the composition of pinyon-juniper from 83 percent to 2-35 percent and increase the composition of grasses, forbs and browse from 21 percent to 32-90 percent in the identified treatment area of Penn's Well Allotment.*

  This objective has not been met. The 500 acre area identified for restoration efforts has not yet been implemented, and the DPC for that area is not being met. The restoration proposal for the area is required to go through the Parashant National Monument planning process before any actions can be initiated.

Desired Plant Community Objectives from the Parashant Interdisciplinary Management Plan

Desired Plant Community (DPC) Key Areas #1 & #2 (Clay Loam Upland gravelly 13-17" pz)

- *Maintain ecological condition in Early to Mid Seral through 2030*

  Ecological condition in early to mid seral through 2030: This objective is being met. Ecological condition of key area #1 is 14 percent similar to PNC and key area #2 is 13 percent similar to PNC which places them both in early seral condition.

- *Maintaining tree composition between 2-10 percent through 2030*

  Tree composition between 2-10 percent through 2030: This objective is being met. Current tree compositions at key area #1 are 1 percent. Tree composition at key area #2 is 2 percent. Both key areas are within the DPC limits for pinyon and juniper trees.

- *Maintaining shrub composition between 12-65 percent through 2030*

  Shrub composition between 12-65 percent through 2030: This objective is not being met. The present composition of shrub species in key area #1 is 2 percent, and key area #2 is 3 percent. This is however, an increase since the key areas were established in 1987. Past trends in other treatment areas have shown shrub species to steadily increase over time, which provides assurance that the objective can and will be met.

- *Maintaining perennial grass composition between 60-80 percent through 2030*

  Perennial grass composition between 60-80 percent through 2030: This objective is not being met in key area #1. Perennial grass composition in #1 is 89 percent, nine percent over the objective. This is not of great concern because natural succession will bring grasses in line with the objective as the woody shrubs increase. In key area #2 this objective is being met. Perennial grass in #2 is at 79 percent, which is the high end of the objective.

- *Maintaining forb composition between 2-10 percent through 2030*

  Forb composition between 2-10 percent through 2030: This objective is being met. In key area #1 forbs are at 5 percent and #2 they are 3 percent of total composition. Forbs are very sensitive to precipitation and temperature and therefore can fluctuate somewhat depending on these two elements.

B. Pertaining to Issues

1. Issues Relating to Rangeland Health

a. Noxious weed invasion, scotch thistle.

A concerted effort of herbicide treatment and hand grubbing must continue to eradicate and stop the expansion of scotch thistle around the Log Spring area. At present, less than one acre of thistle has been discovered on the allotment. Past treatment work has kept the infestation from spreading beyond its existing location.

b. Vegetative diversity trend in old treatment areas.

Maintaining vegetative diversity in the Penn's Well chainings is critical to resource integrity. Vegetative succession is dynamic and ever changing. In order to maintain vegetation in a diverse stage that meets DPC objectives, future maintenance will be neccessary. It's not yet clear what methods other than fire will be acceptable for conducting vegetation maintenance in the monument. Whatever

the methods, it is important to note the future trend of these treatments depend largely on maintenance actions.

c. Desired plant community in pinyon/juniper area.

The DPC objective established for the 500 acre restoration unit is dependant on how far it is carried into the monument planning process. If the proposed restoration unit retains its merit through the planning process, the objective will remain attainable and valid. If for any reason it is forgone, the DPC objective for the 500 acre restoration unit will be void.

The following is added for conclusions relative to implementation of the Standards for Rangeland Health and Guidelines for Grazing Administration

Based on the analyses and supporting documentation referenced herein, resource conditions on the allotment:

XX Meet all applicable standards for rangeland health

❑ Are making significant progress toward meeting the applicable standards for rangeland health

Do not meet the standards for rangeland health for:
❑ No. 1: Upland sites
❑ No. 2: Riparian-Wetland sites
❑ No. 3: Desired Resource Conditions

❑ Have not been sufficiently documented to make a specific determination, but there is no reason to believe that current management would preclude meeting the standards for rangeland health.

VI. RECOMMENDATIONS

A. The following items were recommended by the RRT Team:

1. Continue treatment of scotch thistle and other noxious weed species on the allotment.
2. During the monument planning process or before if possible, develop and stress the need for maintenance plans and prescriptions for the Penn's Well chainings.
3. Tie maintenance plans and prescriptions to future monitoring and DPC objectives.
4. Carry DPC objective for the restoration unit forward through the monument planning process.

B. Since all data from 1987 to present reflects the 156 temporary non-use AUMs, it was recommended that Penn's Well Allotment receive a permanent AUM increase of 156 AUMs or 33 cattle for the period of 06/01 - 10/31. The rationale for the increase was based on utilization, trend, ecological site inventory and production data from the chainings. Forage production data is discussed in section III G;2bof this report.

Adding additional water storage at Penn's Well catchment was identified in the Penn's Well AMP (October, 1997). It was recommended this item be initiated promptly since water is often in short supply and is critical mule deer summer range. The required NEPA for the tank has been completed and only lacks funding. It was suggested by the Wildlife Manager on the RRT team that possible emergency funding for a storage tank could be obtained from the Arizona Mule Deer Associations special tag fund. The team recommended the tank be installed as a cooperative cost share project between the permittee, AGFD and BLM.

C. Contingent on funding and staffing, encourage vegetative treatment projects in pinyon-juniper habitat to benefit mule deer using prescriptions developed in habitat management plans. Leave debris piles unburned for small mammals where practical. Leave as many snags as possible for raptor perches, cavity nesting birds, and bats.

D. Revise and update the Parashant Habitat Management Plan.

AUTHORIZED OFFICER CONCURRENCE:

X I concur with the conclusions and recommendations as written.

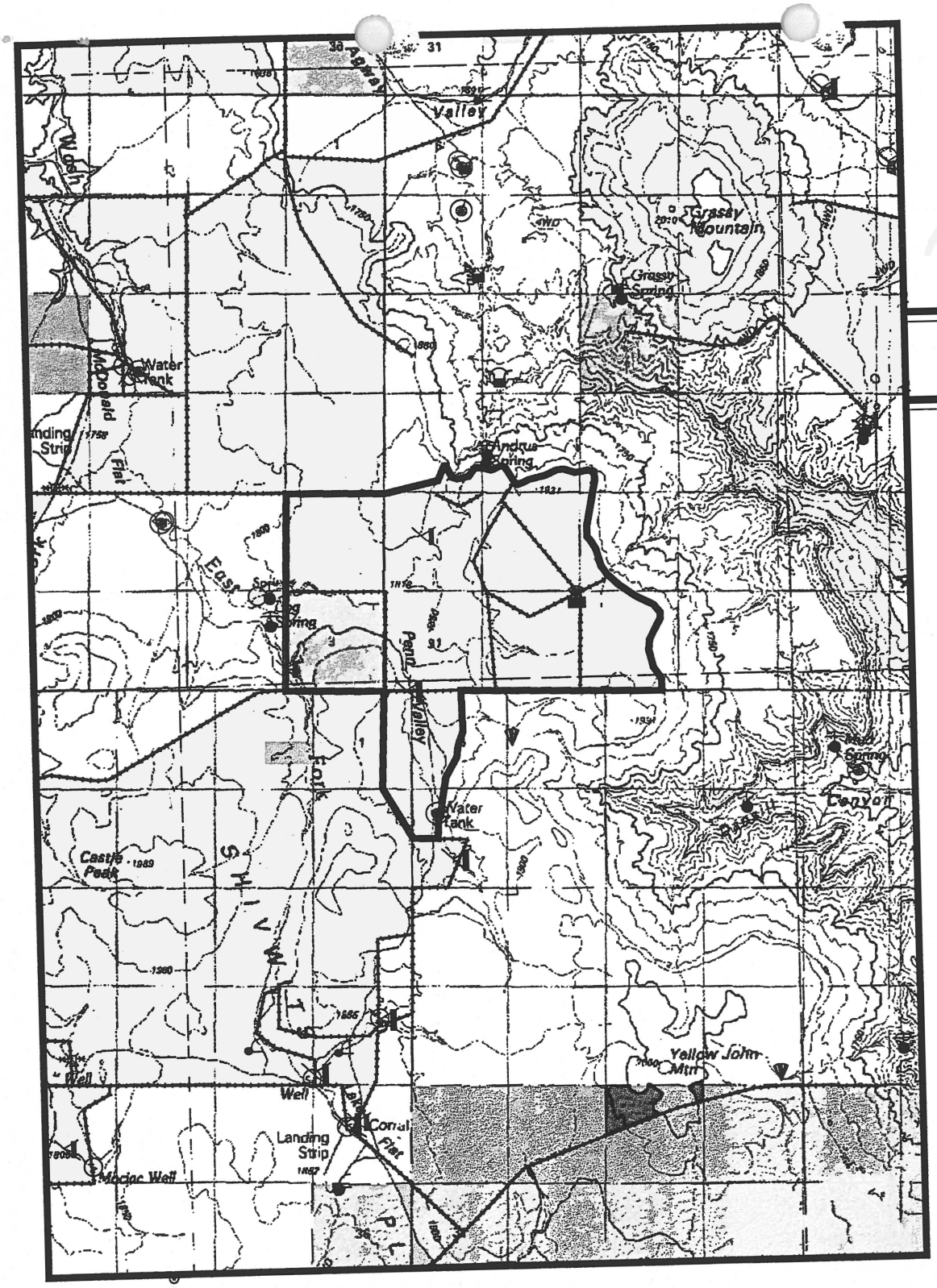
_____ I do not concur.

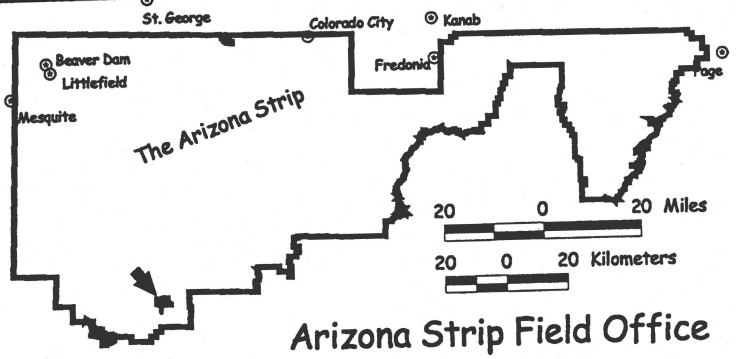
_____ I concur, with the following modifications:

Roger D Taylor

Field Manager
Arizona Strip Field Office

March 11, 2002
Date





Arizona Strip Field Office

U.S. Department of the Interior
Bureau of Land Management
Arizona Strip Field Office

Source: United States Geological Survey,
Digital Raster Graphics and
DOI Bureau of Land Management

This map was produced by Linda R. Price
Standards and Guides Team Leader
September 28, 2001

Appendix A

ARIZONA STANDARDS FOR RANGELAND HEALTH AND GUIDELINES FOR GRAZING ADMINISTRATION

INTRODUCTION

The Department of the Interior's final rule for Grazing Administration, issued on February 22, 1995, and effective August 21, 1995, requires that Bureau of Land Management (BLM) State Directors develop State or regional standards and guidelines for grazing administration in consultation with BLM Resource Advisory Councils (RAC), other agencies and the public. The final rule provides that fallback standards and guidelines be implemented, if State standards and guidelines are not developed by February 12, 1997. Arizona Standards and Guidelines and the final rule apply to grazing administration on public lands as indicated by the following quotation from the Federal Register, Volume 60, Number 35, page 9955.

> "The fundamentals of rangeland health, guiding principles for standards and the fallback standards address ecological components that are affected by all uses of public rangelands, not just livestock grazing. However, the scope of this final rule, and therefore the fundamentals of rangeland health of §4180.1, and the standards and guidelines to be made effective under §4180.2, are limited to grazing administration."

Although the process of developing standards and guidelines applies to grazing administration, present rangeland health is the result of the interaction of many factors in addition to grazing by livestock. Other contributing factors may include, but are not limited to, past land uses, land use restrictions, recreation, wildlife, rights-of-way, wild horses and burros, mining, fire, weather, and insects and disease.

With the commitment of BLM to ecosystem and interdisciplinary resource management, the standards for rangeland health as developed in this current process will be incorporated into management goals and objectives. The standards and guidelines for rangeland health for grazing administration, however, are not the only considerations in resolving resource issues.

The following quotations from the Federal Register, Vol. 60, No. 35, page 9956, February 22, 1995, describe the purpose of standards and guidelines and their implementation:

> "The guiding principles for standards and guidelines require that State or regional standards and guidelines address the basic components of healthy rangelands. The Department believes that by implementing grazing-related actions that are consistent with the fundamentals of §4180.1 and the guiding principles of §4180.2, the long-term health of public rangelands can be ensured.
>
> "Standards and guidelines will be implemented through terms and conditions of grazing permits, leases, and other authorizations, grazing-related portions of activity plans (including Allotment Management Plans), and through range improvement-related activities.

"The Department anticipates that in most cases the standards and guidelines themselves will not be terms and conditions of various authorizations but that the terms and conditions will reflect the standards and guidelines.

"The Department intends that assessments and corrective actions will be undertaken in priority order as determined by BLM.

"The Department will use a variety of data including monitoring records, assessments, and knowledge of the locale to assist in making the "significant progress" determination. It is anticipated that in many cases it will take numerous grazing seasons to determine direction and magnitude of trend. However, actions will be taken to establish significant progress toward conformance as soon as sufficient data are available to make informed changes in grazing practices."

FUNDAMENTALS AND DEFINITION OF RANGELAND HEALTH

The Grazing Administration Regulations, at §4180.1 (43 Code of Federal Regulation [CFR] 4180.1), Federal Register Vol. 60, No. 35, pg. 9970, direct that the authorized officer ensures that the following conditions of rangeland health exist:

(a) Watersheds are in, or are making significant progress toward, properly functioning physical condition, including their upland, riparian-wetland, and aquatic components; soil and plant conditions support infiltration, soil moisture storage, and the release of water that are in balance with climate and landform and maintain or improve water quality, water quantity, and timing and duration of flow.

(b) Ecological processes, including the hydrologic cycle, nutrient cycle, and energy flow, are maintained, or there is significant progress toward their attainment, in order to support healthy biotic populations and communities.

(c) Water quality complies with State water quality standards and achieves, or is making significant progress toward achieving, established BLM management objectives such as meeting wildlife needs.

(d) Habitats are, or are making significant progress toward being, restored or maintained for Federal threatened and endangered species, Federal Proposed, Category 1 and 2 Federal candidate and other special status species.

These fundamentals focus on sustaining productivity of a rangeland rather than its uses. Emphasizing the physical and biological functioning of ecosystems to determine rangeland health is consistent with the definition of rangeland health as proposed by the Committee on Rangeland Classification, Board of Agriculture, National Research Council (Rangeland Health, 1994, pg. 4 and 5). This Committee defined Rangeland Health ". . .as the degree to which the integrity of the soil and the ecological processes of rangeland ecosystems are sustained." This committee emphasized ". . .the degree of integrity of the soil and ecological processes that are most important in sustaining the capacity of rangelands to satisfy values and produce commodities." The Committee also recommended that "The determination of whether a rangeland is healthy, at risk, or unhealthy should be based on the evaluation of three criteria: degree of soil stability

and watershed function, integrity of nutrient cycles and energy flow, and presence of functioning mechanisms" (Rangeland Health, 1994, pg. 97-98).

Standards describe conditions necessary to encourage proper functioning of ecological processes on specific ecological sites. An ecological site is the logical and practical ecosystem unit upon which to base an interpretation of rangeland health. Ecological site is defined as:

". . . a kind of land with specific physical characteristics which differs from other kinds of land in its ability to produce distinctive kinds and amounts of vegetation and in its response to management" (Journal of Range Management, 48:279, 1995). Ecological sites result from the interaction of climate, soils, and landform (slope, topographic position). The importance of this concept is that the "health" of different kinds of rangeland must be judged by standards specific to the potential of the ecological site. Acceptable erosion rates, water quality, productivity of plants and animals, and other features are different on each ecological site.

Since there is wide variation of ecological sites in Arizona, standards and guidelines covering these sites must be general. To make standards and guidelines too specific would reduce the ability of BLM and interested publics to select specific objectives, monitoring strategies, and grazing permit terms and conditions appropriate to specific land forms.

Ecological sites have the potential to support several different plant communities. Existing communities are the result of the combination of historical and recent uses and natural events. Management actions may be used to modify plant communities on a site. The desired plant community for a site is defined as follows: "Of the several plant communities that may occupy a site, the one that has been identified through a management plan to best meet the plan's objectives for the site. It must protect the site as a minimum." (Journal of Range Management, 48:279, 1995.)

Fundamentals (a) and (b) define physical and biological components of rangeland health and are consistent with the definition of rangeland health as defined by the Committee on Rangeland Classification, Board on Agriculture, National Research Council, as discussed in the paragraph above. These fundamentals provide the basis for sustainable rangelands.

Fundamentals (c) and (d) emphasize compliance with existing laws and regulation and, therefore, define social and political components of rangeland health. Compliance with Fundamentals (c) and (d) is accomplished by managing to attain a specific plant community and associated wildlife species present on ecological sites. These desired plant communities are determined in the BLM planning process, or, where the desired plant community is not identified, a community may be selected that will meet the conditions of Fundamentals (a) and (b) and also adhere to laws and regulations. Arizona Standard 3 is written to comply with Fundamentals (c) and (d) and provide a logical combination of Standards and Guidelines for planning and management purposes.

STANDARD AND GUIDELINE DEFINITIONS

Standards are goals for the desired condition of the biological and physical components and characteristics of rangelands. Standards:

(1) are measurable and attainable; and

(2) comply with various Federal and State statutes, policies, and directives applicable to BLM Rangelands.

Guidelines are management approaches, methods, and practices that are intended to achieve a standard. Guidelines:

(1) typically identify and prescribe methods of influencing or controlling specific public land uses;

(2) are developed and applied consistent with the desired condition and within site capability; and

(3) may be adjusted over time.

IMPLEMENTING STANDARDS AND GUIDELINES

The authorized officer will review existing permitted livestock use, allotment management plans, or other activity plans which identify terms and conditions for management on public land. Existing management practices, and levels of use on grazing allotments will be reviewed and evaluated on a priority basis to determine if they meet, or are making significant progress toward meeting, the standards and are in conformance with the guidelines. The review will be interdisciplinary and conducted under existing rules which provide for cooperation, coordination, and consultation with affected individuals, federal, state, and local agencies, tribal governments, private landowners, and interested publics.

This review will use a variety of data, including monitoring records, assessments, and knowledge of the locale to assist in making the significant progress determination. Significance will be determined on a case by case basis, considering site potential, site condition, weather and financial commitment. It is anticipated there will be cases where numerous years will be needed to determine direction and magnitude of trend.

Upon completion of review, the authorized officer shall take appropriate action as soon as practicable but no later than the start of the next grazing year upon determining that the existing grazing management practices or level of use on public land are significant factors contributing to failure to achieve the standards and conform with the guidelines that are made effective under 43 CFR 4180.2. Appropriate action means implementing actions that will result in significant progress toward fulfillment of the standards and significant progress toward conformance with guidelines.

Livestock grazing will continue where significant progress toward meeting standards is being made. Additional activities and practices would not be needed on such allotments. Where new activities or practices are required to assure significant progress toward meeting standards, livestock grazing use can continue contingent upon determinations from monitoring data that the implemented actions are effective in making significant progress toward meeting the standards. In some cases, additional action may be needed as determined by monitoring data over time.

New plans will incorporate an interdisciplinary team approach (Arizona BLM Interdisciplinary Resource Management Handbook, April 1995). The terms and conditions for permitted grazing in these areas will be developed to comply with the goals and objectives of these plans which will be consistent with the standards and guidelines.

ARIZONA STANDARDS AND GUIDELINES

Arizona Standards and Guidelines (S&G) for grazing administration have been developed through a collaborative process involving the Bureau of Land Management State S&G Team and the Arizona Resource Advisory Council. Together, through meetings, conference calls, correspondence, and Open Houses with the public, the BLM State Team and RAC prepared Standards and Guidelines to address the minimum requirements outlined in the grazing regulations. The Standards and Guidelines, criteria for meeting Standards, and indicators are an integrated document that conforms to the fundamentals of rangeland health and the requirements of the regulations when taken as a whole.

Upland sites, riparian-wetland areas, and desired resource conditions are each addressed by a standard and associated guidelines.

Standard 1: Upland Sites

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

Criteria for meeting Standard 1:

Soil conditions support proper functioning of hydrologic, energy, and nutrient cycles. Many factors interact to maintain stable soils and healthy soil conditions, including appropriate amounts of vegetative cover, litter, and soil porosity and organic matter. Under proper functioning conditions, rates of soil loss and infiltration are consistent with the potential of the site.

Ground cover in the form of plants, litter or rock is present in pattern, kind, and amount sufficient to prevent accelerated erosion for the ecological site; or ground cover is increasing as determined by monitoring over an established period of time.

Signs of accelerated erosion are minimal or diminishing for the ecological site as determined by monitoring over an established period of time.

As indicated by such factors as:

Ground Cover
- litter
- live vegetation, amount and type (e.g., grass, shrubs, trees, etc.)
- rock

Signs of erosion
- flow pattern
- gullies
- rills
- plant pedestaling

Exceptions and exemptions (where applicable):

none

Guidelines:

1-1. Management activities will maintain or promote ground cover that will provide for infiltration, permeability, soil moisture storage, and soil stability appropriate for the ecological sites within management units. The ground cover should maintain soil organisms and plants and animals to support the hydrologic and nutrient cycles, and energy flow. Ground cover and signs of erosion are surrogate measures for hydrologic and nutrient cycles and energy flow.

1-2. When grazing practices alone are not likely to restore areas of low infiltration or permeability, land management treatments may be designed and implemented to attain improvement.

Standard 2: Riparian-Wetland Sites

Riparian-wetland areas are in properly functioning condition.

Criteria for meeting Standard 2:

Stream channel morphology and functions are appropriate for proper functioning condition for existing climate, landform, and channel reach characteristics. Riparian-wetland areas are functioning properly when adequate vegetation, land form, or large woody debris is present to dissipate stream energy associated with high water flows.

Riparian-wetland functioning condition assessments are based on examination of hydrologic, vegetative, soil and erosion-deposition factors. BLM has developed a standard checklist to address these factors and make functional assessments. Riparian-wetland areas are functioning properly as indicated by the results of the application of the appropriate checklist.

The checklist for riparian areas is in Technical Reference 1737-9 "Process for Assessing Proper Functioning Condition." The checklist for wetlands is in Technical Reference 1737-11 "Process for Assessing Proper Functioning Condition for Lentic Riparian-Wetland Areas." These checklists are reprinted on the pages following the Guidelines for Standard 3.

As indicated by such factors as:

Gradient
Width/depth ratio
Channel roughness and sinuosity of stream channel
Bank stabilization
Reduced erosion
Captured sediment
Ground-water recharge
Dissipation of energy by vegetation

Exceptions and exemptions (where applicable):

Dirt tanks, wells, and other water facilities constructed or placed at a location for the purpose of providing water for livestock and/or wildlife and which have not been determined through local planning efforts to provide for riparian or wetland habitat are exempt.

Water impoundments permitted for construction, mining, or other similar activities are exempt.

Guidelines:

2-1. Management practices maintain or promote sufficient vegetation to maintain, improve or restore riparian-wetland functions of energy dissipation, sediment capture, groundwater recharge and stream bank stability, thus promoting stream channel morphology (e.g., gradient, width/depth ratio, channel roughness and sinuosity) and functions appropriate to climate and landform.
2-2. New facilities are located away from riparian-wetland areas if they conflict with achieving or maintaining riparian-wetland function. Existing facilities are used in a way that does not conflict with riparian-wetland functions or are relocated or modified when incompatible with riparian-wetland functions.

2-3. The development of springs and seeps or other projects affecting water and associated resources shall be designed to protect ecological functions and processes.

Standard 3: Desired Resource Conditions

Productive and diverse upland and riparian-wetland plant communities of native species exist and are maintained.

Criteria for meeting Standard 3:

Upland and riparian-wetland plant communities meet desired plant community objectives. Plant community objectives are determined with consideration for all multiple uses. Objectives also address native species, and the requirements of the Taylor Grazing Act, Federal Land Policy and Management Act, Endangered Species Act, Clean Water Act, and appropriate laws, regulations, and policies.

Desired plant community objectives will be developed to assure that soil conditions and ecosystem function described in Standards 1 and 2 are met. They detail a site-specific plant community, which when obtained, will assure rangeland health, State water quality standards, and habitat for endangered, threatened, and sensitive species. Thus, desired plant community objectives will be used as an indicator of ecosystem function and rangeland health.

As indicated by such factors as:

Composition
Structure
Distribution

Exceptions and exemptions (where applicable):

Ecological sites or stream reaches on which a change in existing vegetation is physically, biologically, or economically impractical.

Guidelines:

3-1. The use and perpetuation of native species will be emphasized. However, when restoring or rehabilitating disturbed or degraded rangelands, non-intrusive, non-native plant species are appropriate for use where native species (a) are not available, (b) are not economically feasible, (c) cannot achieve ecological objectives as well as non-native species, and/or (d) cannot compete with already established non-native species.

3-2. Conservation of Federal threatened or endangered, proposed, candidate, and other special status species is promoted by the maintenance or restoration of their habitats.

3-3. Management practices maintain, restore, or enhance water quality in conformance with State or Federal standards.

3-4. Intensity, season and frequency of use, and distribution of grazing use should provide for growth and reproduction of those plant species needed to reach desired plant community objectives.

3-5. Grazing on designated ephemeral (annual and perennial) rangeland may be authorized if the following conditions are met:

ephemeral vegetation is present in draws, washes, and under shrubs and has grown to useable levels at the time grazing begins;

sufficient surface and subsurface soil moisture exists for continued plant growth;

serviceable waters are capable of providing for proper grazing distribution;

sufficient annual vegetation will remain on site to satisfy other resource concerns, (i.e., watershed, wildlife, wild horses and burros); and

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

3-6. Management practices will target those populations of noxious weeds which can be controlled or eliminated by approved methods.

3-7. Management practices to achieve desired plant communities will consider protection and conservation of known cultural resources, including historical sites, and prehistoric sites and plants of significance to Native American peoples.

Appendix B

Team Membership

Interdisciplinary Assessment Team

Linda Price 435-688-3241	Project Coordinator (BLM)
Michael Herder 435-688-3239	Wildlife Biologist (BLM)
Larry Gearhart 435-688-3269	Wilderness/Recreation Specialist (BLM)
Whit Bunting 435-688-3243	Vegetation/Grazing Administration (BLM)
Bob Smith 435-688-3245	Soils and Hazmat (BLM)
Robert Price 435-574-3923	Wildlife Manager, Field Supervisor (Arizona Game and Fish Department)
Art Meen 520-643-7062	Soils and Vegetation (Natural Resource Conservation Service)
Rob Grumbles 520-753-3788	Vegetation and Social Economics (Mohave County Extension Service)
Vernon Parent 435-634-5706	Vegetation and Social Economics (Washington County Extension Service)

Rangeland Resource Team

Commodity Interests

Bill Gubler, Grazing
Rancher, St. George, UT

Maggie Sacher, Commercial
Recreation/Tourism
Owner: Lee's Ferry Lodge, Marble Canyon, AZ

Non-Commodity Interests

Scott Hansen, Environmental Conservation
Retired, St. George, UT

Spence Esplin, Historical
Retired, St. George, UT

Phil Squire, Dispersed Recreation/Wildlife
Retired, St. George, UT

Local Area Interests

Al Rivas, Public-at-large
Retired, St. George, UT

Kent McComb, Public-at-Large
Retired, St. George, UT

Frank Malan, Public-at-Large
Retired, St. George, UT

Appendix C:

Vegetation Data

UTILIZATION SUMMARY
Penn's Well Allotment

Pasture	Year	Ag. spp	Brin	Spam		Total %
Northeast #1	1984					21
	1989	8	10	10		9
	1991	16	17	8		16
	1992	22	30	26		26
	1993	13	9	33		16
	1994	19	23	20		21
	1995	27	27	16		26
	1996	31	34	36		33
	1997		RESTED			
	1998		RESTED			
	1999	36	33	32		34
	2000	36	33	28		33
	2001					
	2002					
	2003					
Southwest #2	1988	8	10	3		9
	1990	28	22	8		22
	1991	27	20	16		22
	1992	26	30	30		28
	1993	23	26	27		25
	1995	22	24	34		26
	1996	29	29	37		30
	1997	29	30	45		32
	1998	25	25	22		25
	1999		RESTED			
	2000	37	28	5		32
	2001					
	2002					

Pasture	Year	Ag. Spp.	Brin	Spam		Total %
Southeast #3	1993	10	15	10		15
	1994	27	31	25		28
	1995		RESTED			
	1996	37	43			40
	1997	31	33			32
	1998	24	26			25
	1999		RESTED			
	2000	41	40			41
	2001					
Northwest $4	1993	15	15			15
	1994	28	38			33
	1995	23	22			22
	1996		RESTED			
	1997	38	31			35
	1998	31	28			30
	1999	40	38			39
	2000		RESTED			
	2001					

Trend Analysis Summary

Penn's Well Allotment

Pasture	Key Area	Year Read	% Key Species	Live Veg. Cover	Litter	Total
Northeast	#1	1987	32	0	7	39
		1990	46	1	16	63
		1993	51	3	20	74
		1996	114	11	43	168
Southwest	#2	1987	75	3	21	99
		1990	81	6	22	109
		1993	83	5	21	109
		1996	146	16	47	209

Appendix D:

Wildlife Data

Arizona Game & Fish Unit 13B Mule Deer Population Counts

Year	Number of Animals Surveyed	Bucks / 100 does	Fawns / 100 does	Population Estimate
1985	108	30	50	1,000 - 1,500
1986	41	29	18	1,000 - 1,500
1987	63	31	44	1163
1988	---	No Data	No Data	No Data
1989	112	71	31	900
1990	63	68	32	900
1991	85	27	37	900
1992	31	24	59	<1,000
1993	117	126	52	800-1,000
1994	143	69	52	No Estimate
1995	88	183	79	No Estimate
1996	154	87	33	No Estimate
1997	64	77	29	No Estimate
1998	156	43	45	No Estimate
1999	145	51	35	No Estimate
2000	155	49	36	No Estimate

Fixed wing surveys were flown in December - January for all of Game Management Unit 13B from 1985 through 1997. Helicopter surveys were used from 1998 through 2000.