

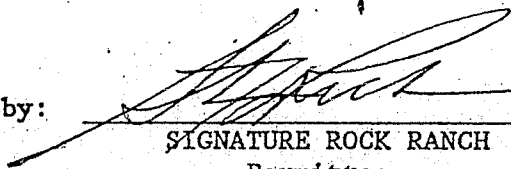
BURRO ALLOTMENT MANAGEMENT PLAN

NORTH KAIBAB RANGER DISTRICT

KAIBAB NATIONAL FOREST

May 8, 1995


Prepared by:

  
SIGNATURE ROCK RANCH  
Permittee

Date:

22 June 1995

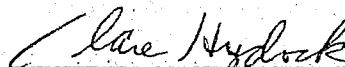
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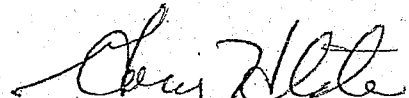
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## I. GOAL AND OBJECTIVES

The goal of this Allotment Management Plan (AMP) is to provide for the long term health and productivity of the environment of the Burro Allotment, in the presence of livestock grazing.

Specific objectives include:

- A. Implement a 75 day grazing season, using a modified deferred rotation grazing plan, in 1995;
- B. Provide management to protect the Kaibab plains cactus;
- C. Reverse any current downward trends on all range types of the Allotment by the end of the first rotation of the grazing plan following full implementation of this AMP;
- D. Cause upward trends on all range types currently in less than satisfactory condition by the end of the first rotation of the grazing plan following full implementation of this AMP;
- E. Through monitoring over the first four year period after full implementation of this AMP, confirm livestock carrying capacity, appropriateness of the season of use, and appropriateness of management on the Allotment, and issue new Term Grazing Permits to the livestock permittees of the Allotment to incorporate these findings and balance use with capacity if necessary, to meet objectives for the area before the fifth year after full implementation of this AMP;
- F. Enhance range and watershed condition and increase forage quality, quantity, and distribution before the second rotation of the grazing plan established in this AMP. This will be accomplished by improving livestock distribution, establishing utilization standards, and by providing deferred rotation in the grazing plan;
- G. Increase soil productivity by limiting compaction, increasing ground cover, reducing accelerated erosion, and maintaining microorganisms;
- H. Provide for a diverse mix of wildlife species by maintaining healthy and diverse wildlife habitats on the Allotment, in the presence of livestock grazing;
- I. Provide dependable water sources that are distributed to facilitate use of habitat and forage, and maintain water sources in serviceable condition;
- J. Maintain Allotment Boundary and division fences in serviceable condition;
- K. Maintain water quality on the Allotment to prevent non-point source pollution of the Colorado River.
- L. Maintain air quality on the Allotment to comply with Arizona Department of Environmental Quality (ADEQ) and federal standards.

## II. DESCRIPTION

### A. The Allotment

The Allotment contains approximately 22,000 acres, of which approximately 1,200 acres comprise part of the old Trail Canyon Allotment, which was combined with the Burro Allotment in 1974. Elevation ranges from 5600-7400 feet. Average precipitation ranges from 10-20 inches a year. Approximately 40% of the precipitation comes during the summer monsoon season. The remaining 60% comes during fall, winter, and spring.

The extreme eastern portion of the Allotment lies within House Rock Valley, and is dominated by warm season grass species and brush/grass habitat. However, the majority of the Allotment is pinyon/juniper woodland. Approximately 3% of the Allotment is Ponderosa pine. Prescribed burning and mechanical pushes have been used to increase openings in the pinyon/juniper woodlands or to improve conditions in the sagebrush/grass vegetation on portions of the Allotment in the past. The pushed areas were seeded with a mix of Crested and Pubescent Wheatgrass, Indian Ricegrass, Fourwing Saltbush, Bitterbrush, and Yellow Sweet Clover.

By nature, cattle tend to concentrate in bottomlands, open park-like vegetation types, or where water has been developed. These are generally the key areas for grazing management with cattle.

Since the Burro Allotment provides a summer grazing season, there is little competition between cattle and deer for food. The northeast and southwest portions of the Allotment have forage available that receives only light utilization. This is because cattle prefer the areas where water is more abundant. So by developing permanent, dependable water sources in those areas, livestock distribution can be improved.

Benchmark range condition and trend studies (cluster transects) were installed at four locations on the Allotment; two on the Trail Canyon Allotment in 1955, two on the Burro Allotment in 1956 (see Map in Appendix for locations). The two Trail Canyon transects were read in 1955, 1961, and 1966. The Burro transects were read in 1956, and 1964.

In 1993, two of these transects, C-3 and C-4, could not be located. Transects C-1 and C-2 were found, but only C-1 was reread. C-2 was not reread because it is in the same habitat type and area (blue gramagrass in House Rock Valley) as C-1. The following chart summarizes condition and trend findings from these readings:

Year Read	Cluster			
	C-1	C-2	C-3	C-4
1955			VP static	VP down
1956	VP static	VP static		
1961			VP static	VP static
1964	VP upward	VP upward		
1966			VP static	VP static
1993	VP static	did not read	could not locate	

Condition ratings - VP = very poor P = poor F = fair G = good

Trend ratings - static = constant upward = improving downward = declining

The results from the 1964/66 reanalysis are suspect, because the transects were read so late in the year (October), that their data is invalid (to be valid, data must be collected during the active growing period of plants). In addition, the season of use changed from winter to summer in 1975, with no further analysis or monitoring. New, permanent transects will be installed before the 1995 grazing season. Their general locations are also shown on the map in the appendix.

## B. Livestock Grazing

The area encompassed by the Burro Allotment has been grazed by livestock, to some degree, since the latter 1800's. District records indicate that permitted use was reduced by 29% in 1952, and by another 11% in 1967. In 1975, the season of use was changed from winter to summer. Current permitted Livestock Grazing on the Burro Allotment is:

Signature Rock Ranch	49 cattle	5/16-10/15 annually.
C. Kay & Norma Sturdevant	53 cattle	5/16-10/15 annually.
TOTAL	102 cattle	520 HMs X 1.32 AUs = 686 AUMs

HM = Head Month      AU = Animal Unit      AUM = Animal Unit Month

The Allotment is divided into two pastures, and Forest Service records indicate that a deferred rotation grazing system has been used since 1975. At that time, utilization standards were set to take no more than 45% of the current year's forage. However, production/utilization studies were not performed to an appropriate degree to confirm carrying capacity, nor to determine if the utilization standards were being met.

The majority of the allotment has received light to moderate utilization in 1992, 1993, and 1994 (20% to 40% throughout, ocular measurements), and heaviest in the vicinity of water. Indications are that similar utilization occurred in the summer of 1991 as well. Below average precipitation for several years up to 1992 has reduced production and plant vigor below their potential. However, implementation of rest, voluntary non-use, and reduction in numbers for range protection by the permittees in 1985 through 1990, in conjunction with a more normal amount of precipitation in 1992 and 1993, have helped to improve plant production and vigor.

## III. ACTION PLAN

### A. Grazing Season and Plan

The Grazing Season will be 7/16 thru 9/30. The Grazing Plan will be:

#### YEARS ONE AND TWO (1995, 1996)

200 head of livestock would begin the season on the south end, and graze their way northward over the grazing season.

#### YEARS THREE AND FOUR (1997, 1998)

200 head of livestock would begin the season on the north end, and graze their way southward over the grazing season.

This plan would start over again every fifth year (1999, 2003, etc.), for as long as this AMP is in effect.

Sticking entirely to a grazing plan such as the one outlined above would depend on conditions on the ground each year, and could be affected by such things as more or less than average precipitation, timing of precipitation, the need to adjust the plan to accommodate other resource activities such as the need for rest following a prescribed burn or seeding for watershed improvement, and various other indeterminate events.

## B. Permitted Use

The current Term Grazing Permits of the two livestock permittees will be cancelled, and new permits issued, prior to the 1995 grazing season. The new permits will incorporate Forest Plan standards, guidelines, and direction, range improvement maintenance standards and responsibility, utilization standards, and so forth to implement direction of the Forest Plan by including this AMP as part of the permits. Monitoring will be performed over the next four years to confirm carrying capacity, and appropriateness of season of use and management. Permitted use during this four year period will be:

Signature Rock Ranch	96 cattle	7/16-9/30 annually.
C. Kay & Norma Sturdevant	104 cattle	7/16-9/30 annually.
TOTAL	200 cattle	520 HMs X 1.32 AUs = 686 AUMs

If monitoring determines that adjustments are necessary, they will occur at the end of the fourth grazing season following implementation of this AMP, and will be implemented by replacing the then existing Term Grazing Permits with new permits for the proper number, season, or management required. This will assure that use and carrying capacity of the range are in balance for the long-term. Minor short-term modifications necessary to meet management objectives will be incorporated in the Annual Operating Plans.

## C. Forage Utilization

Forage utilization standards are to take no more than an average of 40% of the current season's growth, overall.

## D. Range Improvement Construction

Implementing the grazing plan will require construction and fencing of up to three earthen tanks, construction of about 3/4 mile of fence (to establish the southern allotment boundary), reconstruction of the Leach and South Burro Earthen Tanks, and extra water storage tanks being added to the trick tanks. These improvements will be a 50/50 cost share agreement between the Forest Service and the permittees (normally, the Forest Service provides the materials, and the permittees provide the labor and equipment to actually carry-out construction). These improvements are expected to be completed by 1999. It is possible that monitoring may indicate a future need to develop additional water elsewhere, in order to gain favorable livestock distribution. The schedule for completion of the above items is:

1995: Reconstruct Leach Tank, reconstruct and fence South Burro Tank, add one 10,000 gallon water storage tank to Ponderosa Trick Tank.

\*1996: Construct new allotment boundary fence, add one 10,000 gallon water storage tank each to North End and Big Draw Trick Tanks.

\*1997: Add one 10,000 gallon water storage tank to Burro Trick Tank, construct and fence three earthen tanks.

\*1998: Add one 10,000 gallon water storage tank to Burro Spring Trick Tank.

\*1999: Add one 10,000 gallon water storage tank to Vermillion Trick Tank.

Wildlife escape ramps will be installed in all troughs over the next few years.

\*The schedule for these years may change, based on the Forest Service and the permittee's budgets, and availability of materials.

#### E. Range Improvement Maintenance

Range improvement maintenance standards for the Allotment have been established and will be incorporated into the Term Grazing Permits. Range improvement maintenance responsibility will be listed in the Term Grazing Permits.

All improvements on the Allotment are to be maintained to the specified standards and made operational, prior to the entry date for the Allotment.

The old Willis/Burro Allotment Boundary Fence has been identified as a heavy maintenance need, and will be removed by the permittees in 1995.

#### F. Livestock Distribution

##### Water and Herding

Cattle distribution is to be controlled by the control of water; no more than 2 to 3 waters are to be available to the cattle at any one time. As the desired amount of utilization is reached in the vicinity of one water, the gate to that water is to be closed for the remainder of the season. At the same time, the next water is to be made available by opening it's gate, and so on. It may be necessary to have riders move the cattle from one water to the next for a few years, until the cattle become trained to move on their own. It will be required for the permittees to physically move the cattle whenever maximum average utilization of 40% has been reached in any area. Watering facilities will not be located in areas of known populations of the Kaibab plains cactus (Pediocactus paradinei).

Proper herding and distribution of livestock will require riding on the part of the permittees to assure improvements are functional, cattle are in the authorized area, and gates are closed or open as appropriate. Cattle are to be herded away from known populations of the Kaibab plains cactus, and areas where concentrated use results in over-grazing. These are areas in the vicinity of water, and around pasture division and allotment boundary fences. Cattle are to be herded away from the allotment and pasture division fences to reduce the possibility of livestock use in areas outside of the permitted pasture on the Burro Allotment, and to reduce impact to the ground cover in these areas.

It is usually impossible to gather and move all livestock in one trip. Therefore gathering and moving livestock will start adequately in advance of proper utilization or Allotment off-date so that excess use does not occur.

## Salting

The proper placement of salt is a valuable distribution aid. Salt will be placed at least 1/2 mile away from Pediocactus paradinei populations, at least 1/4 mile away from waters, and away from heavy use areas and fence lines. Salt will be placed in areas where we normally receive only light use. This will aid in distributing livestock away from areas where we normally receive heavy use. Because salt grounds are areas of high cattle concentration and impact, salt will not be placed in the same area each year. Salt will be placed at least fifty (50) yards away from the area used the previous year. No salt ground will be used more than one year out of four. Salt should be moved or removed from the areas where proper utilization has occurred and placed in the desirable area for the cattle to move to, in conjunction with changing water availability.

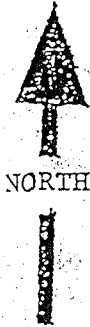
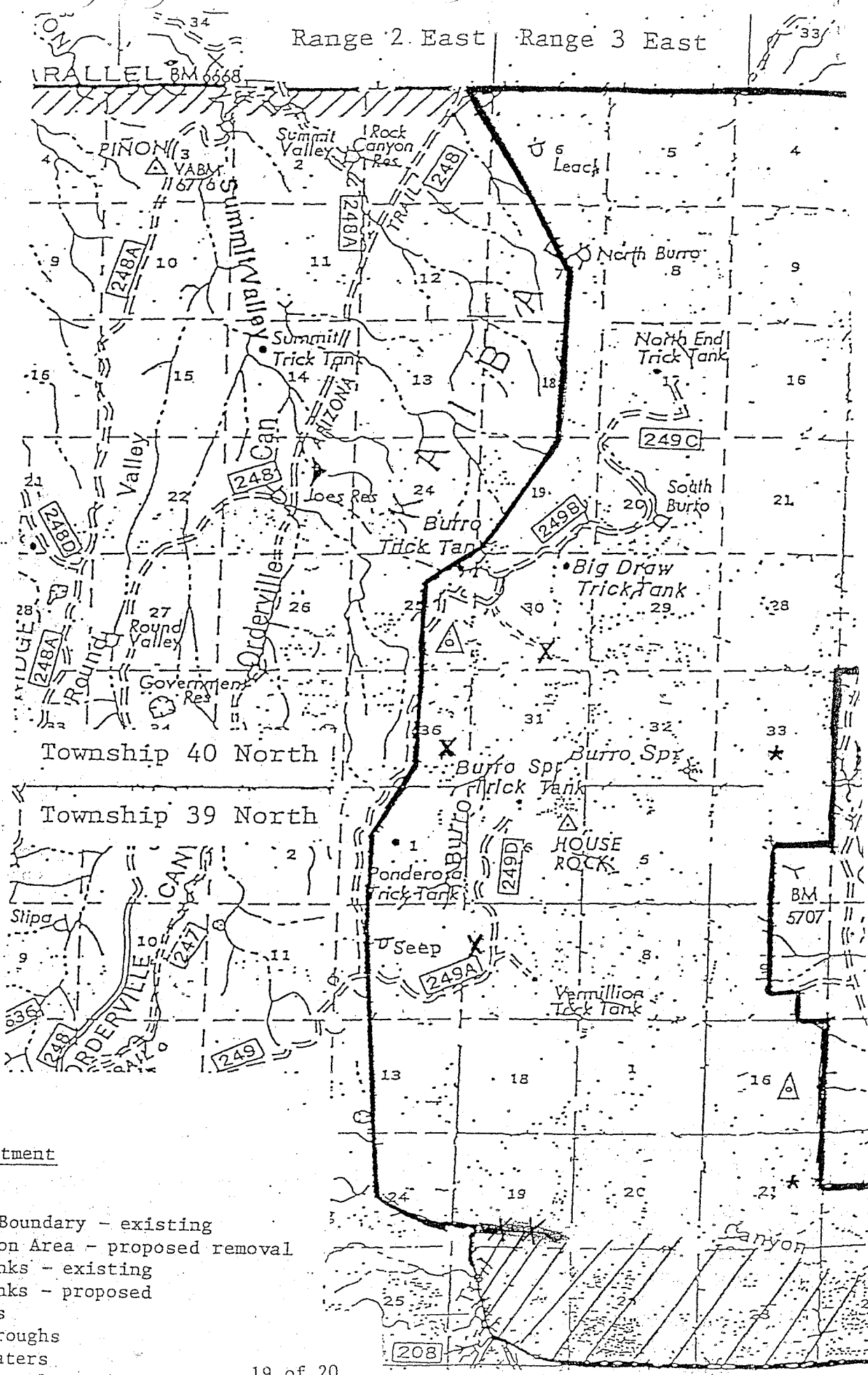
## IV. MONITORING

Forage production and utilization will be monitored for four years to confirm the livestock carrying capacity of the range, and to determine if ground cover is increasing. This monitoring will be based on the key area concept, whereby monitoring of production and utilization will occur in the key areas where the greatest impact or use by cattle is likely to occur. This will include monitoring in areas such as the pinyon/juniper pushes, and in the vicinity of developed waters (key areas for monitoring are indicated on the map in the Appendix).

Condition and trend monitoring will be done before the 1995 grazing season, and again at the end of the fourth grazing season after full implementation of this AMP, and will occur at the permanent bench marks.

The permittees will be/are invited to accompany Forest officers during any of the monitoring described above.

The Forest Service will also monitor to assure that other terms and conditions of the Term Grazing Permit, the Allotment Management Plan, and the Annual Operating Plan are being followed.



Burro Allotment  
Legend

- Allotment Boundary - existing
- /// Trail Canyon Area - proposed removal
- ∩ Earthen Tanks - existing
- X Earthen Tanks - proposed
- Trick Tanks
- \* Pipeline Troughs
- △ Wildlife Waters
- \*\* Proposed Fenceline