

Brady Range Allotment

Allotment Management Plan

Prescott National Forest

Bradshaw Ranger District

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Introduction

The Brady Allotment Grazing project is located on the Bradshaw Ranger District of the Prescott National Forest and involves the area approximately 11,070 acres (GIS) west of Mayer, Arizona. The project area is situated in T 12 N, R 1 W and R 1 E. Gila and Salt River Meridian.

Goals and Objectives of Management

Desired conditions for this project are derived from the general Prescott Forest Plan goals of “managing forest lands with a primary emphasis on healthy, robust environments with productive soils, clean air and water, and diverse populations of flora and fauna.

Resource goals and objectives on the Brady Allotment are:

- Protect and improve soil resources to sustain long-term productivity where the potential exists.
- Restore and maintain watershed in satisfactory condition.
- Manage for diverse populations of flora.
- Improve all riparian areas and maintain in satisfactory condition with 3 age-classes of woody riparian species where potential exist.
- Hydrologic function that contributes to maintenance/improvement of state water quality standards.
- Manage for vegetative communities of diverse composition that provide for watershed health, wildlife habitat, and forage for herbivores.

Grazing Management Strategy

Grazing Period/Duration

- Permitted livestock: permitted use will not exceed 130 cattle and 2 saddle-horses (792 Head Months) for October 1 to March 31 (a six month winter season of use).
- The allotment's grazing management systems will be designed to incorporate growing seasons of rest or deferment to provide for grazed plant recovery. Livestock use in pastures will be rotated annually so that the pastures are not used the same time of season every year.
- Specific dates of use and numbers of livestock will be determined using an adaptive management process based on monitoring of the allotment's resource conditions and comparison of management objectives. These dates and numbers will be designated within the allotments AOI and authorized in the annual grazing application and validated in the Bill of Collection.
- Annual authorized livestock numbers will not exceed the allotment's carrying capacity; determined by forage and water availability found at the end of the current year's growing season. Stocking will be adjusted annually within the range of permitted numbers (not to exceed 792 head months).

- Grazing will occur through a deferred rotational grazing system between six pastures.
- The following pastures of the Brady Allotment have been identified not to be grazed:
 - Pine Flat pasture will not be grazed until watershed conditions improve.
 - Watershed Pasture would not be a regular part of the rotation until soil and hydrologic conditions improve and stabilize.
 - Turkey Creek Pasture also on the Brady Allotment would not be grazed until riparian conditions improve.
- Annual authorized livestock numbers will be based on current available water and forage and predicted forage production for the year.
- Adjustments to the annual authorized livestock numbers (increase or decrease) may occur during the grazing year, and will be initiated through Annual Operating Instructions (AOIs).

Grazing Frequency and Timing

- The Brady Allotment's grazing rotation system will continue to emphasize allotment-wide summer growing season deferment in order to provide for grazed plant re-growth and improved plant health.
- Timing of livestock use will be determined through an assessment of adequate available forage. Pasture moves will be directed by utilization monitoring and management objectives specified in the allotment's Allotment Management Plan (AMP) and AOI.
- Generally pastures will be grazed only once during the grazing year. However, if the need arises to provide rest (or deferment) for other pastures, a pasture may be used twice provided there has been sufficient vegetative growth/re-growth and grazing is managed within the intensity and utilization guidelines.

Grazing Intensity

- Forage utilization on the upland forage will be targeted at 40% in pastures used during the active growing seasons February and March, which means that sufficient regrowth and plant recovery of grazed herbaceous forage plants are expected prior to the end of the summer growing season.
- Livestock grazing during months (October through January) where slow or no herbaceous growth occur will be managed at moderate (41 to 50%) use intensity on key herbaceous species identified within key areas on the allotment.
- Sites identified with reduced soil function and/or reduced herbaceous condition will be managed for light use (0-30%) during the growing season and will not exceed moderate use (41-50%) during the dormant season. Sites identified with a loss of soil function and poor herbaceous condition will be managed for incidental use.
- Livestock grazing utilization levels on upland shrubs will be managed 50% of available leaders.
- Proper allowable use within riparian areas will not exceed 20 percent on woody species.

Grazing Monitoring

Two types of monitoring will be used, implementation and effectiveness monitoring. Both qualitative and quantitative monitoring methods will be used in accordance with the Interagency Technical References, Region 3 Rangeland Analysis and Management Training Guide, and the Region 3 Allotment Analysis Handbook.

1. **Implementation monitoring** will be conducted by the Forest Service and/or permittee and may include but is not limited to: livestock actual use data, grazing intensity evaluations during the grazing season (within key and critical areas), utilization at the end of the growing season (within key areas), and visual observation of vegetation and ground cover.
 - **Critical Areas:** (Defined as: *An area which must be treated with special consideration due to the inherent site factors, size, location, condition, values, or significant potential conflicts among users*).
 - Riparian areas and springs across the allotment.
 - Watershed Pasture's erosion control structures and immediate surrounding area.
 - **Key Areas:** (Defined as: *A relatively small portion of a range, selected because of its location, use, or grazing value as a monitoring point for grazing use. It is assumed that key areas, when properly selected, reflect the over-all acceptability of current management over the range and serve as a representative indicator sample of range conditions, trend and degree of grazing use.*)
 - Key areas for the allotment and individual pastures will be determined in the near future by the Forest Service and the grazing permittee and ranch manager.
2. **Effectiveness monitoring** to evaluate the success of management in achieving the desired objectives will occur within key areas on permanent transects at an interval of ten (10) years or less. Effectiveness monitoring may also be conducted if data and observations from implementation monitoring (annual monitoring) indicate a need. Initial baseline monitoring will occur.

Adaptive Management

If monitoring indicates that resource objectives are not being achieved, management will be modified in cooperation with the permittee. Adaptive management allows the Forest Service to adjust: the timing, intensity, frequency and duration of grazing; the grazing management system, and livestock numbers. If adjustments are needed, they are implemented through the Annual Operating Instructions. Adaptive management will also allow for the optional construction of rangeland improvements if they have been identified and are determined, through monitoring, to be necessary for achieving resource objectives. An example of a situation in which adaptive management may be utilized is prolonged drought.

Livestock Distribution Aids

Application of standard management practices such as salting, herding, and controlling access to water to achieve proper distribution or lessen the impact on areas which are sensitive or are natural concentration areas will be applied by the permittee.

Protein, salt, and other supplements will not be placed within $\frac{1}{4}$ mile of water or any identified sensitive plant population or areas with a loss of soil function.

Range Improvements

All new fencing and reconstruction of old fence will be built to LRMP standards (LRMP, page 35) to provide for wildlife passage through the fence. At a minimum, this will be a 4-strand fence with a smooth bottom wire 16 inches off the ground and a total fence height of 42 inches or less with a minimum spacing between the top wire and second wire of 12 inches.

Proposed New Improvements:

1. Structural; Chalk Windmill Pipeline. Extend existing the pipeline at Chalk windmill into adjacent pastures within the allotment if analysis proves that this investment will benefit resource and livestock management objectives.
2. Non-Structural; None planned at this time.

Range Improvement Maintenance Schedule

All existing range improvements are shown on the allotment map and range improvement inventory sheets of the permit. The grazing permittee is responsible to maintain all improvements assigned to the term permit.

All maintenance must be done annually whether the allotment is actually grazed or not.

Maintenance must occur throughout the season and cannot be a one-time action.

Damage resulting from big game, wind, other acts of nature, or human caused actions, must be repaired in a timely manner so as to ensure the integrity of the structures.

All maintenance of exterior fences must be completed prior to turn on each year. (It is the responsibility of the permittee to ensure that the necessary coordination occurs between adjacent allotments to ensure maintenance is completed in a timely manner).

Mitigation Measures

Soil and Water

The object is to mitigate soil and water impacts from livestock grazing. Best Management Practices for soil and water protection would apply to the Proposed Action and would be incorporated into the allotment management plans (See attached Appendix 1 – BMPs).

Practices include but are not limited to:

- Preparation of an annual operating procedure with the permittee to allow for consideration of current allotment conditions and management objectives.
- Periodic field checks to identify needed adjustments in season of use and livestock numbers, forage utilization, assessment of rangeland to verify soil function, vegetation health and trend.
- Application of standard practices such as salting, herding, and controlling access to water to achieve proper distribution or lessen the impact on areas which are sensitive or are natural concentration areas
- Grazing pastures with riparian ecosystems primarily during plant dormancy periods.
- Gully erosion control structure maintenance in the Watershed Pasture of the Brady Allotment.

Wildlife/Rare Plants

Wildlife/Rare Plants mitigation measures are important to maintain habitat and population needs. Relevant mitigation measures include the following:

- All new or reconstructed fencing would be built to accommodate wildlife passage using a 4-strand fence with a smooth bottom wire 16 inches off the ground and a total fence height of 42 inches or less.
- All new or reconstructed water developments would include wildlife access and escape ramps.

APPENDIX 1

BEST MANAGEMENT PRACTICES

Soil and water conservation measures are means to comply with the Non-Point Source Section of the Clean Water Act and the Intergovernmental Agreement (IGA) signed by the Forest Service (R3) and the Arizona Department of Environmental Quality (ADEQ) (Jolly et al, 1990). As per the IGA, the most practical and effective means of controlling potential non-point source pollution is through the development of Best Management Practices (BMPs). The general BMP categories were largely derived from the Forest Service Handbook but were supplemented and modified to meet project needs. The number affiliated with each BMP references Southwestern Region FSH 2509.22.

The following BMPs will be employed. Practice numbers and titles are followed by a brief explanation of site-specific application plans.

22.0 Range Management

The development of the proposed Alternative considered soil and water conservation practices. These practices are integrated in the management actions of the proposed action. The management parameters considered for soil and water conservation practices utilize the adaptive management concept to achieve attainable desired conditions. Some management strategies considered are: assigning stocking levels, improving livestock distribution, creating deferred and rest rotations (as needed), setting utilization standards, and adjusting season and duration of use.

Range readiness evaluations and pasture move determination would integrate and strive for attaining/maintaining the following Vegetation Ground Cover -VGC levels (effective litter and basal cover) to improve and help maintain functional soil and hydrologic conditions:

- Chaparral 40-60 % VGC level
- Ponderosa Pine 60-80% VGC level

22.1 Range Analysis, Allotment Management Plan, Grazing Permit System, and Permittee Operating Plan.

An interdisciplinary approach was used in an analysis of alternatives. The forest plan and other policy and procedural guidance were reviewed. The scope of the project was narrowed to livestock grazing management and included effects on vegetation, soils/watershed, and wildlife. The chosen alternative will be incorporated into 10-year term Permits for each allotment analyzed. Annual operating instructions will be utilized to implement the permits.

22.11 Controlling Livestock Numbers and Season of Use.

Livestock will be managed to respond to fluctuations in weather, and resultant variances in forage production. Stocking levels will be adjusted up or down based on Rangeland Health Inspections and/or Soil Condition Field Sheet. Season of use is rotated among pastures generally using a deferred and/or rest rotation system and utilization guidelines will be employed.

These pastures riparian ecosystems would primarily be grazed during plant dormancy periods. All the Brady Allotment pastures would concentrate on dormant use to meet all resource concerns.

22.12 Controlling Livestock Distribution.

Pasture fencing and natural barriers are used to control the distribution of grazing on all allotments. Distribution within each pasture occurs by controlling access to water, by herding, and by locating salt to encourage use of side slopes or other areas of unused forage.

Riparian grazing would primarily occur during the dormant season. In some instances, non-dormant grazing may occur when conditions would encourage good livestock distribution in the uplands.

22.13 Rangeland Improvements.

Existing waters and fences will be reconstructed and maintained as needed. Adaptive management strategies may lead to constructing new facilities in order to achieve the desirable attainable effects.

22.14 Determining Grazing Capability of Lands.

The analysis focused on the effects from livestock grazing. Adaptive management strategies would continue to be adjusted ensures soil and water conservation practices are employed to achieve desired conditions.

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- Turkey Creek Pasture also on the Brady Allotment would not be grazed until riparian conditions improve.

22.15 Revegetation of Areas Disturbed by Grazing Activities.

Revegetation will occur in conjunction with the erosion control structure maintenance in the Watershed pasture of the Brady Allotment. No revegetation of grazed areas is expected to be necessary in other areas. Natural vegetation expansion resulting from improvements in livestock management and timing of grazing use will result in desired conditions.

22.16 Erosion Control Structure Maintenance.

The Watershed Pasture of the Brady Allotment has many large continuous gully systems that are located in a valley bottom with deep, alluvium soils that are severely compacted. This has resulted in unsatisfactory soil conditions and a non-point pollution source contributor to water quality degradation. The site has undergone previous erosion control measures.

The erosion control measures would entail ripping the compacted soils, re-contouring the landscape associated with the gullies, newly constructing and reconstructing erosion control structures and revetments, seeding and mulching, and placing barricades to discourage dispersed recreation and social roads in sensitive watershed areas. The social roads and dispersed recreation is a risk to watershed function because it is contributing to soil and water quality degradation. Their value is limited because these are unauthorized social roads and the dispersed recreation sites are causing unacceptable degradation to the resources. The Mayer-Goodwin County Road (67) and Forest Road 87B are within the pasture but would not be impacted by the restoration efforts.

25.2 Evaluation of Cumulative Watershed Effects.

The cumulative effects for soils, water quantity/quality, and riparian ecosystems were analyzed from a watershed scale.

Range Improvement Installations

The following BMP's provide general guidelines for newly constructed range improvements. Range improvements may be constructed as an adaptive management technique.

24.22 Special Erosion Prevention Measures on Disturbed Land

All areas of surface disturbance will be treated following completion to prevent erosion. Areas will be ripped or scarified, and smoothed or sloped to return the areas to its natural contours, if deemed necessary.

24.16 Streamside Management Zone

All areas within 150 feet of a drainage are in a streamside management zone. These areas require special soil and water conservation prescription prior to implementation.

25.16 Soil Moisture Limitations

All operations will be conducted during periods when the probabilities for precipitation, wet soils, and runoff are low.

25.18 Revegetation of Surface Disturbed Areas

All areas that have disturbance will be evaluated to determine if reseeding is necessary or if natural recruitment is adequate. TES will be used to determine the appropriate grass seed specification.

24.3 Slash Treatment in Sensitive Areas

All areas will be mulched with vegetation slash, certified weed free hay, or any other material deemed appropriate

24.14 Protection of Extremely Unstable Lands

Range improvement installation locations will avoid unstable lands. Unstable lands that are unavoidable will require special erosion control measures.

41.25 Maintenance of Roads

Road maintenance will concentrate on improving drainage. Road drainage measures will not channel run-off directly into stream courses. This includes out-sloping the road and maintaining leadoff ditches. Roadwork will not occur during wet or storm conditions.

31.0 Fire Recovery

Recovery/Establishment: Livestock use will not be permitted until the soils and vegetation have recovered (USDA & USDI, 2002).

Grazing Management After Recovery/Establishment Period: An evaluation is required at the end of the second growing season to determine if additional practices are needed (USDA & USDI, 2002).