

**2019
Rain Tank
Allotment Management Plan**

**Tusayan Ranger District
Kaibab National Forest**

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Agreed to/
Reviewed by: _____ Date _____
Felicia Siyuja
Rain Tank Cattle Company, Inc.

Approved by: Debra Mollet Date 7/5/2019
Debra Mollet, District Ranger
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I. Introduction

A. Decision Notice and Finding of No Significant Impact

This Allotment Management Plan (AMP) incorporates management direction from the Decision Notice and Finding of No Significant Impact (DN/FONSI) for Rain Tank Allotment signed November 17, 1997 by Renee C. Thakali, District Ranger, Tusayan Ranger District, Kaibab National Forest. This decision reauthorizes the grazing and management of cattle on the Rain Tank Allotment.

B. Allotment Description

Rain Tank Allotment is approximately 63,500 acres in size, with 62,600 acres falling under Forest Service management, and is located just west of Tusayan, AZ, east of the Havasupai Indian Reservation and south of the Grand Canyon National Park. Specifically the allotment includes the following legal descriptions:

Sections	Township	Range
1-3, 10-15, 23 and 24	T29N	R1E
3-10, 16-20	T29N	R2E
1-4, 10-15, 22-27, 34-36	T30N	R1E
1-24, 26-34	T30N	R2E
6-8, 16-23, 25-36	T31N	R1E
1-4, 9-16, 20-29, 32-36,	T31N	R1W
28, 33-35	T32N	R1W

The topography throughout consists of extensive consolidated sedimentary rock formations with incised canyons, high plateaus, and isolated volcanic mountains. The climate is semi-arid with precipitation ranging from 14-18 inches per year, and an estimated mean of 16 inches. The precipitation pattern is bimodal with precipitation events January-March and again during the summer monsoon season, July-September.

II. Management

A. Livestock Management

The 1997 DN/FONIS reauthorized the grazing of cattle on the Rain Tank Allotment for 2,440 animal unit months (AUM) which is equivalent to 270 adult cattle (385 yearling cattle) for nine months (March 1-November 30). Due to the current condition of the allotment, including forage production, and the length of time that has passed since the analysis was conducted, the current permit will be issued with the following direction:

i. Permitted Numbers

Permitted numbers for the Rain Tank Allotment will be a maximum of 1,970 animal unit months (AUM) which is equivalent to 280 adult cattle (400 yearling cattle) for seven months April 1-October 31.

ii. Annual Authorized Livestock Numbers

Annual authorized livestock numbers will be based on existing conditions, available water and forage, and predicted forage production for the year. Adjustments to the annual authorized livestock numbers and AUMs (increase or decrease) may occur during the grazing season, based on conditions verified by range inspections. Annual authorized livestock numbers will not exceed permitted numbers and therefore will always be between 0 and 1,970 AUMs.

iii. Permitted Season of Use

The permitted period of use for the Rain Tank Allotment will be seven months. The use period will normally begin on April 1 and end October 31 of each year.

iv. Grazing Management

Grazing will occur using a deferred rotation grazing system. Generally pastures will be grazed only once during the grazing season. The Responsible Official will only authorize a second grazing period for a previously grazed pastures during the grazing season when conditions warrant and it has been determined through range inspections that soil, water, and vegetation conditions are appropriate. Utilization guidelines for the unit will not be exceeded as a result of a second grazing period.

In some cases, unit re-entry may be needed to facilitate livestock movement on the allotment such as trailing livestock from one unit to another. This is not the same as a second grazing period. Unit re-entry for livestock movement purposes will be allowed provided the livestock are actively herded through the previously grazed unit.

v. Mitigation Measures

The following mitigation measures are in place to minimize effects of livestock management on the Rain Tank Allotment.

a. Forage Utilization Guidelines

Utilization is defined as the portion or degree of current year's forage production that is consumed or destroyed by animals (including insects) compared with the total amount of forage produced during the year. Utilization is measured at the end of the growing season when the total annual production can be accounted for and the effects of grazing in the whole management unit can be assessed.

Seasonal Intensity (seasonal utilization) is defined as above but is measured at the end of the grazing period. Seasonal intensity (seasonal utilization) differs from utilization because it does not account for subsequent growth of either grazed or un-grazed plants.

The 1997 DN/FONSI did not differentiate between utilization and seasonal intensity (seasonal utilization) when determining utilization guidelines, therefore, the guidelines outlined in the DN/FONSI will be applicable for both utilization and seasonal intensity (seasonal utilization).

b. Salting, Mineral/Nutrient Supplements

Mineral and protein supplements (typically salt and protein blocks) are generally necessary in range livestock operations and can be used to improve livestock distribution. The following guidelines will be used when placing salt and protein blocks on the allotment:

1. In general, salt and protein blocks should not be placed within $\frac{1}{4}$ mile of water or riparian areas.
2. To aid in livestock distribution, salt and protein blocks should generally be placed in areas of light forage utilization.
3. Salt and protein blocks should not be placed in areas of depleted range, erosive soils, or sensitive plant or animal species.
4. Salt and protein blocks are not to be placed in restricted (pine-oak, mixed conifer habitat) or protected (steep slopes) areas to mitigate for effects to northern goshawk and MSO.
5. Salt and protein blocks will be located away from known cultural resources.

6. No more than three blocks (50 lb. blocks) of salt/protein will be placed at any locations at any one time.
7. The use of portable salt/protein block containers is encouraged but not mandatory.

c. Temporary Livestock Water

Temporary sites for livestock water may be needed and should be used as necessary to assist in livestock distribution. The following requirements will apply to temporary livestock water locations:

1. Coordinate with the District Rangeland Management Specialist at least 45 days prior to the use of the temporary livestock water to identify locations and access routes.
2. To aid in livestock distribution, the temporary livestock water locations should generally be in areas of light forage utilization.
3. Temporary livestock waters should not be located in areas of depleted range, erosive soils, or sensitive plant or animal species.
4. Temporary livestock waters will be located away from known cultural resources.
5. Temporary livestock water locations will be moved, or will no longer be supplied with water, when the desired forage utilization levels have been reached in the area surrounding the temporary livestock water (utilization levels determined ¼ to ½ mile from the temporary water).

d. Invasive and Noxious Weeds

1. Incorporate the Best Management Practices (BMPs) for noxious or invasive weeds as listed in the Appendix B of the 2005 Final Environmental Impact Statement for Integrated Treatment of Noxious or Invasive Weeds into all management actions.
2. Spread of potential and existing noxious or invasive weeds by heavy equipment used in the maintenance or construction of structural range improvements will be prevented by cleaning the heavy equipment before entering the area and by avoiding weed infestations during travel.

e. Cultural and Historic Resources

1. Any ground disturbing range developments within the allotment will comply with the existing Region 3 Programmatic Agreement with the Arizona State Historic Preservation Officer, dated December 24, 2001, and shall constitute and undertaking for Section 106 compliance.
2. Prior to ground-disturbing activities, archaeological sites will be identified and marked for avoidance. If previously unrecorded cultural resources are encountered during ground-disturbing activities, all work must cease in the immediate vicinity of the discovery, and steps will be taken to secure the site. Work will not resume until the District or Forest archaeologist has been notified and has determined an appropriate course of action.
3. Management practices which tend to concentrate livestock (and most likely wild ungulates), such as placement of salt or water troughs, will be located away from known cultural sites.
4. Monitoring/site inspections within the grazing allotment will continue as part of the day to day activities of Forest archaeologists.

B. Additional Management Information

This section includes topics that were not addressed in the 1997 DN/FONSI. These topics are addressed in this AMP to inform the reader, or in the case of the Travel Management Rule, update management to include new direction that has been implemented since the Rain Tank Allotment DN/FONSI was signed in 1997.

i. Adaptive Management

Adaptive management will continue to be used on the allotment to maintain and improve the vegetation, soil and watershed conditions to meet desired conditions. Adaptive management is designed to provide sufficient flexibility to adapt to changing circumstances. If monitoring indicates that desired conditions are not being achieved, management will be modified in cooperation with the permittee and other resource specialists. Changes will be implemented through the AOI and may include administrative decisions such as; the specific number of livestock authorized annually, specific dates of grazing, class of animal or modification in rotation of the herd. Such changes would not exceed the limits for timing, intensity, duration and frequency defined in the DN/FONSI.

ii. Annual Operating Instructions

Annual Operating Instructions (AOIs) are issued on an annual basis prior to livestock entering the allotment and are part of the term grazing permit, Part 2, Section 8, paragraph (a). AOIs will be developed cooperatively with the permittee and will include instructions and/or information related to the following: authorized livestock numbers; period of use; herd rotation schedule; drought management; grazing strategy; allowable utilization standards; seasonal utilization standards; monitoring; mitigation measures; range improvements; salting/protein block practices; portable water hauling; fire protection; and motor vehicle use/restrictions. As needed, other instructions may be included in the AOI. The AOI may be amended during the grazing season due to changes that affect resource conditions, management needs, or other unexpected changes affecting the allotment. Developing the AOI each year and making necessary adjustments throughout the grazing season provides the needed flexibility for livestock operations in the Southwest.

iii. Drought Management

Allotment management may need to be adjusted during drought conditions. Following the Region 3 supplement to the Grazing Permit Administration Handbook 2209.13-2006-1, the Standardized Precipitation Index (SPI) combined with site-specific information will be used to assess drought conditions and determine necessary adaptive management alternatives. Forest Service Region 3 and Kaibab National Forest drought management policies identify numerous adaptive management actions for mitigating grazing effects during drought. Any adaptive management actions necessary due to drought conditions will be decided on by the Responsible Official in consultation with the Rangeland Management Specialist and the grazing permittee. The following specific management actions may be used on the Rain Tank Allotment during periods of drought:

1. Authorized AUMs may need to be reduced. Reductions may be necessary prior to the permitted season of use and/or during the permitted season of use.
2. Season of use may need to be shortened. Depending on the severity of the drought and authorized AUMs, a reduced grazing season may be necessary.
3. Unit use periods may need to be shortened.
4. Units would not be grazed twice during the same grazing season and this may ultimately result in an early exit from the allotment.
5. Units may need complete rest from livestock use. How long a unit, or units, would be rested depends on the severity of the drought.
6. Utilization and/or seasonal utilization (grazing intensity) levels may need to be reduced. Depending on the severity of the drought and the authorized AUMs, reduced utilization and or

seasonal utilization (grazing intensity) utilization levels would likely result in shortened use periods and may ultimately result in an early exit from the allotment.

7. Lack of livestock water, or poor distribution of livestock water, may result in reduced unit/allotment use periods.
8. Livestock use of planned rested units due to drought would not be authorized for that grazing season.

iv. Travel Management Rule

On July 9, 2010, the Kaibab National Forest began implementation of the Travel Management Rule. The Travel Management Rule requires the designation of roads, trails, and areas open to motor vehicle use and these routes are identified on the Motor Vehicle Use Map. Implementation of the Travel Management Rule requires active management of all motorized use, including use related to permitted grazing activities. Motorized travel off the designated road system, including off-road access, by grazing permit holders will be based on the need to carry out required management practices necessary to comply with the terms and conditions of the Term Grazing Permit. Examples of required management practices include, but are not limited to: the repair and maintenance of structural range improvements; transport and placement of mineral and protein supplement; herding of livestock; and tending to sick or injured animals. Legitimate motorized use off the designated road system, including off-road access, for conducting activities required under the Term Grazing Permit will be authorized as follows:

1. **For motorized use with ATVs, UTVs, motorcycles, and full-size pickup or smaller vehicles (curb weight less than 8,000 pounds):** Grazing permittee must obtain a grazing allotment specific Restricted Road, Trail and Off-Road Administrative Use Permit. Motorized vehicle use off the designated road system will be limited to only that use which is necessary for compliance with the terms and conditions of the Term Grazing Permit.
2. **For motorized use with larger vehicles (curb weight greater than 8,000 pounds or larger than a full-size pickup) or any heavy equipment:** Grazing permittee must obtain a site specific Restricted Road, Trail and Off-Road Administrative Use Permit. Motorized vehicle use off the designated road system will be limited to only that use which is necessary for compliance with the terms and conditions of the Term Grazing Permit.
3. To request site specific Restricted Road, Trail and Off-Road Administrative Use Permit, the grazing permittee must provide their Rangeland Management Specialist with the project details a minimum of 30 days prior to the proposed starting date for the permit.
4. A copy of the approved Restricted Road, Trail and Off-Road Administrative Use Permit must be with the vehicle operator while operating the vehicle off the designated road system.
5. A Permit Placard must be attached to all permitted vehicles while operating off the designated road system.
6. Off-Highway vehicles (ATVs, UTVs, and motorcycles) used for conducting activities required under the Term Grazing Permit must be licensed and permitted in accordance with Arizona State law.
7. The Motor Vehicle Use Map for the Coconino National Forest identifies certain roads as "Roads Open to Highway Legal Vehicles Only". These roads are open only to motor vehicles licensed under State law for general operation on all public roads within the state. Grazing permittees operating motor vehicles on these roads must comply with the legal requirements. Operating a motor vehicle off the designated road system to avoid the legal requirements of "Roads Open to Highway Legal Vehicles Only" is not permitted.
8. Grazing permittees will utilize motorized vehicles off the designated road system in a manner that will not result in damage to soil, watershed, vegetation, wildlife, heritage, or other forest resources.

9. Failure to comply with the conditions of the Restricted Road, Trail and Off-Road Administrative Use Permit may result in the immediate cancellation of the Restricted Road, Trail and Off-Road Administrative Use Permit and may result in the issuance of a Notice of Non-Compliance for violation of the terms and conditions of your Term Grazing Permit.
10. Grazing permittees that do not obtain a Restricted Road, Trail and Off-Road Administrative Use Permit are required to operate motorized vehicles only on the designated road system. Operating a motorized vehicle off the designated road system without a valid Restricted Road, Trail and Off-Road Administrative Use Permit will result in the immediate issuance of a Notice of Non-Compliance for violating the terms and conditions of your Term Grazing Permit (Part 2, Section 8a). A Notice of Non-Compliance may result in Term Grazing Permit suspension or cancellation proceedings.

III. Range Improvements

A. Existing Structural Range Improvements

Structural range improvements assigned to you for maintenance are listed in your term grazing permit and may also be identified on the Allotment Map. These improvements are to be fully maintained annually to comply with permit requirements listed in Part 2, Section 8(i) of the term grazing permit. The grazing permittee is responsible for all maintenance materials, supplies and equipment necessary to properly maintain all range structural improvements. When possible, the Forest will replace range structural improvement materials and/or supplies at the end of the improvement's life: when maintenance and repair is no longer feasible to keep the improvement operating properly. The following specific guidelines apply to the operation, maintenance and reconstruction of existing structural range improvements:

1. The permittee will notify the District Rangeland Management Specialist at least 60 days prior to the beginning of any maintenance work that requires the use of heavy equipment.
2. Any construction of new or replacement fencing will be done in accordance with specifications developed to facilitate wildlife passage.
3. The spread of potential and existing noxious or invasive weeds by heavy equipment used in the maintenance or construction of structural range improvements will be prevented by cleaning the heavy equipment before entering the area and by avoiding weed infestations during travel.
4. Prevention measures from the State of Arizona Aquatic Invasive Species Management Plan (AZGFD 2001) will be employed to avoid spreading aquatic invasive nuisance species and pathogens during tank cleaning activities.
5. Prior to ground disturbing activities, archaeological sites within the project area will be identified and marked for avoidance. If any new sites are discovered during maintenance or reconstruction activities, they will be reported to the District or Forest archeologist and ground-disturbing work will be halted.
6. If heavy equipment is needed to maintain or reconstruct structural range improvements, the work will only occur when the soils are dry enough to support heavy equipment without creating compaction or ruts. Exceptions may be made in emergencies or when higher soil moisture is needed as part of the maintenance or reconstruction activity.
7. Any maintenance you perform must conform to the standards specified by your District Rangeland Management Specialist.

In addition to the guidelines provided above, your Rangeland Management Specialist may provide additional standards/requirements for the operation, maintenance, and reconstruction of existing structural

range improvements. Any operation, maintenance, or reconstruction activities you perform must conform to the standards specified by your District Rangeland Management Specialist.

B. New Structural Range Improvements

Construction of new structural range improvements was not authorized in the 1997 DN/FONSL.

IV. Monitoring

Monitoring is necessary to determine if changes need to be made to the management of the Rain Tank Allotment, and will be conducted by Forest Service personnel, cooperative agencies, and/or the permittee. Frequency of monitoring is determined based on the activity. Two types of monitoring will be used for monitoring resource conditions and livestock management; implementation monitoring 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.

A. Implementation Monitoring

Implementation monitoring will be conducted on an annual basis, or when needed, and will include the following:

i. Permit Compliance

Throughout each grazing season Forest Service personnel will inspect the Rain Tank Allotment to determine if the terms and conditions of the term grazing permit, this AMP, and the AOI are being followed.

ii. Livestock Actual Use

The permittee will keep accurate records regarding actual livestock numbers and unit use dates on the form supplied as part of the AOI. This form will be submitted to the Forest Service at the end of the grazing season.

iii. Range Readiness

Each spring Forest Service personnel and/or the permittee will assess range readiness prior to livestock entering the allotment. The allotment is generally considered ready when cool season grasses are leafed out, forbs are in bloom and brush and aspen are leafed out. These characteristics indicate the growing season has progressed to the point where root reserves have been replenished so that grazing will not seriously impact these forage plants. Range readiness monitoring will take place in key areas. Key areas are defined as "...a portion of range, which because of its location, grazing or browsing value, and/or use, serve as an indicative sample of range conditions, trend, or degree of use seasonally. A key area guides the general management of the entire area of which it is a part." Key areas will generally have the following characteristics: they will be approximately 20 to 500 acres in size; they will be located on productive soils with slopes less than 15%; they will have a plant community that is representative of the larger area; and they will generally be located 0.25 to 1.0 miles away from livestock water sources.

iv. Utilization and Seasonal Utilization

Utilization monitoring is used to determine if the utilization guidelines identified in section II.- Management above are not being exceeded, and is used to help determine if livestock should be moved to

another part of the allotment during the current grazing season, and/or to determine the herd rotation for upcoming grazing seasons. Data collected during utilization monitoring is also used to make long term management decisions. Utilization monitoring will be conducted at the end of the growing season, seasonal utilization monitoring will be conducted at the end of the grazing period. Utilization monitoring is conducted in key areas. See section IV. C. Range Readiness for a definition of key area.

v. Forage Production and Ground Cover

Forage production assessments will be made to determine stocking levels for the grazing season and will also be used during the grazing season to determine if adjustments in the stocking level should be made. Qualitative assessments of ground cover may also be made and used as an indicator of conditions and trend; observed changes may indicate the need to conduct effectiveness monitoring (condition and trend) prior to the scheduled interval.

vi. Allotment Inspection Reports

A written summary will be completed each year by Forest Service personnel to document the overall history of that year's grazing. This document will include a monitoring summary, livestock actual use, weather history, and a discussion of the year's accomplishments and issues and concerns. Information from this report will be used in preparing the following year's grazing plan.

B. Effectiveness Monitoring

Effectiveness monitoring will be used to evaluate the success of management in achieving the desired conditions. Effectiveness monitoring will occur within key areas on permanent transects at an interval of 15 years or less and will be accomplished collaboratively by Forest Service personnel, the grazing permittee and cooperating agencies. Effectiveness monitoring may also be conducted if data and observations from implementation monitoring indicate a need. Effectiveness monitoring will include the following:

i. Forage Production

Forage production surveys will be conducted using the best available methods at that time. Forage production data will be used as a tool to manage this allotment, but will not be the sole measurement to establish carrying capacity.

ii. Vegetation and Ground Cover Monitoring

1. Long term vegetation and ground cover monitoring plots are located on the Rain Tank allotment. These plots were established as Parker Three-Step monitoring clusters in the 1950s/1960s, most were converted to Pace Frequency transects and 1/10 acre ocular vegetation canopy cover plots starting in 2000.
2. The Pace Frequency method will be used to collect vegetation frequency and ground cover data. This data will reflect changes and trends in plant species abundance, plant species distribution and ground cover.
3. Ocular plant canopy cover plots (0.10 acre plots) will be used to document vegetation canopy cover by plant species. This data will allow for a comparison between existing conditions and the desired plant community conditions described in the Big Spring Environmental Assessment or Terrestrial Ecological Unit (TEU).

The monitoring methods identified for effectiveness monitoring may be changed or modified in the future as new methods are developed and/or the need arises for additional resource information. Any new monitoring methods adopted will be methods sanctioned and endorsed by the scientific and professional communities.