

A-1 Mountain Allotment Management Plan (AMP)

Flagstaff Ranger District

Coconino National Forest

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Date 12/13/2017

Agreed to/
Reviewed by: Laine E. Malouff
Laine Malouff
Permittee

Date 12-19-17

Approved by: Debra Mollet
Debra L. Mollet
District Ranger

Date 1/2/2018

DECISION SUMMARY

The environmental analysis of grazing use on the A-1 Mountain Allotment was required by the Rescission Act of 1995 and followed current guidance from Forest Service Handbook 2209.12, Chapter 90 (Grazing Permit Administration; Rangeland Management Decision Making). This analysis was completed in accordance with all applicable laws, regulations, policies and plans.

The Finding of No Significant Impact and Decision Notice for the A-1 Mountain Grazing Allotment was signed by Debra L. Mollet, Flagstaff Deputy District Ranger on June 6, 2017. Information specific to this Allotment Management Plan can be found in the Finding of No Significant Impact and Decision Notice and in the Project Record for the Environmental Assessment for the A-1 Mountain Grazing Allotment.

ANNUAL OPERATING INSTRUCTIONS

Annual Operating Instructions (AOI) will be issued prior to the beginning of each grazing season and are part of the Term Grazing Permit as indicated in 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; pasture grazing 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 climatic changes that affect resource conditions, management needs, or other unexpected changes affecting the allotment. Developing these plans each grazing season and making the necessary adjustments throughout the season as conditions change provides the needed flexibility for livestock operations in the Southwest.

ALLOTMENT MANAGEMENT

The A-1 Mountain Allotment is located northwest of Flagstaff and is roughly bounded by Interstate 40 on the south, the City of Flagstaff on the east, Fort Valley on the north, and the Maxwell Springs grazing allotment to the west. The A-1 Mountain Allotment contains approximately 6,448 acres: 5,085 acres of National Forest System lands; 1,313 acres owned by the City of Flagstaff; and 50 acres of privately owned lands. This Allotment Management Plan applies only to the National Forest System Lands within the A-1 Mountain Allotment. The remaining 1,363 acres within the A-1 Mountain allotment are managed by the City of Flagstaff (1,313 acres) and private landowners (50 acres).

Permitted Livestock Numbers

Permitted livestock numbers will be a maximum of 498 Animal Unit Months (AUMs) which is equivalent to 99 head of adult cattle for approximately five months.

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 498 AUMs.

Permitted Season of Use

The permitted season of use will be June 1 through October 31. As part of the adaptive management strategy, and depending on Allotment conditions, the grazing periods may vary in length allowing livestock to enter the Allotment as early as May 15 and/or remain on the Allotment until November 15. An extended season of use will only be authorized if it has been determined through range inspections that soil, water and vegetation conditions are suitable. If an extended season of use is authorized, the maximum permitted AUMs of 498 will not be exceeded.

Grazing Management

Grazing will occur using either a deferred rotation or a deferred-rest rotation management system, which will allow for plant growth and recovery. Having the option to use either the deferred rotation or deferred-rest rotation grazing system will allow the Forest to adjust management depending on monitoring and conditions. Additional grazing management guidelines include:

1. Generally pastures will be grazed only once during the grazing season. A second grazing period of a previously grazed pasture during the grazing season will only be authorized by the Responsible Official when conditions warrant and it has been determined through range inspections that soil, water and vegetation conditions are appropriate, and that utilization guidelines for the pasture will not be exceeded as a result of a second grazing period.
2. In some cases, pasture re-entry may be needed to facilitate livestock movement on the Allotment such as trailing livestock from one pasture to another. This is not the same as a second grazing period. Pasture re-entry for livestock movement purposes will be allowed provided the livestock are actively herded through previously grazed pastures.

Forage Utilization Guideline

Utilization is defined as the proportion or degree of current year's forage production that is consumed or destroyed by animals (including insects). It is a comparison of the amount of herbage left compared with the amount of herbage 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.

A management guideline of conservative use (30 to 40% forage utilization as measured at the end of the growing season) will be employed to maintain or improve rangeland vegetation and long term soil productivity. Allowable use guidelines take into account the cumulative effects of wildlife and livestock. Annual reductions in the forage utilization guideline may be necessary based on resource conditions.

Additional information regarding the Utilization guideline can be found in the Monitoring section of the Allotment Management Plan.

Seasonal Utilization Guideline

Seasonal utilization is defined as the amount of herbage removed through grazing or trampling during the grazing period. Seasonal utilization monitoring will occur within each of the main grazing pastures during, and/or immediately after, the period when livestock are grazing the pasture and will be used by the Forest Service and the permittee to determine actual pasture move dates.

Seasonal utilization will be managed to allow for the physiological needs of plants. For the A-1 Mountain Allotment, the Forest will manage for moderate seasonal utilization (up to 50%) in late spring and early summer months when sufficient opportunity exists for plant regrowth. During late summer and fall, seasonal utilization will be managed at the conservative level (30 to 40%) when the potential for plant regrowth is limited.

Additional information regarding the Seasonal Utilization guideline can be found in the Monitoring section of the Allotment Management Plan.

Pasture Grazing Periods

The actual grazing period within each pasture will depend on current growing conditions and the need to provide for plant recovery following grazing. The length of the grazing period within each pasture will also be dictated by the seasonal utilization guidelines. When the seasonal utilization guideline is met within a pasture, livestock will be moved to the next pasture.

Use of 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:

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 will be located away from known cultural resources.
5. No more than three blocks (50 lb. blocks) of salt/protein will be placed at any location at any one time.
6. The use of portable salt/protein block containers is encouraged but not mandatory.

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 to identify temporary livestock water locations and access routes for individual pastures prior to the grazing period.
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 $\frac{1}{4}$ to $\frac{1}{2}$ mile from the temporary water).

6. Escape ramps for small mammals and birds will be placed in all water troughs and open water storage tanks.
7. Temporary livestock water storage tanks and troughs will be removed by the end of the grazing season.

STRUCTURAL RANGE IMPROVEMENTS

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. 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. 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. Water will be left in permanent water troughs when cattle leave pastures.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.

Existing Structural Range Improvements to be Removed

The following structural range improvements are no longer needed for livestock management and/or allotment management and they will be removed. Once the structural range improvements have been removed, they will be removed from the record of structural range improvements for the allotment.

1. Remove approximately 0.5 miles of existing fence along the north side of the 006 Pasture and approximately 0.3 miles of existing fence along the west side of the 006 Pasture (see Appendix B, Figure 8 in the A-1 Mountain Range Management Project Environmental Assessment). Removing these fences will eliminate the 006 Pasture and the fenced water lane that provides livestock access to A-1 Lake Tank from the Belle pasture. The areas previously identified as the 006 Pasture and the water lane will become part of the A-1 Mountain Pasture.

New Structural Range Improvements

Prior to construction of any of the following new structural range improvements, National Historic Preservation Act Section 106 compliance must be completed. Additionally, construction of the structural range improvements listed below will follow site-specific guidelines issued by your Rangeland Management Specialist. Once constructed, all new structural range improvements will be assigned to the permittee for maintenance as specified in Part 2, Section 8(i) of the Term Grazing Permit.

1. Construct an approximately 200-foot x 200-foot permanent corral facility with a portable loading chute to facilitate movement of cattle onto and off the Allotment. The new corral will be located within, or immediately adjacent to, the water lot fencing that surrounds Fuller Tank (see Appendix B, Figure 12 in the A-1 Mountain Range Management Project Environmental Assessment).
2. Construct approximately 300 feet of 4-wire allotment boundary fence in the southeast corner of the West pasture as shown in Appendix B, Figure 10 of the A-1 Mountain Range Management Project Environmental Assessment. The existing fence is incorrectly located and will be removed. The new fence will extend south from the southwest corner of the Belle Spring private land parcel to the Railroad right-of-way fence. The proposed fencing will be constructed to specifications that facilitate safe wildlife passage.
3. Construct approximately 300 feet of a 3 or 4-wire pasture fence to close the gap in the Belle pasture/A-1 Mountain pasture fence created by removing the water lane fence identified in the "Existing Structural Range Improvements to be Removed" section. This new fence will extend approximately 300 feet east from the southeast corner of the 008 pasture and tie into the existing pasture fence between the Belle pasture and the A-1 Mountain pasture (see Appendix B, Figure 11 of the A-1 Mountain Range Management Project Environmental Assessment). The proposed fencing will be constructed to specifications that facilitate safe wildlife passage.

If through monitoring and range inspections it is determined that there is a need to improve livestock distribution and allotment management the following structural range improvement may be constructed:

4. Construct approximately 1.0 miles of a 3 or 4-wire pasture fence in the Fort Valley pasture to create a new pasture, the Fort Valley West pasture. The alignment of the proposed fencing is approximately along the north/south section line between sections 34 and 35 (Township 22 North, Range 6 East) as shown in Appendix B, Figure 9 of the A-1 Mountain Range Management Project Environmental Assessment. The proposed fencing will be constructed to specifications that facilitate safe wildlife passage.

DROUGHT MANAGEMENT STRATEGY

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 Coconino 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 A-1 Mountain Allotment during periods of drought:

- 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.
- 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.
- Pasture use periods may need to be shortened.
- Pastures would not be grazed twice during the same grazing season and this may ultimately result in an early exit from the allotment.
- Pastures may need complete rest from livestock use. How long a pasture, or pastures, would be rested depends on the severity of the drought.
- Utilization and/or seasonal utilization levels may need to be reduced. Depending on the severity of the drought and the authorized AUMs, reduced utilization and/or seasonal utilization levels would likely result in shortened use periods and may ultimately result in an early exit from the allotment.
- Lack of livestock water, or poor distribution of livestock water, may result in reduced pasture/allotment use periods.
- Livestock use of planned rested pastures due to drought would not be authorized.

MITIGATION MEASURES FOR SPECIAL STATUS SPECIES

Mexican Spotted Owl

Recovery habitat for the Mexican spotted owl exists on the A-1 Mountain Allotment. Within the recovery habitat area, forage utilization will be maintained at conservative levels (i.e. light to moderate grazing intensity).

No additional endangered, threatened, proposed, or candidate species or proposed or designated habitat occurs within the A-1 Mountain allotment.

RESOURCE PROTECTION MEASURES

Best management practices (BMPs) and other resource protection measures will be implemented to prevent the introduction and spread of invasive plants, to retain water in earthen stock ponds and troughs for wildlife, to protect heritage resources, and to protect public health and safety during project implementation. Specific design features include, but are not limited to, the following:

Range Management

- Implement grazing BMPs in alignment with Arizona Administrative Code R18-9-501. Grazing management and mitigation practices which can be considered for this allotment are described in the National Management Measures to Control Nonpoint Source Pollution from Agriculture published by EPA in 2003.
- At least 60 days prior to the start of maintenance of earthen stock tanks, the permittee is required to contact the Flagstaff Ranger District so that biological, noxious or invasive weed, and heritage surveys can be completed and any necessary mitigation measures for the protection of aquatic species can be implemented.
- Salt or mineral supplement location should be rotated annually and should avoid areas where livestock concentrations could cause excessive vegetation trampling, soil loss or disturbance to sensitive species or habitats. Salt and mineral supplements should not be placed closer than ¼ mile from a water source.
- Water will be left in permanent troughs when cattle leave the pastures per Forest Plan direction.

Wildlife, Fisheries, and Rare Plants

- Preventions measures from the State of Arizona Aquatic Invasive Species management Plan (AZGFD 2001 (a)) will be required to avoid spreading aquatic invasive nuisance species and pathogens during tank cleaning activities.
- Any construction of new fences or reconstruction of existing fences would be done in accordance with specifications developed to facilitate wildlife passage.
- All new and existing open storage tanks and drinkers will be fitted with entry and escape ramps for wildlife. These ramps will be built to current Bat Conservation International specifications and installation will be coordinated with both the range and wildlife staff.

Invasive and Noxious Weeds

- Incorporate the 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.
- Survey areas of proposed structural range improvements for noxious or invasive weeds prior to beginning construction activities. Noxious or invasive weed populations that may occur in areas of proposed structural improvements will be identified and treated if necessary.
- 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.

Soil and Watershed

- Maintenance work on existing structural range improvements and/or new construction of structural range improvements will be carried out when soils are dry enough to support heavy equipment, if needed, without creating compaction or ruts.

Cultural and Historic Resources

- 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.
- 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.
- 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 resources.
- Monitoring/site inspections within the grazing allotment will continue as part of the day to day activities of Forest archaeologists.
- To avoid adverse effects to an existing historic site, approximately 150 feet of fencing will be constructed around the site.

MONITORING

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. Monitoring frequency varies by each activity and will be accomplished collaboratively by Forest Service personnel, the grazing permittee, and cooperating agencies.

Implementation Monitoring

Implementation monitoring will be conducted on an annual basis and will include the following:

- **Permit Compliance:** Throughout each grazing season, Forest Service Range personnel will monitor activities on the allotment to ensure compliance with Permit terms and conditions, the Allotment Management Plan, and the Annual Operating Instructions.
- **Livestock Actual Use:** Permittee will keep accurate records regarding actual livestock numbers and pasture use dates on the form supplied as part of the Annual Operating Instructions. This form will be submitted to the Forest Service at the end of the grazing season.
- **Range Readiness:** Range readiness is assessed prior to the start of the grazing season by Forest Service Range personnel to determine if vegetative conditions are ready for livestock grazing. The range is generally considered ready for grazing once cool season

grasses have leafed out, forbs are in bloom, and brush and aspen have leafed out. These characteristics indicate the growing season has progressed far enough for plants to replenish root reserves so that grazing will not seriously impact the forage plants.

- **Seasonal Utilization:** Seasonal utilization monitoring will generally occur within each of the main grazing pastures during, or immediately after, the period when livestock are grazing the pasture. Seasonal utilization is defined as the amount of herbage removed through grazing or trampling during the grazing period. Seasonal utilization will be used by the Forest Service and the permittee to control actual pasture moves. Livestock may need to be moved out of a pasture sooner if the seasonal utilization guideline is reached before the planned move date. Likewise, livestock may stay longer in a pasture if seasonal utilization is below the established guideline when the planned move date arrives. Seasonal utilization measurements will be taken at locations within pastures using the “key area” concept. These key areas reflect the effects of livestock grazing within the entire pasture.
- **Utilization:** Utilization monitoring will generally occur within each of the main grazing pastures at the end of the growing season. Utilization is defined as the proportion or degree of current year’s forage production that is consumed or destroyed by animals (including insects). It is a comparison of the amount of herbage left compared with the amount of herbage 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. Utilization measurements will be taken at locations within pastures using the “key area” concept. These key areas reflect the effects of livestock grazing within the entire pasture.

Utilization measurements can indicate the need for management changes prior to this need being identified through long term monitoring. If monitoring shows that the utilization guideline was exceeded in a pasture, the pasture use period and/or cattle numbers may need to be adjusted for the following year. If the utilization guideline is exceeded after these adjustments are made, then changes to the grazing management system may be necessary.

- **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 condition and trend; observed changes may indicate the need to conduct effectiveness monitoring (condition and trend) prior to the scheduled interval.
- **Precipitation:** Precipitation is currently recorded at 4 sites that approximate the precipitation for the allotment. Additional precipitation gauges may be placed on the allotment for more localized information.
- **Allotment Inspection:** 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 problems. Information from this report will be used in preparing the following year’s grazing plan.

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 10 years or less and will be accomplished collaboratively by Forest Service personnel, grazing permittee, and cooperating agencies. Effectiveness monitoring may also be conducted if data and observations from implementation monitoring (annual monitoring) indicate a need. Effectiveness monitoring will include the following:

- **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.
- **Vegetation and Ground Cover Monitoring:** 4 long term vegetation and ground cover monitoring plots are located on the A-1 Mountain allotment. These plots were established as Parker Three-Step monitoring clusters in the 1950's/1960's and were converted to Pace Frequency transects and 1/10 acre ocular vegetation canopy cover plots in 2000. Data was last collected from these plots in 2014 and 2015.

The Pace Frequency method will be used to collect vegetation frequency and ground cover data. This data will reflect changes and trends plant species abundance, plant species distribution and ground cover.

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 vegetative community conditions described in the Environmental Assessment for the A-1 Mountain Allotment.

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.

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 allows the Forest Service to adjust the timing, intensity, duration and frequency of livestock grazing in response to changing ecological conditions, climatic conditions, and management activities. If monitoring indicates that changes are needed, management will be modified in cooperation with the permittee and the changes will be implemented through the Annual Operating Instructions. Changes may include administrative decisions such as the specific number of livestock authorized annually, specific dates of grazing, intensity of grazing, the class of animal, or modifications in pasture rotations. Adaptive management changes in livestock management will not exceed the limits established in the environmental analysis decision document for the timing, intensity, duration, and frequency of livestock grazing.