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Horseshoe Allotment Management Plan

Prescott National Forest
Chino Valley Ranger District

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Agreed to/Reviewed by: George H Yard Date: March 31, 2014
Grazing Permittee

Aproved by: Linda L Jackson Date: 12-19-2011
Linda L. Jackson
Acting Chino Valley District Ranger

OVERVIEW

The 15,000 acre Horseshoe Allotment is approximately 19 miles northeast of Chino Valley, Az. It encompasses an area south and west of the Verde River including a portion of the northeastern end of Woodchute Wilderness, and lies mostly east of Yavapai County Road# 72, and west of a line running between Baker's Pass and the Verde River. Elevations on the allotment range from 3760 ft along the Verde River to 7600 ft on Woodchute Mountain. There are four distinct vegetative communities within the elevational range: riparian along the Verde River, grassland and pinyon/juniper interspersed through the lower to mid-elevations, chaparral occupies the upper elevations. Pinyon/juniper is the dominate community, covering 60% of the allotment.

An analysis was initiated in response to regulation [36 CFR 222 Subpart A.222.2 (c)] that requires the Forest Service to make forage available for livestock under direction contained in the Land Management Plan of the Prescott National Forest.

Authorizing and implementing livestock grazing is based on managing the effects of grazing on associated resources, not solely in managing forage production. Management of grazing on the Horseshoe Allotment is addressed in the livestock Grazing Project Environmental Assessment (EA) documents and analysis of September 2005.

Based on the EA for the project, comments received during the analysis, and her review of the Alternatives, the Chino Valley District Ranger, Linda Jackson, rendered the decision to implement Alternative #4- Modified proposed Action for the grazing strategy and range improvements. As modified, livestock grazing on the Horseshoe Allotment will, with development of the approved structural range improvements, be managed under a seven (7) pasture deferred rotation system with the option of 'adaptive management' to intensify to an eight (8) pasture system.

OBJECTIVES

Provide forage and browse for wildlife and livestock commensurate with cost and without impairment of land stability and/or productivity.

Maintain vegetative ground cover (VGC) and perennial grass species diversity where similar to the Terrestrial Ecosystem Survey and Report, for the Prescott National Forest.

Improve those areas of lower VGC, perennial grass species diversity, and unsatisfactory soil conditions so the following are occurring simultaneously:

> Plant community attributes, including VGC and perennial grass species diversity, are both improving and are similar to attainable TES potential.
>
> Soil quality indicators display that soil function has been regained where the potential exists.

Maintain and/or improve soil and watershed function throughout the allotment.

Ensure that structural improvements distribute livestock across areas that can support grazing and facilitate deferred grazing.

GRAZING MANAGEMENT

A. GRAZING STRATEGY/ADAPTIVE MANAGEMENT

Livestock will be grazed as a single herd on a year-long season of use and will follow a deferred grazing rotation management system. Duration and season of use in the Woodchute Pasture will be approximately three months of winter use or two months of spring use deferring spring use one year in two or three. The Woodchute Pasture would also be used for four to six weeks during late summer and early fall one year in three.

Permitted livestock numbers range from 150 to 190 head and stocking will be adjusted each year within the range of numbers, as determined by monitoring. Stocking could be more or less than the range in any given year to allow for exceptional fluctuations of weather and available forage.

In lieu of establishing pasture moves based on hard and fast calendar dates, visual monitoring of utilization during grazing will be practiced for the purpose of initiating moves between pastures when use reaches proper allowable. Allowable use consists of light use (0-25% use) on key forage species in critical areas on unsatisfactory soils and a light to moderate grazing use (0-40% use) on key forage species in key areas across the remainder of the allotment. Use on critical areas will be measured during the growing season and use across the remainder of the allotment will be measured at the end of the growing season.

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 new and existing rangeland improvements if they have been identified and are determined, through monitoring, to be necessary for achieving resource objectives.

Grazing management will also follow Best Management Practices, Wildlife and Rare Plants Design Specifications, and Best Known Practices to mitigate livestock grazing effects associated with soil and watershed conservation measures, wildlife and rare plants, and noxious weed prevention and control measures. These are included on pages 7 – 12 of this allotment management plan.

B. MANAGEMENT UNITS

Woodchute Pasture has served as the winter unit since the Horseshoe allotment became a year long operation. Topography, vegetative composition and under development renders this pasture natural for winter use. Programmed water development will aid livestock distribution if they are built to a size that renders them dependable on a year long basis. No fence is to be built until the water problems are solved.

Upper Orchard Draw Pasture is an un-fenced segment of the Woodchute unit. The lack of permanent stock water facilities limits it utility. Programmed water development is designed to cure this matter. Until the water problems are solved this unit can not be fenced into a separate pasture unit.

Henrys Pasture is possibly the highest forage producing unit on the allotment. It can be counted on to continue to carry a large part of the grazing obligation pending management's effort to correct the stock water issue in the other units.

Red Mesa is a productive section of the Henry Pasture which lies north of the 69kV power line. This unit is stifled by the lack of properly located permanent stock water facilities. On-site mine test wells proved to be dry. This situation has put on hold the pipeline construction project pending drilling of a well on Cemetery Ridge, or construction of a pump station at Horseshoe Dam. Fencing of this pasture management unit can not move forward unless and/or until the water problems have been resolved.

Plateau Pasture is a strong unit on which recent water development is felt to have opened and converted this sizeable section of range from potential range to full capacity status.

Hackberry Pasture is a low forage production unit that requires continuous monitoring to prevent soil and watershed damage during the time of livestock grazing.

Fry Pan Pasture is bisected by a ridge comprised of poorly developed, shallow, and low productive soils. This ridged traverses the entire length of the pasture. The associated undulating lateral slopes, basins and low ridge are productive and respond well to grazing treatment. Continuous monitoring is required to prevent damaging of the ridge top soil and watershed component.

Shipping Pasture is a highly productive unit located at the North end of the allotment. A strong composition of black grama thrives on the high intensity short duration history of grazing.

The Verde River Pasture while a unit within the Horseshoe allotment is closed to grazing and will not be addressed in this plan of upland grazing management.

C. RANGE IMPROVEMENT PROGRAM

Development and testing of basic structural range improvements-permanent stock water facilities- are essential for successful implementation of the intensive seven pasture deferred rotation system of grazing. Improvements are listed in order of their priority and should not be altered.

		financial obligation	
Type of Improvement	Estimated Cost	Permittee	Forest Service
1. Roadside Pit Tanks (6 ea)	$ 9,000.	$ 9,000.	None
2- Well equipped W / sub elec. Pump And 10K gal storage	$20,000	$5,000	$15,000
3. Pipe line (3 miles) W / 6 ea drinkers	$ 9,000.	None	$9,000.
4. Woodchute DF 1 ½ miles	$6,000.	$3,000.	$ 3000.
5. Henry / Red Mesa 1 ½ miles elect.	$3,000.	$ 1500.	$1500.
6. Holding pasture DF 1 mile	$4,000.	$2,000.	$2,000.
7. Pipeline ext.-Red Mesa 1 ½ miles	$4,500	$2,500.	$2,000
8. Convert Henry/Red Mesa DF from elec. to barbed wire 1 ½ m	$6,000.	$3,000.	$3,000.
9 Red Flat gully stabilization project program To be designed, financed, and conducted by FS Watershed and Engineering personnel.			

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 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 the turn-on date each year.

It is the responsibility of the permittee to coordinate with adjacent allotment permittees to guarantee maintenance is completed in a timely manner.

MONITORING

Two types of monitoring will be used, implementation and effectiveness monitoring. Both qualitative and quantitative monitoring methods will be used in accordance but not limited to the Interagency Technical References, Region 3 Rangeland Analysis and Management Training Guide, and the Region 3 Allotment Analysis Handbook.

IMPLEMENTATION MONITORING

Implementation monitoring will be conducted by the Forest Service in cooperation with the 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. Monitoring will be used to determine current resource status and to ensure the allotment management plan, terms of the grazing permit and desired conditions are being met. The Rangeland Health Check list will be used to document utilization levels and short term indicators of rangeland health in key areas.

- **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 uses***).
    - Areas with unsatisfactory soil conditions
- **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 in conjunction with the grazing permittee.

EFFECTIVENESS MONITORING

Effectiveness monitoring will evaluate the success of management in achieving the desired objectives and 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.

MITIGATION MEASURES & SOIL AND WATER BEST MANAGEMENT PRACTICES

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 rotation system with added rest if monitoring indicates the need. Utilization guidelines will be employed.

22.12 Controlling Livestock Distribution.

Pasture fencing and natural barriers are used to control the distribution of grazing on the allotment. 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.

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.

Special measures have been developed on unsatisfactory soils so livestock grazing impacts are "light" which is commensurate with the Rangeland Analysis Management Training Guide intent (USDA, 1997). These measures include:

1. Improving the deferred rotation so livestock distribution improves.
2. Decreasing grazing duration and intensity so that relative use levels are 25% or less.
3. Providing additional rest as needed through Annual Operating Instructions.

22.15 Revegetation of Areas Disturbed by Grazing Activities.

No revegetation of grazed areas is expected to be necessary. Natural vegetation expansion resulting from improvements in livestock management and timing of grazing use will result in desired conditions.

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 any drainage are in a streamside management zone. These a reas require special soil and water conservation prescriptions 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).

WILDLIFE AND RARE PLANTS DESIGN FEATURES

- No troughs or mineral supplements shall be placed within ¼ mile of any identified **rare plant population**, and no new improvements (e.g. pipelines and tanks, but excluding fences) shall go through any such population. Permit administrators will coordinate with biologists to incorporate these locations into AMP/AOI designs.
- No round-ups or drives shall occur within ¼ mile of any **bald eagle nest site** during incubation or when nestlings are less than 3 weeks. One way to achieve this is through pasture/unit avoidance. If the species is de-listed, guidelines contained in the Conservation Agreement or similar document should be applied.

- No round-ups or drives shall occur within ¼ mile of any **bald eagle roost site** during roosting October through March. One way to achieve this is through pasture/unit avoidance. If the species is de-listed, guidelines contained in the Conservation Agreement or similar document should be applied.

- All new and reconstructed **fences** shall be designed to accommodate wildlife passage: The bottom wire of barbed-wire fence shall be smooth. Pasture division fences outside of pronghorn habitat shall have a maximum of four strands. The 1st (top) strand should be between 42-44" above ground, the 2nd strand should be 12" below the top strand, the 3rd strand 6" lower, and the bottom strand should be 18-20" above ground. Permanent Interior fences within pronghorn habitat (grasslands, savannas, and travel corridors) shall have three strands, with the top strand not exceeding 42" above ground, the middle strand 12" below the top strand, and bottom strand 22" above ground. Seasonal or temporary electric fences shall have two strands, with the top strand no more than 42-44" above ground, and the bottom strand 22" or greater above ground. The top strand shall be flagged with a minimum of two flags between each post to increase visibility to wildlife. These configurations will allow easy and safe passage over and under fences for animals.

- If new permanent **drinking troughs** are installed, at least 1 per site should have a maximum height of 24 inches. It can be set into the ground to achieve this height. This will accommodate use by deer and pronghorn fawns. To provide safe access for small animals, troughs should be equipped with an access ramp and escape ramp. Both ramps should be constructed of a long lasting, non-slip material, such as strip metal, rocks or concrete. Escape ramps must be flush against the side of the trough along a side or end and at an approximate 45-degree angle downward, because small animals that fall into the water often swim along the tank edge looking for a way out. If rocks are used, they should be small diameter (i.e. <3"). An acceptable escape ramp design using strip metal or other similar material is an upside-down "V", where the ramp extends from the top lip in the middle of the tank, down to the bottom of both ends. This would allow animals swimming in either a clockwise or counter-clockwise direction to encounter the top surface of the ramp. The preferred ramp design option would involve piling large rocks at one end of the drinking trough and pouring cement over them to create a gently

sloping, rough textured escape ramp from the bottom to the top edge of the trough that would be usable by all wildlife forms at all water levels.

- New **water developments** on grasslands and savannahs should be placed in openings with minimal surrounding cover and topographic relief. This will facilitate use by pronghorn. When possible, no waterlot fences should be installed around any new water developments, especially in pronghorn habitat. If waterlots are constructed, or reconstructed, the same fence standards should apply as provided above, with the exception that the bottom strand should be 21" above ground. Furthermore, fences should be at least 200' away from tank/trough edges.

- The District Wildlife Biologist, Range Specialists, and AGFD Wildlife Managers have identified the "**critical waters**" that will be maintained by the FS under the "no grazing" alternative. These are Red Flat Tank and Horseshoe Tank. Designated tanks are spaced no further than 3 miles apart from each other where available (preferably 2 miles), and include the most reliable waters in the area. All waters within 1 mile of potential pronghorn fawning habitat are included.

- **Gates** around waters should be left open whenever it would not interfere with livestock rotations. **Troughs** should be filled with water when livestock are moved out of a pasture, if water is available at the source (e.g. storage tank).

Best Known Practices for Noxious Weed Prevention and Control

RANGE MANAGEMENT	*Grazing*
objective	***Best Know Practice***
RM-1) Consider noxious weed prevention and control practices in the management of grazing allotments.	1.1) Include weed prevention practices, inspection and reporting direction, and provisions for inspection of livestock concentration areas in allotment management plans and annual operating instructions for active grazing allotments. 1.2) For each grazing allotment containing existing weed infestations, include prevention practices focused on preventing weed spread and cooperative management of weeds in the annual operating instructions. Prevention practices may include, but are not limited to: ▪ Maintaining healthy vegetation ▪ Preventing weed seed transportation ▪ Minimize potential ground disturbance - Altering season of use or Exclusion ▪ Weed control methods

	▪ Revegetation ▪ Inspection and Monitoring ▪ Reporting ▪ Education
RM-2) Minimize transportation of weed seed into and within allotments.	2.1) If livestock are potentially a contributing factor to seed spread, schedule units with existing weed infestations to be treated prior to seed-set before allowing livestock on those units. Schedule these infested units to be the last in the rotation. 2.2) If livestock were transported from a weed-infested area, corral livestock with weed free feed, and annually inspect and treat allotment entry units for new weed infestations. 2.3) Designate pastures as unsuitable range to livestock grazing when infested to the degree that livestock grazing will continue to either exacerbate the condition on site or contribute to weed seed spread.
RM-3) Maintain healthy, desirable vegetation that is resistant to weed establishment.	3.1) Through the allotment management plan or annual operating instructions, manage the timing, intensity (utilization), duration, and frequency of livestock activities associated with harvest of forage and browse resources to maintain the vigor of desirable plant species and retain live plant cover and litter. 3.2) Manage livestock grazing on restoration areas to ensure that vegetation is well established. This may involve exclusion for a period of time consistent with site objectives and conditions. Consider practices to minimize wildlife grazing on the areas if needed.
RM-4) Minimize ground disturbances.	4.1) Include weed prevention practices that reduce ground disturbance in allotment management plans and annual operating instructions. Consider for example: changes in the timing, intensity, duration, or frequency of livestock use; location and changes in salt grounds; restoration or protection of watering sites; and restoration of yarding/loafing areas, corrals, and other areas of concentrated livestock use. 4.2) Inspect known areas of concentrated livestock use for weed

	invasion. Inventory and manage new infestations.
RM-5) Promote weed awareness and prevention efforts among range permittees.	5.1) Use education programs or annual operating instructions to increase weed awareness and prevent weed spread associated with permittees' livestock management practices. 5.2) To aid in their participation in allotment weed control programs encourage permittees to become certified pesticide use applicators.