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Allotment Management Plan

Scarborough Allotment

Globe Ranger District
Tonto National Forest
Arizona

This Allotment Management Plan implements direction established in the October 1985 Tonto National Forest Plan and September 2006 Decision of Scarborough Allotment. This Allotment Management Plan is made part of your Term Grazing Permit in accordance of that permit.

Prepared by: _____ Date: 12/27/2015
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Agreed to by: _____ Date: 12/29/2015
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Scarborough Allotment Permittee

Approved by: _____ Date: 1/4/2016
Globe District Ranger

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Scarborough Allotment Management Plan

Allotment Description

Scarborough Allotment is located in Gila County approximately 6 miles north of Globe, Arizona. Lands within this allotment are managed by Globe Ranger District of the Tonto National Forest, and currently encompass about 7,529 acres of National Forest System (NFS), and borders San Carlos Apache Reservation to the east. Scarborough sits within Radium Allotment to the west, Winters Allotment to the north and private land south.

Scarborough Allotment is located in northeast section of Globe Ranger District and consists of Mesquite Desert Grasslands, Juniper Semi-arid brush, Pinyon-Juniper woodlands, and a small portion of potential streamside riparian vegetation. It contains 7,529 acres into 5 pastures and has an elevation range of 4,000 to 5,800 feet. Topography varies, 0 to >60%, with the terrain varying from nearly flat mesas to steep and rocky landscapes of Chrome Butte, Richmond Mountain, Quartsite Peak, Crash up and Reservation Mountains.

Allotment Management

Permitted Use

Current permit documents up to 2,306 AUMs, or 110 head of adult livestock and 67 yearlings for 5 months. Grazing season is yearlong from **March 1** to **February 28**.

Typical AUM's authorized is **1743** cow/calf pairs and **563** yearlings. Any annual adjustments would be planned and authorized by District Ranger, not to exceed the maximum AUMs.

Table 1: Calculation of AUM's

(# of cows multiplied by conversion rate*) X (# of days divided by 30.417) = Animal Unit Month
*Conversion rates: Cow/calf = 1.3 Yearling = 0.7 Bulls = 1.5

Grazing System

A five pasture deferred rotation system where, generally, 1 of the 5 pastures receive summer growing season rest, in a 5 year cycle, allowing all pastures to receive rest. Use in other pastures is deferred, where use during the following year does not occur during same time period as it occurred in the previous year.

Schedule may be altered for resource or management reasons by an authorized officer in Annual Operating Instructions (AOIs) each year. For example, lack of rain or wildfire may augment pasture rotations, at which time a AOI modification will authorize changes.

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Range Improvements

Responsibilities

Permittee is responsible for maintenance of all range improvements for course of their usable life. Improvements will be maintained to standards and practices each year. When range improvements are beyond point of normal maintenance, heavy maintenance or reconstruction is required, they will be authorized by separate term grazing permit modification. Any maintenance or reconstruction of improvements throughout allotment will need to meet Forest Plan standards and management for Management Area 2D (1985 TNF Plan, as amended). At least an archeological and biological clearance may be required for reconstruction of existing improvements.

A schedule of maintenance of all improvements in your Term Grazing Permit, requires normal maintenance to maintain the improvements in usable, sound condition. If range improvements deteriorate beyond point that normal maintenance is needed, improvement will be considered a new project.

Specific improvement maintenance will be discussed, on a case by case basis, with permittee and Forest Range Staff at AOI meetings.

A schedule of maintenance will serve as a guideline to bring all improvements up to the following standards and practices.

Water Development Standards and practices: Troughs, Water Systems, and Stock tanks

1. All spring source facilities should be adequately protected (i.e. buried or encased) or fenced and fences maintained to prevent livestock from getting into the source box, unless otherwise stated.
2. Any open top storage tanks are potential traps for wildlife and wildlife ramps are also required, otherwise will have a top placed.
3. Head box lids or covers shall be in place to prevent dirt, rodents, or other refuse from getting into the head box. Head boxes will be of concrete, metal, treated wood or other durable material. The start of the pipeline, inside the box, should be fitted to prevent debris from entering the pipe.
4. All outlet pipes and valves from head boxes should be functioning and any leaking should be kept to a very minimum.
5. All pipes should be large enough to carry the flow of the water development but not less than 1" diameter.

6. Water troughs will be kept at heights that make them useable to livestock. Troughs which become elevated from trampling livestock should be periodically backfilled to maintain a useable height, authorization may be needed.
7. Troughs which become uneven due to settling should be reset and leveled, authorization may be needed.
8. Bottoms of new and reconstructed metal troughs should be kept clear of the ground, when possible, with at least 2" to 4" of clearance under the bottom of the trough to prevent rusting or decomposition.
9. On new and reconstructed water should overflow trough side. Overflow pipes must be kept clear. Overflow water will be piped away from troughs at least 50 feet. End of overflow pipe must be protected from trampling by livestock. Water from overflow pipe must be directed away from trough area.
10. Inlet and outlet pipe shall be protected by anchoring to trough with a single post next to the vertical pipe and a brace or pole supporting the horizontal pipe. Inlet and outlet pipeline will be buried as much as possible for their protection.
11. All troughs should be equipped with a wildlife escape and access ramps from which wildlife can escape or drink from trough. Ramp must be fixed to one side of trough. Troughs will meet bat standards.
12. Troughs, storage tanks, and pipelines will be drained and cleaned periodically to prevent moss and debris buildup and damage from freezing.
13. Poles, posts, and metal trough framing materials used in new and reconstructed water development construction will be maintained, repaired, or replaced as needed. Materials must not be taller than the trough and wires should not be placed over trough to allow for watering avian species.
14. All above ground pipeline supported structures will be maintained to keep pipe at gradient and prevent sagging. Support structures should be utilized for entire above ground pipeline.
15. Horizontal wells must contain a shut off valve and reducer. Entire exterior of the well can be earth covered to prevent freezing.
16. Pipelines with air relief and drain valves will be covered with fine screen to prevent rodents and dirt from entering pipeline. Screens must be replaced as needed.
17. Pipeline leaks will be repaired or damaged section will be replaced with materials similar to materials from original construction.
18. Pipelines with valve covers boxes will be kept covered and repaired when needed.
19. Stock tanks will be kept clear of debris, floating logs, dead animals, etc. Spillways will be cleaned and maintained to prevent washing out or becoming plugged. Rodent damage and damaging vegetation on dams will be reported to Forest officer.
20. Water development components (e.g., rusted out troughs, broken sections of pipe, etc.) replaced during maintenance or reconstruction will be removed from Forest and properly disposed of.

Fence and Corral Standards and Practices

1. All broken wire will be spliced and repaired in such a manner that tension on a wire can be maintained. Wire splices will be made with 12 gauge size tie wire or type of wire used in initial construction.
2. Broken or rotten posts, broken braces and missing staples will be replaced where and when needed to maintain the fence.
3. Wires will be re-stretched where needed.
4. Broken or missing stays will be replaced where needed.
5. Top wire on all range fences should be kept at 42 inches in height, and bottom wire should be smooth and 18 inches above ground. Existing fences will be maintained at standards which fences were constructed. All reconstruction of fences will be meet these standards for #5.
6. Staples should not be driven so deep into the post that they scar or create a weak spot in the wire.
7. All gates are closed before livestock enter new pastures.
8. Wire gate tension should be sufficient to prevent gate from sagging and still be easily opened and closed. Gate loops are made of smooth wire, not barbed wire.
9. Trees which fall on fences will be cut and removed when and where needed; wire if broken will be spliced and re-stretched; poles if broken will be replaced.
10. Broken or rotten sections of log or pole fences and corrals will be replaced as needed.
11. Corrals are kept clean of litter, in good repair, and in useable condition.
12. Fences are maintained at, or near as possible to, the standards needed to turn livestock.
13. Metal components of range fences and corrals (e.g., wire, stays, t-posts, gates, etc.) replaced during maintenance or reconstruction will be removed from Forest and properly disposed of.
14. Any maintenance or reconstruction of improvements throughout allotment will need to meet Forest Plan standards and management for Management Area 2D (1985 TNF Plan, as amended).

Table 3: Improvement List, Including those that will be dropped from Term Grazing Permit

Name of Improvements	Improvement Number	Units	Location
~~Richmond Water EXT Pipeline~~	~~0A1622~~	~~1.0~~	~~REMOVED from permit. Has not been used in decades.~~
Quartzite Pipeline	0B1622	1.0	
Southeast Pipeline	0G1622	0.7	
Quartzite Water Storage	000401		T1N R15E Sec. 2 NESW
Extension Pipeline	000477	.5	
Elton Pipeline	000457	.5	
Little Rich Mtn. Seep Spring	000496		
Jones Storage Tank	001525		T1N R15E Sec. 6 SENE
Apache Spring	001620		T2N R15E Sec. 25 NWNE

Oak Spring	001621		T2N R16E Sec. 19 SENW
~~Richmond Spring Pipeline~~	~~001622~~	~~5.0~~	~~REMOVED from permit. Has not been used in decades.~~
Cammerman Spring	001623		T2N R16E Sec. 30 NWNW
LS Well	001624		T1N R15E Sec. 1 SWNE
Park Well	001625		T2N R16E Sec. 29 SWNW
Lewis Well	001626		T2N R15E Sec. 35 SENE
Cammerman Well	001627		T2N R15E Sec. 36 NENE
Mill Spring	001628		T2N R16E Sec. 19 SWSW
Highway Spring	001629		T2N R16E Sec. 20 NWNW
Lower Cammerman Well	001630		T1N R15E Sec. 1 SESE
Scarborough Stock Tank	001631		T1N R15E Sec. 1 SWSW
Copper Hill Stock Tank	001632		T1N R15E Sec. 2 NWNW
Park Stock Tank	001633		T2N R16E Sec. 29 SWNW
Scarborough 2 Stock Tank	001634		T1N R16E Sec. 6 NWNW
Chrome Butte Stock Tank	001635		T2N R16E Sec. 20 NWNW
Reservation 1 Stock Tank	001636		T1N R16E Sec. 6 SESE
Reservation 2 Stock Tank	001637		T2N R16E Sec. 31 SESE
Highway Stock Tank	001638		T2N R16E Sec. 18 SWSE
Apache Well	002472		T1N R16E Sec. 1 SESE
Copper Hills Trick Tank	002483		T1N R151/2E Sec. 35 NW
Reservation Trick Tank	002484		
Apache Pipeline	002497		T2N R151/2E Sec. 25
Lewis Place Pipeline	82013		T2N R16E Sec. 35, 36
Lower Copper Hill Pipeline	82014		T2N R151/2E Sec. 1, 2
~~Richmond Stock Trail~~	~~001639~~	~~0.8~~	~~REMOVED from permit, Has not been used in decades. Considered an old road.~~
Scarborough/Radium Fence line	R01532	7.5	From Southern Forest Boundary to Crash-up Mtn.
Rolands Corral	000412		T1N R15E Sec. 2 SESE
Scarborough/Winters Fence line	001611	2.0	Scarborough, east from old highway 60 to Reservation fence.
Apache Spring Fence	001613	1.0	
Eastside Drift Pasture Fence	001614	1.5	

Quartzite Canyon Fence	001615	2.2	
Home Pasture Fence	001616	0.8	
Cammerman Corral	001617		T2N R16E Sec. 30 NWNW
Lewis Corral	001618		T2N R15E Sec. 35 SENE
Park Corral	001619		T2N R16E Sec. 29 SENW
Headquarters Corral	002427		T1N R15E Sec. 1 SESE

Travel Management Guidelines

Road maintenance that is required to access range improvements or livestock management must receive a road use permit for any road work. In emergencies, such as flash flood, District Ranger may authorize road work to clear debris or temporarily fix road. Documentation of this emergency must be filed. Tonto National Forest is currently planning implementation of Travel Management Rule. These programs are aimed at reducing non-essential roads for watershed and resource protection and will require the following:

- Travel Management Decision will be followed by permittee.
- If access is needed to enter a motor vehicle restricted area, you must have special authorization through an Off-Road Vehicle Permit or special authorization through Annual Operating Instructions. If long term use is requested, permit may be modified to include roadways.

Allotment Management Practices

Livestock Management

Livestock management, such as herding and salting, is critical to livestock to control cattle in appropriate pastures. Permittee will furnish sufficient riders or herders for proper distribution, protection, and management of cattle on the allotment. Tonto National Forest Grazing Practices are as follows:

- Salt should not be placed any closer than quarter of a mile from developed or live water, recreation sites or designated trails. No salting will occur within or adjacent to identified/known heritage sites. Salt will be removed from units when cattle have left an area. Salt should not be placed in a pasture until cattle are moved into pasture.
- All troughs will be left full of water and operational year round for wildlife accessibility, unless in limited circumstances where extreme freezing conditions may damage facilities. Troughs will be cleaned out periodically to reduce or eliminate moss buildup. Limited circumstances will be outlined in AOI, by specific improvement.
- Cattle should be drifted instead of trailed wherever possible.
- When entering next scheduled pasture, all livestock shall be removed from previous pasture within two weeks.
- Time spent in each pasture may vary depending on weather and when seasonal utilization standards are met. It is permittees' responsibility to monitor the utilization and move the cattle before utilization standards are exceeded.

- Permittees will make sure enough time is allowed to remove livestock to meet the pasture move date(s) and avoid unauthorized and excess use.
- Permittee may be asked to provide the Forest Service with an Actual Use Record, and/or Improvement Maintenance Record.

Monitoring

Practices

Following monitoring activities will be carried out by grazing permittee and Forest Service either during or at the end of grazing season. However, not all types of monitoring practices need to be conducted during this time frame. Forest Service monitoring results will be shared with permittees to improve livestock management. All monitoring information collected by permittees and Forest Service will be included in district allotment file.

Allotment Inspections/Compliance monitoring

Compliance monitoring ensures livestock are distributed in correct pastures and areas authorized for grazing. It also includes but is not limited to, improvement maintenance inspections, forage utilization and livestock counts. These inspections will occur throughout grazing year.

Utilization measurements are followed by procedures found in the Sampling Vegetation Attributes (1999), Utilization Studies and Residual Measurements (1999). Possible data monitoring could include browse utilization measurements, perennial grass stubble height measurements, photo points, and or height/weight relationships for certain perennial grass species. Utilization would be monitored on key forage species, which are native perennial grasses along with native perennial shrubs that are palatable to livestock.

At a minimum, monitoring would include use in key areas and locations selected outside of key areas. Data collection procedures and interpretation would consider guidance contained in the Principles of Obtaining and Interpreting Utilization Data on Southwest Rangelands (Smith et al. 2005) publication.

Noxious Weed monitoring

Noxious weeds located in these allotments would be treated as necessary. Permittee and Forest Service will coordinate weed inventory and treatment. Noxious weed monitoring is carried out at the same time as allotment inspections are conducted. As noxious weed populations are found they are mapped, monitored, and treated. Treatment methods would follow guidelines established in "Final Environmental Assessment for Integrated Treatment of Noxious or Invasive Weeds".

Riparian monitoring

Continued inspection will occur of Cammerman Wash in Richmond Pasture for deer grass and large deciduous tree use.

If riparian vegetation establishes, permit will be modified to include specific monitoring protocol.

Wildlife monitoring

In conjunction with wildlife biologist, project related monitoring may occur on Scarborough allotment. However, no effect to threatened or endangered species or its habitats have been determined. Current management will not alter or impact habitat conditions, nor will it create a disturbance.

Heritage Resources monitoring

In conjunction with Forest Archaeologist special care will be carried out to protect heritage resources (historic and prehistoric sites) from impacts caused by range construction projects or livestock concentrations. An archaeological survey will be conducted prior to construction of any new range improvements and/or location selection where impacts to heritage resource sites are avoided.

Existing range facilities (water troughs, corrals) where cattle regularly congregate are periodically inspected to determine whether or not livestock are causing damage to heritage resource sites.

Key Areas

A key area is a portion of rangeland selected because of its location, grazing or browsing value, or use. It serves as a monitoring and evaluation point for range condition, trend, or degree of grazing use. Annual monitoring in key areas is for short-term data collection. These key areas are properly selected to reflect the overall acceptability of current grazing management over the rangeland condition.

These monitoring methods could include, but are not limited to utilization and stubble height monitoring, annual riparian monitoring, and photo point protocols.

Data will be used, along with supporting information to determine when livestock must be moved from one pasture to another and to make any necessary adjustments to livestock numbers and/or season of use (determined in AOI).

Final utilization and stubble height readings will be taken at the end of pasture use, along with end of growing season use of each year. Annual monitoring will follow accepted Forest Service protocols set by the monitoring handbook.

Key areas include but are not limited to:

- Benchmark locations: reading the range plots and parker 3 step locations
- Additional locations that meet definition above

Benchmarks

Condition and long-term trend monitoring will be conducted in some of the key areas used for annual monitoring. Information will be used to determine if the area is meeting or moving towards desired conditions. Long-term trend data will be used to measure changes in plant community composition, cover, structure, soil conditions, frequency, and management of grazing in a trend status. Annual adjustments may be conducted in order to meet long-term desired conditions.

Periodic monitoring, on decade intervals, for vegetation trend will include cover and frequency, in which Parker 3 Step Clusters or other similar procedures will be used.

Indicators of downward trend for vegetation include:

- Desirable and intermediate species decreasing in vigor
- Lack of young plants from desirable and intermediate species
- Invasion by undesirable species.
- Hedged and highlined shrubs. Dead branches, generally indicating that shrubs are dying back.

Indicators of downward trend in soil stability include:

- Rill marks, which are small but conspicuous water channels around vegetation.
- Active gullies are raw, actively downcutting, and may have headcuts. This type of gully may vary from a few inches to several feet deep.
- Alluvial deposits; soil material transported and laid down as small fans in headwater drainages.
- Soil remnants; original topsoil held in place by vegetation or roots.
- Active terraces; usually caused by hooves of animals; stair step in appearance on side-slopes
- Pedestalled plants; exposed plant crown or roots.
- Wind-scoured depressions between plants, or wind deposits of soil
- Soil buildup behind plants, logs, and trees on upslope side.

Long-term monitoring will follow accepted Forest Service protocols determined by the Forest Service Monitoring Handbook, including documents listed above.

Table 4: Benchmark Monitoring Areas

Study Name	Location
Cluster 1	12S 0546523 – 3606889
Cluster 2	12S 0527188 – 3706056
Cluster 3	12S 0526604 – 3702014
Cluster 4	12S 0525529 – 3706505

Forest Plan Standards and Guidelines

Forest Plan

Land and Resource Management Plan (Forest Plan) defines long-term direction for managing Tonto National Forest. Forest Plan provides for multiple use and sustained yield of goods and services from lands in a way that maximizes long-term net public benefits in an environmentally sound manner [36 Code of Federal Regulations (CFR) 219.1(a)]. In October of 1985 the Tonto National Forest implemented Forest Management Plan with direction related to livestock grazing and Range Management Program Criteria (Forest Plan pg. 24).

Forest Plan Management Practices

Management criteria for the Range Program on each allotment are as followed:

1. Through range analysis and production /utilization surveys and/or agreement on a proper level of permitted use with the permittees. (forage capacity)
2. Develop an Annual Operating Instructions, and schedule for improvements through program planning budget systems.
3. Management practices such as herding, salting, and controlling access to waters will be used to achieve proper distribution or lessen impact throughout allotment.
4. Archaeological survey will be conducted prior to construction of any new range improvements and locations selected where impacts to heritage resource sites are avoided.
5. Existing range facilities (water troughs, corrals) where cattle regularly congregate are periodically inspected to determine whether livestock are causing damage to heritage resource sites.

Allowable Forest Utilization & Stubble Height Standards

Grazing will be managed to achieve long-term goals in pasture key areas. It is the responsibility as permittee to take action so that livestock grazing does not exceed vegetative use thresholds. Please arrange for an allotment inspection if seasonal vegetative use of available forage approaches these thresholds.

Table 4: Allowable Use

Vegetation	Use Threshold
Upland Herbaceous Use	30-40% of current year's growth
Upland Browse Species	50% of current year's growth

Adaptive Management

Adaptive management is a tool that uses the documented results of management actions to continually modify management in order to achieve specific objectives. Management is designed to provide sufficient flexibility to adapt management to changing circumstances. Monitoring of forage availability and utilization, range readiness and resource conditions will be used to determine whether management is being properly implemented and whether the actions are effective at achieving or moving toward desired conditions. If monitoring indicates that desired conditions are not being achieved, an adaptive management decision will be used to modify management. Such changes may include administrative decisions such as the specific number of livestock authorized annually, specific dates for grazing, class of animal or modifications in pasture rotations. However, such changes will not exceed limits for timing, intensity, duration and frequency defined in term grazing permit. Adaptive Management will be implemented through AOI, which may adjust livestock numbers and timing of grazing so that use is consistent with current productivity and is meeting management objectives. AOI will also include mitigation measures and Best Management Practices to avoid or minimize effects to

wildlife, soil, and water quality. Modifications to AOI may be implemented at any time throughout grazing season in response to unforeseen environmental or management concerns.

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ure 1: Scarborough Allotment – Existing Pastures & Improvements