# Coordinated Resource Management Plan
# Tank Creek Allotment

USDA Forest Service
Bradshaw Ranger District, Prescott National Forest
Yavapai County, Arizona

Prepared by: John A. Kava, Rangeland Management Specialist April 20, 2018

Reviewed by/ agreed to _____ Date 2/6/19
Permittee

Approved By _____ Date 2/6/19
Sarah Tomsky, Bradshaw District Ranger

# Introduction

This Allotment Management Plan (AMP) is a direct result of the Environmental Assessment and subsequent Decision Notice (DN), dated September 26, 2017. Data collection for the analysis was done in collaboration with Natural Resources Conservation Service (NRCS) and the permittee. Mitigation actions were also a collaborative effort. This document serves as a roadmap to collaboratively manage the allotment in an effort to achieve the desired conditions below that reflect the Land and Resource Management Plan for the Prescott National Forest.

The Tank Creek Allotment is located on the Bradshaw District of the Prescott National Forest (PNF) and represents an area of approximately 39,000 acres. The allotment is located in the northwest portion of the district, approximately 15 miles west of Prescott, Arizona.

Elevation ranges from 4,190 feet in Sycamore Creek in the western portion of the allotment to ~5,964 feet on Mount Josh, 97% of the allotment is in the Santa Maria River watershed the remaining 3% is in the Big Chino Watershed. The topography varies from gently rolling mesa to steep rocky hill tops. There are several granite buttes scattered across the allotment. Riparian vegetation occurs along these stretches dominated by woody species such as cottonwood, velvet ash, and willows, with some areas of grass and grass like vegetation where sediment has built up to form stream banks.

Vegetation on the allotment consists primarily of piñon juniper evergreen shrub and interior chaparral plant species. Canopy cover from shrub species is moderately to extremely thick in some locations to the extent that herbaceous forage is reduced or absent. A portion of the forage base of the allotment is provided by desirable browse species such as turbinella oak with mountain mahogany, deerbrush, and skunkbush in smaller quantities. Perennial grasses can be locally abundant, especially in juniper woodlands that have been previously thinned, and on warmer southern aspects of hills. Important forage grasses on the allotments include blue grama, sideoats grama, threeawns, sand dropseed, tobosa, curlymesquite, and squirreltail.

# Desired Conditions

The desired conditions on this grazing allotment, based on the Forest Plan (*see Attachment 1 Forest Plan Standards and Guidelines*) and the work of the Interdisciplinary Analysis Team (ID team), include:

- Range administration that provides for the maintenance of satisfactory Rangeland Management Status (RMS) with a static or upward apparent trend;
- The maintenance of vegetation with mid- to high similarity to the Desired Vegetative Status (DVS) providing for ecological functionality and resiliency following disturbance while sustaining long-term productivity of the land;
- The installation and maintenance of structural improvements, such as water-supply systems, that enhance management control and flexibility and allow for effective distribution of forage use;
- The maintenance of soils in satisfactory condition over the long-term, or show improvement in areas departing from satisfactory condition where livestock grazing is contributing to the departure;

- The maintenance of functioning spring-fed riparian systems, and saturated soils where potential exists, that support vegetation within site potential and provide habitat for riparian-dependent plants and animals while providing water sources for wildlife and livestock needs;
- The maintenance of fully functional riparian systems supported by herbaceous and multi-age woody vegetation, within site potential, that provides for stable stream channels and banks and habitat for riparian-dependent plants and animals;
- Protection and preservation of important historic and cultural sites; and
- The maintenance of suitable habitats for Management Indicator Species, Migratory Bird Treaty Act species, Forest Service Sensitive species, and for indigenous plant and animal species.

## Resource Objectives

The following management objectives were developed to measure progress towards meeting desired conditions:

- Improve or maintain cover of perennial grasses to achieve mid- to high similarity with the potential perennial grass canopy cover and composition as shown in the Ecological Classification for the Prescott National Forest for key TEUI map units; achieve an upward trend in vegetation condition towards this objective.

## Grazing Management

### Permitted Numbers, Season of Use, and Animal Unit Months

| # of Livestock | Season of Use | Animal Unit Months |
|---|---|---|
| 405 head of cattle, cow/calf pairs and bulls | yearlong | Not to exceed 4,860 Animal- Unit- Months[1] |

The period of grazing and the stocking numbers on NFS lands will be determined by monitoring, designated in the Annual Operating Instructions (AOI) and authorized in the Bill for Collection.

AOI will be prepared each year in cooperation with the permittee to allow for consideration of current allotment conditions and management objectives. This AOI will detail the current season's grazing schedule, the stocking level, the improvement maintenance needs, needed improvements, and the allowable use levels on key forage and browse species.

Annual stocking would be based on adaptive management, considering forage production, water availability, and resource conditions. Annual stocking could fall below the low end of the proposed stocking range or be increased above the high end, for increased forage production. There are five main pastures used in a rotational grazing system. Pasture rest and deferment will be scheduled to provide for achieving desired resource conditions.

[1] Animal-Unit-Month (AUM) is the amount of oven-dry forage required by one mature cow of about 1,000 pounds, either dry or with a calf up to six months of age, or their equivalent, for a standardized period of 30 animal-unit-days.

Adaptive management is designed to provide sufficient flexibility to allow livestock management to address changes in climatic conditions, seasonal fluctuations in forage production, and other dynamic influences on the ecosystem in order to effectively make progress toward or maintain desired conditions of the rangeland and other resources. Under the adaptive management approach, regular/annual monitoring of short-term indicators may suggest the need for administrative changes in livestock management.

Modifications can include adjustments in timing, intensity, and duration of grazing. Timing is the time of year the livestock are present in a pasture. Intensity is the degree to which forage is removed through grazing and trampling by livestock. Duration is the length of time livestock are present in a given pasture. These modifications would be made through administrative decisions such as: the specific number of head stocked on the allotment annually or in a particular season; the class of animals stocked (cow/calf pairs vs. yearlings, steers or heifers, etc.); specific dates of grazing; livestock herd movement; and periods of rest, deferment, or non-use of portions or all of the allotment for an appropriate period of time, as conditions warrant.

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

Protein, salt, and other supplements will not be placed within ¼ mile of water or any identified sensitive plant population. New improvements (e.g. pipelines, troughs, tanks, or fences) will be designed to avoid adverse impacts to any such populations.

**Allowable Use**

Allotment Wide Measures:

Grazing intensity guidelines will be applied across the allotment to provide rangeland managers with information needed to adapt management through adjustments, as may be needed, on an annual basis. Examples of appropriate grazing intensity and forage use guidelines for areas of the allotment that are generally described to be in satisfactory condition include:

A management guideline of 35-45% utilization of key forage plants in upland key areas as measured at the end of the growing season or seasonal use period;

Up to 50-60% leaders browsed on key upland woody species;

Minimum stubble height on key riparian herbaceous species: four to six inches where sedges and rushes are key and eight inches where deergrass is key;

Up to 20% use by weight on key woody species within riparian areas; or less than 50% of terminal leaders browsed on woody species less than 6 feet tall.

Grazing intensity will be determined using key herbaceous and browse species within key areas.

In the event that the above resource protection measures do not accomplish resource objectives, additional optional measures may be implemented. These optional measures will be designed to address site-specific resource concerns and may include, but are not limited to, such things as temporary fencing, electric fencing, and reconstruction of existing non-functional improvements and construction of new improvements such as drift fences.

# Rangeland Improvement Program

Construction of New Range Improvements:

Construction of the following new structural improvements has been approved to address resource concerns. These improvements are intended to aid in the achievement or maintenance of desired resource conditions by improving livestock distribution. Future monitoring may indicate some of these are not necessary.

- Construct 1 reliable water development (Windmill or Trick Tank) in Tonto Pasture on the west side, in the northeast corner of section 16.
- Construct 1 reliable water development (Windmill or Trick Tank) in D1 East Pasture on the south side, in the center of section 16 at Juniper spring development.
- Construct 1 reliable water development (Windmill or Trick Tank) between D1 East and D1 west Pastures in the southwest corner of section 8.
- Construct 1 reliable water development (Windmill or Trick Tank) in D1 West Pasture in the middle of the current pasture and on the proposed fence line to divide the pasture, in the southwest corner of section 11.
- Construct a north south fence to split the D1 West pasture into D1 West and Twin Buttes pastures.
- Construct an east-west fence to split South Pasture into Tank Creek and Bald Mountain Pastures.
- Construct fence within the Sycamore Pasture to include a portion of that pasture into the new Tank Creek Pasture.
- Construct a water-lot and corral fence around a tank on Sycamore mesa in the Sycamore/Dougherty Pasture to better control livestock use patterns.
- Add a 30,000 gallon storage tank to existing trick tank in South pasture in section 5.
- Extend the Sycamore Exclosure pasture fence (approximately 250 yards) in the far western portion of the exclosure pasture to secure the exclosure.
- If and when the Burnt Wash #2 or the Jack Jones spring tanks require maintenance, the permittee will contact the USFS Tank Creek Allotment Permit Administrator. The USFS would install a "drop structure" to provide a self-cleaning mechanism for the spring tank(s). If it is determined that the drop structure is unsuccessful, the permittee can perform maintenance of the spring tanks with a backhoe.

Non-Structural Range Improvements:

**Vegetation Treatments:**

The proposed action contains vegetation treatments in four potential natural vegetation types (PNVTs) that are expected to provide benefits across multiple resource areas (EA page 13-14). The proposed treatments include the use of fire in all four PNVTs and the use of mechanized equipment in Juniper Grassland and Piñon-Juniper Evergreen Shrub to open up the tree canopy and in Interior Chaparral to protect desired vegetation components. Mechanized equipment may also be used in Interior Chaparral and Piñon-Juniper Evergreen Shrub to create fuel breaks around wildland-urban interface (WUI) areas. The spatial distribution of these treatments is shown on the Tank Creek Allotment Proposed Improvement and Key Area map (Attachment 2).

## Maintenance Responsibility

The Term Grazing Permit includes a list of all improvements which the permittee will continue to maintain at a level that effectively provides for their intended uses and purposes. Range improvements will be inspected periodically during the term of the permit to document condition.

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

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

AOI will identify range improvements in need of maintenance. Existing improvements may be replaced when their conditions warrant. All improvements identified on allotment maps have been evaluated and determined necessary to the management of the allotment through the life of this plan.

Access to Improvements:

Authorization for cross-country motorized travel is provided for the permittee to administer the livestock operation and maintain improvements under the terms and conditions of the Term Grazing Permit.

Annual authorization for actions implementing management direction in the AMP will be included in the AOI , such as a description of the anticipated level of cross-county travel, travel needed for improvement maintenance, new improvement construction, or reconstruction of existing improvements.

All authorizations for cross-country motorized travel are subject to existing regulations intended to protect natural and/or heritage resources. Cross-country travel is not allowed when such travel would cause unacceptable resource damage.

The permittee may be authorized to maintain forest systems road to facilitate the maintenance, replacement, or installation of range improvements. Maintenance activities will adhere to Forest Service standards and be authorized through a road use permit.

***Maintenance of Vegetation Treatments:*** All of the Potential Natural Vegetation Types (PNVTs) would be maintained by wildland, prescribed, and managed fire as well as through mechanical and hand thinning techniques. The maintenance interval would be based on the level of departure from the desired conditions as well as the vigor of the targeted vegetation.

## Drought Management

Perennial grasses and major browse species need deferment/rest in order to provide time to recover from drought induced stress. Even when rested or deferred, if adequate precipitation is not received, recovery may not be adequate for livestock use.

Move cattle to the next scheduled pasture when utilization in pastures is met. If complete removal of livestock is necessary, they may be authorized to return to the allotment once conditions improve; meaning sufficient recovery from the effects of drought stress has occurred and there has been enough herbaceous production to support livestock numbers. Potential return of livestock will be evaluated no earlier than the summer growing season.

# Monitoring and Evaluation

Implementation Monitoring

This monitoring will be conducted on an annual basis and will include such things as livestock actual use (# of head, # of months) and scheduled and unscheduled inspections to ensure that all livestock and grazing management measures stipulated in the permit, AMP, and AOI are being implemented (*e.g.* cattle numbers, on/off dates, rotation schedules, maintenance of improvements, mitigation measures). Every effort will be made to ensure permittee is available during these monitoring visits.

Forage utilization will be monitored on the allotment at key areas and at areas identified with site-specific resource concerns. *See Attachment 2, Tank Creek Allotment Proposed Improvement and Key Area map.*

The key area concept is based on the premise that no range of appreciable size will be grazed uniformly (Holechek, Pieper and Herbel, 1998). When key areas are "properly" used there may be substantial areas that are used more or less than the key areas, including some that will not be used at all. Forest Service personnel can work with the permittee in selecting these areas.

(*Monitoring of allowable use on key forage species in key areas is the joint responsibility of the Forest Service and the permittee. Although the Forest Service will make every effort to assist the permittee in ensuring compliance with standards, the permittee has the ultimate responsibility for ensuring that the allowable use standards are met).*

If periodic field checks indicate that plant vigor or production is poor, and bare soil is increasing, this would trigger a need to make adaptive management adjustments. This could also result in re-evaluation of vegetation or soil condition through effectiveness monitoring.

Field Checks will include informal inspections, formal inspections, and permittee compliance monitoring.

**Informal Inspections**

Informal inspections conducted by the Forest Officer will be made as the opportunity arises, such as when the Forest Officer is working in the area or is passing through the allotment.

The permittee will be notified by telephone of any significant observations needing immediate attention. Significant observations will be documented in writing by the Forest Officer and a copy of the inspection notes will be sent to the permittee in a timely manner.

**Formal Inspections**

Formal inspections conducted by the Forest Officer will be made as time and competing duties allow with an attempt to inspect each of the pastures.

The permittee will be requested to accompany the Forest Officer during the inspections. Significant findings from these inspections will be documented in a letter or inspection report sent to the permittee in a timely manner.

**Permittee Compliance Monitoring**

The permittee will:

- Monitor the allotment continuously throughout the grazing season to determine current resource conditions and to ensure the terms of the permit are being met.
- Document all findings through notes, photographs, or other means decipherable by the Forest Officer
- Share monitoring information with the Forest Officer, and
- Coordinate with the Forest Officer to resolve any problems that arise.

Effectiveness Monitoring:

Coordinated monitoring will be done annually. The permittee is encouraged to participate in any effectiveness (e.g. long term condition and trend) monitoring and evaluation conducted on the allotment. This type of monitoring evaluates the success of management in achieving the desired objectives within key and critical areas or on permanent transects at an interval of 10 years or less. Data collected for the Allotment Management Plan revision serves as a baseline for vegetation and soil condition. The same key areas evaluated for the analysis will be re-visited to determine if desired conditions are being maintained, or there is acceptable progress in those areas needing improvement. Effectiveness monitoring may also be conducted if data and observations from implementation monitoring indicate a need.

- Canopy cover will be measured at key areas in these areas. Results of monitoring will be analyzed against baseline data or Ecological Classification description to determine if objectives are being met.

Both qualitative and quantitative monitoring methods will be used in accordance with Interagency Technical References, the Region 3 Rangeland Analysis and Management Training Guide, and the Region 3 Allotment Analysis Handbook. Common methods to evaluate vegetation trend include plant frequency changes over time, or comparison of existing vegetation canopy cover and species composition to the potential natural vegetation based on soil type, climate, elevation, topography, and past land uses.

**Attachment 1, Relevant Forest Plan Standards and Guidelines**

| Range Management | |
|---|---|
| **Std-Range-1** | **Water troughs shall incorporate escape devices to prevent animal entrapments** |
| **Std-Range-2** | **Year-long livestock grazing in riparian areas (streams, springs, and seeps) shall be avoided to prevent adverse impacts to water quality and riparian habitat in those areas** |
| Guide-Range-1 | The placement of salt, minerals, and/or other supplements for the purposes of livestock management should be located further than one-quarter mile from riparian areas or seasonally present water. |
| Guide-Range-2 | For structural improvements:<br>• Implement design features that incorporate wildlife needs and reduce barriers to movement and entrapment hazards<br>• Consider wildlife needs in fence placement and design to reduce barriers and hazards to movement and minimize chances of entrapment<br>• Remove fencing when it is no longer needed |
| Guide-Range-3 | After occurrence of wildland fire or mechanical activity that removes most vegetation, a time period for recovery, establishment, and regrowth of vegetation should be determined and applied to meet site-specific objectives |
| Guide-Range-4 | Livestock salting should be located away from known locations of Southwestern Region sensitive plant species so that plants are not adversely affected by associated trampling |
| Guide-Range-5 | Livestock use of woody riparian species (e.g. cottonwood, willow, ash, and alder) should provide for maintenance of those species and allow regeneration of new individuals leading to diverse age classes of woody riparian species where potential for native woody vegetation exists |
| Guide-Range-6 | Grazing intensity, frequency, occurrence, and period should provide for growth and reproduction of desired plant species while maintaining or enhancing habitat for wildlife |
| | **Watersheds guidelines** |
| Guide-WS-4 | Adverse impact to stream channel features (e.g. streambanks, obligate riparian vegetation) should be minimized by modifying management actions. Examples of modification could include, but are not limited to: adjusting timing and season of grazing, limiting use and location of heavy machinery, or avoiding placing trails or other recreation structures where recreation use could negatively affect stream channel features |
| Guide-WS-5 | Ground cover sufficient to filter runoff and prevent erosion should be retained in riparian corridors, seeps, and springs |
| Guide-WS-9 | Along perennial streams, perennial intermittent streams, and spring ponds, mitigation such as offsite water for livestock should be provided to reduce impacts on riparian communities and groundwater dependent sites |

| | |
|---|---|
| Guide-WS-10 | Measures that restrict use should be considered as a way to mitigate recurring negative impacts to aquatic species and riparian plants. These could include, but are not limited to: installation of barriers, road closures, area closures, or seasonal restrictions |
| **Soils Guideline** | |
| Guide-Soil-1 | Projects should be designed to limit activities that would cause long term impacts to soils such as loss of ground cover, severely burned soils, detrimental soil displacement, erosion, puddling, or compaction. Where disturbance cannot be avoided, project-specific soil and water conservation practices should be developed. |
| **Vegetation Standard** | |
| **STD-Veg-2** | **When treating nonnative and invasive plant species, design features in appendix B of the "Final Environmental Impact Statement for Integrated Treatment of Noxious or Invasive Weeds" (Forest Service, 2005a) or the most current direction must be followed to protect endangered, threatened, proposed, and candidate wildlife and plant species and their habitats** |

Attachment 2, Proposed Improvements and Key Area Map

