

TONTO BASIN ALLOTMENT - NORTHWEST
ALLOTMENT MANAGEMENT PLAN
TONTO BASIN RANGER DISTRICT
TONTO NATIONAL FOREST

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**Tonto Basin Grazing Allotment Management Plan
(Northwestern Half)
Tonto Basin Ranger District, Tonto NF**



This allotment management plan is being developed using information from the 2014 Environmental Assessment (EA) and subsequent Notice of Decision for the allotment. The EA was developed following procedures outlined in the National Environmental Policy Act (NEPA) and other national and regional policy. The Decision Notice and Finding of No Significant Impact, which documents the selection of the Proposed Action with some elements of Alternative 3 to address resource concerns, was signed by the decision maker on January 11, 2016.

Allotment Description

The Tonto Basin Allotment encompasses approximately 44,181 acres both West and East of HWY 188 and the town of Tonto Basin, in Gila County, Arizona. The allotment is within the Tonto NF LMP Management Areas 6J, which emphasizes wildlife habitat improvement, livestock forage production and dispersed recreation.

The allotment is situated on varied topography including gentle sloping mesas, rolling hills and steep, mountainous slopes. Major vegetation types include Sonoran desert, semi-desert grasslands, pinyon-juniper savannah, chaparral and deciduous riparian vegetation corridors along several drainages and around springs. Climate on the allotment is characterized by a bimodal precipitation pattern with about 60 percent of moisture occurring as frontal systems from December through March and 40 percent occurring as monsoons from July through September. This bimodal precipitation pattern can lead to multiple growing seasons for perennial grasses and palatable shrubs.

Operation

The Tonto Basin Allotment is being managed as a year-long cattle grazing operation. Bulls are run with the cows year-long. The allotment currently is divided into 9 pastures and a holding pasture that are used in a deferred rotation pattern so that each pasture does not receive use at the same time each year. Cattle were removed after the 2002 drought and cattle numbers have slowly been increasing as improvements are brought back up to standard.

Permitted Numbers

Permitted numbers for the Northwestern portion of the Tonto Basin Allotment will be issued for up to 342 head of cattle yearlong and up to 262 yearlings from January through May. Adaptive management practices will be implemented to determine annual carrying capacity based on climatic and resource conditions, status of range improvements and on permittee management practice. These stocking rates and a schedule of pasture rotation will be provided through annual operating instructions drafted cooperatively with the permittee at the start of each calendar year.

Current Conditions and Management Requirements

Monitoring data gathered over the past several years and summarized in the EA indicate that range conditions are moving towards Forest Objectives. Since livestock have been returned to the allotment following the severe 2002 drought, use has been light to moderate with key perennial grass cover being variable year to year based on timing and intensity of precipitation received. Soil conditions are generally unsatisfactory on the flat Sonoran Desert in the Kayler and Malone Pastures, recent inspections and monitoring data indicates that some of these areas have remnants of biological soil crusts forming that are increasing soil stability, reducing erosion, fixing atmospheric nitrogen, and contributing nutrients to plants.

Grazing on the Tonto Basin Allotment is adjacent to the critically important wildlife areas along the confluence of Tonto Creek and Lake Roosevelt. As such specific management requirements must be met to ensure the continued improvement in wildlife species and habitat.

- No grazing will be authorized within the occupied Southwestern Willow Flycatcher (SWWF) Habitat, designated critical habitat or the Tonto Creek Riparian Unit.
- The Kayler and Malone holding pastures will be limited to years with abundant annual forb and grass production while providing rest in drier years and use will be limited to 50% utilization of current years annual production.
- Short term use of these pastures of less than 30 days for shipping purposes may be authorized annually regardless of annual forb and grass production.
- The Kayler, Malone Holding, Long Mesa and Mesquite pastures adjacent to the TRCU will shut off waters within 1 mile of occupied flycatcher breeding habitat to keep cattle from concentrating on the lower areas in proximity to Tonto Creek and flycatcher nesting areas to reduce risk of cowbird parasitism during the flycatcher nesting period of May 15th to August 15th. Habitat will be considered occupied by previous three years of presence/absence surveys conducted by the District Biologist.
- Management activities that could result in disturbance to the Mexican Spotted Owls (MSO) will not be conducted within a quarter mile of PACs during the MSO breeding season of March 1st to August 31st. Examples of these management activities includes but is not limited to; herding cattle, construction of range improvements, brushing fence lines, etc....
- Annual forage utilization on key forage species within MSO habitat must stay below 20 to 30 percent in order to maintain sufficient residual stubble heights.
- All water developments will include wildlife access and escape ramps built to Forest Service Standards.

The sequence and timing of pasture moves will be set annually and adjusted through the use period based on monitoring of range readiness, ecological condition, and grazing impacts. If conservative use levels are reached before schedule move dates, livestock will be moved to the next scheduled pasture. If all pastures have been utilized before the end of the grazing season livestock will be removed from the allotment until the start of the next growing season.

Goals, Objectives and Management

The goal of this management plan is to maintain or improve resource conditions on the Tonto Basin Allotment in compliance with the Tonto National Forest Land Management Plan (LMP) standards and other national and regional policy and guidelines as described in the EA.

Objectives identified in the EA include:

- Soils: Manage vegetation to achieve satisfactory or better watershed conditions by maintaining soils currently in satisfactory condition, manage for an upward trend for

soils in impaired condition and manage soils that are in unsatisfactory condition to achieve impaired or better condition.

- Kayler and Malone Pastures could be limited to years with abundant annual forb and grass production while providing rest in drier years, and use would also be limited to 50 percent utilization of current year's annual production
- Riparian areas and springs: achieve 80% of potential riparian overstory crown cover, rehabilitate 80% of the potential shrub cover in riparian areas, manage cottonwood and sycamore stands, re-establish riparian vegetation in severely degraded but potentially productive riparian areas, avoid channel changes or disturbance of stream channels and minimize impacts to riparian vegetation, improve all riparian areas to satisfactory or better condition by 2030. Maintain 80% natural shade over water surfaces, maintain 80% of natural bank protection, maintain the composition of sand, silt and clay within 20% of natural levels, maintain 3 age classes of woody plants with 10% in seedling and sapling age classes, maintain residual herbaceous vegetation along the greenline or streambank, minimize the annual impacts to seedling and sapling riparian woody species, limit physical impacts to alterable streambanks and greenlines, achieve recruitment of desirable woody and herbaceous perennial riparian species. The most important long-term desired conditions are to:
 - Optimize riparian tree and shrub establishment, especially following episodic, regional winter storms.
 - Increase the density, vertical and horizontal canopy cover of woody riparian tree species.
 - Increase the proportion of obligate and facultative riparian species.
 - Maintain or increase canopy cover to herbaceous species to at least 50% (or 5-25% for reaches now at trace to 1%).
 - Decrease greenline to greenline width (distance between perennial vegetation on opposing streambanks).
 - Optimize the establishment of floodplains and streambanks
 - Improve stream channel function and stability
 - Cattle exclosures may be constructed around Buena Vista Spring and other key riparian areas if utilization is consistently exceeded.
- Wildlife: provide for species diversity, maintaining viable populations of existing species, improving habitat for selected species and manage to increase population levels of threatened and endangered species. Provide at least 40% ground cover around springs and riparian areas for wildlife hiding cover. Continue to provide access to water for game and non-game species on the allotment. Wildlife escape ramps and access ramps will be provided and maintained on all cattle troughs on the allotment. In riparian areas across the allotment provide for regeneration of vegetation to achieve multiple age

classes and complex vegetative structure for wildlife habitat. To provide for needs of special status species;

- Tonto NF shall avoid activities within 0.25 mile of PACs during the MSO breeding season (March 1 to August 31) that could result in disturbance to owls (USFWS 2012 LRMP BO).
- The TNF will maintain residual stubble height and limit utilization to conservative use of annual growth on key forage species (between 20 and 30 percent within Mexican spotted owl habitat).
- Light to moderate utilization will be implemented across the allotment to protect the watershed and minimize potential downstream effects.
- No grazing will occur within habitat used by breeding flycatchers or designated critical habitat.
- Tonto Basin Ranger District has continued to prohibit grazing on lower Tonto Creek to help alleviate the broader negative impacts from historical upland overuse and promote dynamic developing habitat.
- In the following pastures adjacent to the TCRU, water will be shut off within 1 mile of occupied flycatcher breeding habitat to keep cattle from concentrating in areas in proximity to Tonto Creek and flycatcher nesting areas to reduce the risk of cowbird parasitism during the flycatcher nesting period (May 15th through August 15th). The pastures are Malone Holding, Kayler, Long Mesa, and Mesquite on Tonto Basin Allotment.
- Habitat will be considered occupied if flycatchers are detected in any of the previous three years of presence/absence surveys conducted by the District Biologist.
- The TCRU, which runs through portions of the Tonto Basin Allotment and includes areas where flycatchers nest, is fenced from cattle grazing year-round. Fences are, and will continue to be, monitored by the permittee and Forest Service District staff when cattle are seen in pastures adjacent to the TCRU.
- TNF biologist will conduct willow flycatcher surveys annually if and when suitable.
- Archaeology: continue to survey for archaeological sites prior to any ground-disturbing projects. Do not place salt or mineral blocks near or in any archeological sites and manage cattle in a way that minimizes or reduces any current impacts to heritage sites from grazing.
- Recreation: continue to provide recreational opportunities and permittee access to roads and trails needed for allotment maintenance.

- Economics: continue to provide a viable economic opportunity to the permittee.

Management on the allotment will continue as a yearlong, deferred rotation grazing plan. Livestock will be managed using Best Management Practices and Adaptive Management principles as described in the EA. These include proper herding, salting and improvement maintenance which help avoid concentrating livestock and encourages even distribution of use across the landscape.

As livestock use each specific pasture, the effects of grazing activities such as seasonal use of vegetation, trailing, effects on soils, and wildlife habitat concerns would be monitored during the grazing period. This information would be used to help determine when cattle should be moved out of the unit in order to not exceed moderate use (30-40%) of current annual production and to avoid other undesirable effects. Post grazing monitoring would document effects and when used with actual livestock use information, would help determine the carrying capacity of each unit for livestock to further refine future allotment management.

As each management unit is used in rotation, monitoring and management adjustments will take place to ensure management guidelines are met. The amount of time livestock remain in each management unit will be a function of actual numbers, season of use, and the results of monitoring. The term grazing permit will provide for yearlong grazing however if proper use in the management units is achieved before the end of the permitted season in order not to exceed the proper use guidelines identified in this decision. Better distribution of livestock would help avoid concentrating effects and would provide the best opportunity for livestock to remain on the allotment for the entire grazing season.

Range Improvements

1). Existing Structures - Existing Range improvements (fencing, waters, handling facilities, etc.) are critical components of any grazing management plan. All range improvements assigned to the permittee (as part 3 of the Term Grazing Permit) need to be maintained in order to facilitate proper management of the Allotment. Any improvements that are no longer necessary need to be identified by the permittee and agreed upon by a Forest Service official. These improvements must be completely removed from the Forest. A permit modification will be completed to remove the structure from the permittee's maintenance responsibilities.

The permittee must receive district approval prior to bringing any heavy equipment onto the forest. Even maintenance on existing range improvements may require additional archeological or biological clearances prior to beginning any work.

2). New Construction of Range Improvements – All new construction of proposed structural range improvements must have an Archeological Clearance approved prior to any work being

started. Improvements should be proposed far enough in advance to allow for timely completion of all required planning, field visits and clearances conducted by the Forest Service. Improvements will be authorized through a permit modification form signed by the Ranger then provided to the permittee prior to work being started. Once the project is complete, an inspection check will be conducted to ensure that the improvement meets all Forest Service Standards and the site is clean and improvement functional. Improvements constructed on the Forest will be built with keeping in mind that they should last for at least 20 years with little or no maintenance.

Fences: Currently the allotment is divided into 7 pastures and a holding pasture however it is proposed to construct several new pasture fences as well as the Boundary fence that will officially split the Tonto Basin Northwest portion from the Southeast portion. Although generally the riparian vegetation that exists on the Tonto Basin allotment has been improving, there may be a need in the future to consider changes in pasture fences to benefit the riparian values in some of the riparian corridors and fencing springs such as Buena Vista spring.

Water Development: Additional water developments are going to be the key in making this a successfully run Allotment. Currently there are a number of water developments that are proposed. These water developments will be needed in order to maintain effective livestock distribution in the larger units. Water developments include adding pipelines storage tanks and/or troughs to existing water developments should be the first priority for this allotment. The following resource protection measures will be followed when installing or maintaining watering sites;

- Developed springs should be fenced off to protect the spring and spring box where possible.
- Watering sites will not be developed within 300 feet of perennial streams
- All spring developments would be constructed with spring boxes designed so that residual flow is left at spring head to prevent dewatering.
- Access and escape ramps will be constructed into each livestock water trough.

Monitoring

Monitoring data gathered over the past several years and summarized in the EA indicate that range conditions are moving towards Forest Objectives. Since livestock have been returned to the allotment, use has been light to moderate with key perennial grass cover being variable year to year based on timing and intensity of precipitation received.

The objectives of monitoring is to determine whether management is being properly implemented and whether the actions are effective at achieving or moving toward desired

conditions. Monitoring described below can occur throughout the grazing year and be conducted by Forest personnel in collaboration with grazing permittees and other Federal and State specialists. Monitoring should be conducted at regular intervals based on management changes and time scales and should be conducted in Key areas. Key areas are described in "Sampling Vegetation Attributes" (Interagency Technical Reference, 1996) as indicator areas that are able to reflect what is happening on a larger area as a result of on-the-ground management actions. A key area should be a representative sample of a large stratum, such as a pasture, grazing allotment, wildlife habitat area, herd management area, watershed area, ect., depending on the management objectives being addresses by the study. Proper selection of Key areas requires appropriate stratification.

Effectiveness monitoring includes measurements to track condition and trend of upland and riparian vegetation, soil and watersheds. Monitoring would be implemented following procedures described in the Interagency Technical Reference and Region 3 Rangeland Analysis and Training Guide. This data will be interpreted to determine whether management is achieving desired conditions, whether changes in resource conditions are related to management and to determine whether modifications in management are necessary. Effectiveness monitoring would occur at least once over the ten-year term of the grazing authorization or more frequently if deemed necessary.

There are three types of upland effectiveness monitoring that has occurred on this allotment over the last 50 years; Parker Three-Step Clusters established in the 1950s, Plan Six rangeland plot monitoring and more recently the Common Non-Forested Vegetation Sampling Protocol (CNVSP). All of these monitoring techniques have their positive and negative aspects however it is believed that the most current CNVSP monitoring technique provides the most useful and complete data set to interpret changes over time. One Key area to conduct effectiveness monitoring has been or will be established in each pasture. Key area are placed over existing monitoring sites where practical so that photographs can be continued to be taken in accordance with previous monitoring conducted at those sites to give historical perspective of vegetation changes over time. Where key areas are not established but previous effectiveness monitoring sites were located, photographs will continue to be taken to provide photographic evidence of changes occurring in those locations.

Effectiveness monitoring for riparian areas could be conducted using Multiple Indicator Monitoring (MIM) of Stream Channels and Streamside Vegetation (Burton et al. 2011) or the most current acceptable method. Additional Proper Functioning Condition monitoring could be conducted where practical. It has been determined that in a reach of approximately 1,000 feet, sampling of 30 to 50 plants within that reach is necessary for statistically valid monitoring. Any riparian area that has the potential to have enough riparian vegetation for statistically valid monitoring but does not currently have a long enough reach of riparian vegetation will be managed

more closely to provide for recruitment of riparian resource. These specific riparian areas that have the potential to reach this are listed in the EA figure 29.

Additionally for riparian areas, riparian photo points have been established across the allotment. These riparian photo points will provide records of changes to these areas overtime and should be continued to help determine best management practices.

In order to address concerns over livestock impacts to vegetation and the permittees concern over lack of site specific data that is relevant to their specific allotment in regards to determining site potential as well as differences between grazed and non-grazed areas, long term paired macro plots should be constructed in adjacent soil types to Key areas.

Implementation monitoring would occur at any time during the grazing year and would include such things as inspection reports, forage utilization measurements, livestock counts and facilities inspections. Upland utilization measurements are made following procedures found in the Interagency Technical Reference and with consideration of Principles of Obtaining and Interpreting Utilization Data on Southwest Rangelands. Upland utilization will be measured on key species selected for each key area and should be conducted soon after pasture rotations are complete. Forage utilization will be managed at a levels corresponding to light to moderate intensity in order to provide for grazed plant recovery, increases in herbage production and retention of herbaceous litter to protect soils. Peer-reviewed grazing studies identifies conservative use as 30 – 40% average use of primary forage species based on pasture-wide utilization averaged over time (Holechek, et al, 2004). Consistent patterns of utilization in excess of moderate intensity would be used as a basis to modify management practices or reduce livestock numbers in subsequent grazing years.

Riparian areas and springs on these allotments have been relied upon as a primary source of livestock water for many years, causing stream channels and adjacent riparian areas to receive concentrated grazing pressure, however conditions have begun to improve with light use over the past several years. Some of those areas have positively responded to the decreased grazing pressure and a change to a more intense management that is partially the result of greater awareness of grazing concerns in riparian systems. The Table below list key riparian reaches which will be monitored for riparian utilization.

Pasture	Streams
Lambing	Lambing Creek
Mt. Ord	Sycamore Canyon & tribs, Park Creek, Reno Creek
Sycamore	Walnut Canyon, Sycamore Creek

Long Mesa	Park Creek, Reno Creek
Mesquite Flat	Walnut Canyon

Forage utilization will be managed at a levels corresponding to light to moderate intensity in order to provide for grazed plant recovery, increases in herbage production and retention of herbaceous litter to protect soils. Peer-reviewed grazing studies identifies conservative use as 30 – 40% average use of primary forage species based on pasture-wide utilization averaged over time (Holechek, et al, 2004). Consistent patterns of utilization in excess of moderate intensity would be used as a basis to modify management practices or reduce livestock numbers in subsequent grazing years.

For riparian areas, guidelines for use are as follows: *obligate riparian tree species* – limit use to <50% of terminal leaders (top 1/3 of plant) on palatable riparian tree species accessible to livestock (usually <6 feet tall); *deergrass* – limit use to, 40% of plant species biomass; *emergent species (rushes, sedges, cattails, horsetail)* – maintain six to eight inches of stubble height during the grazing period. The goal of the deergrass utilization guideline is primarily to provide residue vegetation for stream channel protection, and secondarily to protect plant vigor. Emergent vegetation is supported by perennial surface or subsurface water, and has high potential for regrowth following grazing. The goal of the emergent species guideline is to provide physical protection to the stream channel.

The sequence and timing of pasture moves will be set annually and adjusted through the use period based on monitoring of range readiness, ecological condition, and grazing impacts. If conservative use levels are reached before schedule move dates, livestock will be moved to the next scheduled pasture. If all pastures have been utilized before the end of the grazing season livestock will be removed from the allotment until the start of the next growing season.

While monitoring techniques as described above would be conducted in key areas, these would not be the sole locations for gathering information from the grazing allotment to make decisions about the timing, intensity, duration or frequency of livestock grazing in a given grazing season. The overall condition of the allotment and such things as distribution patterns or rangeland improvement conditions could be assessed at any given time to help make those decisions.

The permittee will be encouraged to participate in all monitoring activities. Records of actual use and movement dates will be kept by the permittee and provided to the District range staff at the annual authorization meeting each year.

Adaptive Management

Adaptive management (FSH 2209.13, Ch.90; PR Vol. 2 #4) is a tool that uses documented results of management actions to continually modify management in order to achieve specific objectives. The proposed action is designed to provide sufficient flexibility to adapt management to changing circumstances. If monitoring indicates that desired conditions are not being achieved, adaptive management decisions would 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 rotation. Such changes would not exceed the limits for timing, intensity, duration and frequency as defined in the term grazing permit. Adaptive management would be implemented through annual operating instructions, which would adjust livestock numbers and the timing of grazing so that use is consistent with current productivity and is meeting management objectives. Conditions under which administrative actions may be necessary and what actions may be taken are listed in the 2015 EA page 32 through 35.

Adaptive management also includes monitoring to determine whether identified structural improvements are necessary or need to be modified. Structural range improvements will be constructed in accordance with 2015 EA and would require to meet Forest Service Standards. Additional input may be required from the interdisciplinary team to determine the best implementation and mitigation practices to follow when constructing new range improvements. Additionally in cases that changing circumstances require further interdisciplinary review, the review could consider the changed circumstances and site-specific environmental effects of the improvements in the context of the overall project. Based on the results of the interdisciplinary review, the District Ranger would determine whether correction, supplementation or revision of the EA is necessary in accordance with Forest Service Handbook Direction at FSH 1909.15(18) and FSH 2209.13(96.1) or whether further analysis under NEPA is required.

Authorization of Grazing

For the proposed action, livestock grazing would be authorized under the following terms and conditions:

Duration and timing of grazing: Use on the allotment would be authorized yearlong or seasonally as resource and climatic conditions dictated. Grazing management would ensure that pastures receive periodic growing season rest in order to provide for grazed plant recovery as outlined in this Allotment Management Plan (AMP). The sequence and timing of on/off dates, pasture rotations or other moves would be set annually based on monitoring of range readiness, ecological condition and utilization and formalized in the AOI's.

Intensity of Grazing: Forage utilization would be managed at a level corresponding to light to moderate intensity in order to provide for grazed plan recovery, increases in herbage production and retention of herbaceous litter to protect soils. Consistent patterns of utilization exceeding conservative use guidelines of 30-40% on key species in key upland areas or exceeding Forest guidelines for riparian areas would be used as a basis to modify management practices or take administrative actions necessary to reduce utilization in subsequent grazing seasons. Riparian use guidelines are as follows: *obligate riparian tree species* – limit use to < 50% of terminal leaders (top 1/3 of plant) on palatable riparian tree species accessible to livestock (usually ≤6 feet tall); *deergrass* – limit use to < 40% of plant species biomass when total herbaceous canopy cover near the greenline is less than 50%; *emergent species (rushes, sedges, cattails, horse-tails)* – maintain six to eight inches of stubble height during the grazing period. The goal of the deergrass utilization guideline is primarily to provide residual vegetation for stream channel protection, and secondarily to protect plant vigor. Emergent vegetation is supported by perennial surface or subsurface water and has high potential for regrowth following grazing. The goal of the emergent species guideline is to provide physical protection to the stream channel (PR Vol. 1 #36).

Administrative Action Necessary to Implement this Decision

The following administrative actions would be used to implement the decision to authorize grazing under the proposed action.

Permit Issuance: A new 10-year term grazing permit would be issued for the allotment with the range of numbers specified under the proposed action. Proposed permitted use is based on forage production and utilization surveys, records of actual use and the effects of this use on resource conditions as described in the EA. Permitted use reflects the estimated average annual forage production available for livestock on the allotments considering the duration, timing, frequency and intensity of grazing proposed and assumes proper livestock distribution and active management. Specific numbers of livestock to be grazed would be set each year based on resource condition and management objectives.

Allotment Management Plans: This allotment management plan (AMP) will be developed for the allotment and incorporated into the grazing permit. The AMP identifies specific goals and objectives of management, management strategies, range improvements and monitoring requirements.

Annual Operating Instructions (AOI): On an annual basis, the Forest and permittee would jointly prepare an annual plan, referred to as the AOI which sets forth:

- The numbers, class of livestock and the timing and duration of use for the current grazing year.
- The planned sequence of grazing in pastures on the allotment and the monitoring criteria that would be used to make changes.
- Structural and non-structural improvements to be constructed, reconstructed or maintained and who is responsible for those activities.
- Allowable use or other standards to be applied and followed by the permittee to properly manage livestock.
- Monitoring for the current grazing year would include documentation of compliance with the terms and conditions in the grazing permit, AMP and AOI.

