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# Allotment Management Plan Hitt Wash Allotment

USDA Forest Service  
Chino Valley Ranger District, Prescott National Forest  
Yavapai County, Arizona

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## Introduction

This Allotment Management Plan (AMP) is a direct result of the Environmental Assessment and subsequent Decision Notice/Finding of No Significant Impact (DN/FONSI), dated September 29, 2015.

The Hitt Wash Allotment is located on the Chino Valley Ranger District of the Prescott National Forest (PNF) and represents the project area for this analysis, an area of approximately 5,700 acres. The allotment is located in the northwestern portion of the District, approximately 14 miles west of Chino Valley, Arizona. The allotment is bordered by private land on the east and north; to the northwest is the K Four Allotment, and to the west is the Williamson Valley Allotment, and to the south is the Old Camp Allotment. (See map in Appendix 1).

Elevation ranges from about 4,700 feet at Hitt Wash to nearly 5,300 feet in the northwest corner of the allotment. The topography of the allotment is mostly rolling hills on the northern and southern portions with some steeper draws in the middle of the allotment. The terrain lends itself to cattle use being concentrated on the more flat and gentle slopes, with moderate to steep terrain receiving little to no use.

Vegetation on the allotment consists mainly of pinyon-juniper woodlands and grasslands. The understory varies from dense chaparral, to mixed shrubs and grasses, to woodland/grassland mix. 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 found in smaller quantities. Perennial grasses can be locally abundant, especially in juniper woodlands that have been previously thinned. Important forage grasses on the allotment include blue grama, sideoats grama, threeawns, sand dropseed, and squirreltail.

The southern two thirds of the allotment is drained by Hitt Wash, which is a tributary of the upper Verde River. Riparian vegetation occurs along portions of Hitt Wash. Hitt Wash has mainly herbaceous riparian vegetation such as sedges, rushes, horsetails, and other grass-like plants. There are localized areas of Arizona walnut, velvet ash and willow. 1.3 miles of Hitt Wash run through the Allotment, with two tenths occurring on Forest Service.

## Desired Conditions

The desired conditions on this grazing allotment, based on the Forest Plan 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 geomorphically 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. Vegetation desired conditions were being met at key areas chosen in the three main pastures, but improvement in soil condition is needed in the B.Y. Pasture.

- B.Y. Pasture.
  - Maintain existing canopy cover and species composition of perennial grasses in TEUI 481, and detect an improvement of vegetation spatial distribution (GAP) within 5-7 years (soils improvement).
- North Pastures.
  - Maintain existing canopy cover and species composition of perennial grasses at pasture key area in TEUI 481.
- South Pasture.
  - Maintain existing canopy cover and species composition of perennial grasses at pasture key area in TEUI 434.

## Grazing Management

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

# of Livestock	Season of Use	Animal Unit Months
A range of cattle numbers typically between 64 and 110 adult cattle	November 1st through April 15th	Not to exceed 605 Animal-Unit- Months <sup>1</sup>

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.

The current grazing permit will allow for 64 to 110 cow calf pairs and bulls on a dormant season basis (generally from November 1<sup>st</sup> through April 15<sup>th</sup>), annually.

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.

### **Grazing Management**

Livestock will be managed using a deferred rotation strategy during the dormant season. Livestock would be rotated through the two main pastures, North and South, during the seasonal use period. The third pasture, B.Y., would be used for one month during the season, either in November or early December, or mid-March to mid-April to avoid using the pasture when soils are wet. If use of the B.Y. pasture for one month does not exceed utilization levels, more time may be authorized.

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. If monitoring indicates that progress toward desired conditions is not being achieved on the allotment, management will be modified.

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. Such changes will not result in exceeding the AUMs authorized for livestock use.

<sup>1</sup> 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.

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:

- Conservative grazing intensity (35-45% use) on key forage plants in upland key areas as measured at the end of the growing season or seasonal use period;
- Up to 50-60% browse use 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. Grazing would be adjusted if periodic monitoring indicates that desired resource conditions are not being maintained.

#### Site-specific Measures:

The following measures will be applied in areas of concern where current conditions are not meeting desired conditions, and management objectives have been established to measure progress towards meeting desired resource conditions:

- The management objective for TEUI 481 in the B.Y. Pasture is to maintain vegetation cover and spatial distribution and promote retention of litter within the areas between plants on hillslopes, and to improve vegetative cover and distribution and decrease compaction in valley bottoms.
- Existing gullies in TEUI 481 in both B.Y. Pasture and at the southern end of the North Pasture may be treated by cutting adjacent juniper trees and piling in the gully or using rocks to create small structures to trap and retain sediment.
- Grazing may be deferred in riparian areas showing recruitment until seedlings become established and can be maintained while withstanding grazing impacts.

In the event that the above resource protection measures do not accomplish site-specific 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, see attached map. These improvements are intended to aid in the achievement or maintenance of desired resource conditions by improving livestock distribution. The Forest Service will collaborate with permittee and other agencies to complete these as the opportunities present themselves.

- Construct a well in the vicinity of Samson Tank (a currently unreliable water source).
- Change fence configuration between the North and South Pasture to use Rocky Tank as a water source for both pastures.
- Make the existing water haul location in the B.Y. Pasture a permanent water source by drilling a well in the vicinity of the existing storage tank.
- Construct a pasture division fence in the North Pasture that would roughly split the pasture into east and west sections. This would provide for better distribution of livestock and allow for additional deferred rotation opportunities among three main pastures.
- When allotment boundary fences are due to be reconstructed, make sure the new fence is constructed on surveyed property boundary lines and using wildlife-friendly fence design.

## **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.

### 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.

## **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, and allowable forage use).

Monitoring activities would be focused on those resources that need improvement or where there is a concern for an important habitat type. For this project, there are soil and vegetation condition concerns in the B.Y. Pasture in TEUI 481.

- Canopy Gap and vegetative ground cover will be measured.
- Results of monitoring will be analyzed against baseline data or Ecological Classification description to determine if objectives are being met.

Forage utilization, will be monitored on the allotment at key areas and at areas identified with site-specific resource concerns. *See Attachment 1 map for location of Key Areas.*

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.

*(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**

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.

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, Key Area Map

