

# Allotment Management Plan

## Hassayampa Allotment

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

Prepared by:  
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### Permittee Review / Agreement

Reviewed by/ agreed to John Kava Date 4/5/18  
Permittee

### Forest Officer Approval

Approved By Sarah Tomsky Date 4/5/18  
Sarah Tomsky, Bradshaw District Ranger

## 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 March 31, 2014.

The Hassayampa Allotment is divided roughly down the middle, north to south, by the Hassayampa River. The landform along the river consists of numerous ridges with moderate to fairly steep slopes and narrow ridge tops. These ridges run east and west of the river. Elevation ranges from about 4,000 feet near Collins Spring on the south side of the allotment to 5,750 feet near Quartz Mountain on the north. The topography of the allotment is very steep in the northern region of the allotment to moderately steep throughout the remainder. A minor portion of the allotment is considered gently sloping with gradients less than 10% in the floodplain areas adjacent to the Hassayampa River.

Vegetation on the allotment consists mainly of chaparral and pinyon-juniper. Canopy cover from shrub species is moderately to extremely thick in some locations to the extent that herbaceous forage is reduced or absent. The forage base of the allotment is primarily provided by desirable browse species such as mountain mahogany, deerbrush, Apache plume, and silktassel. Perennial grasses can be locally abundant, especially on south-facing slopes. Important forage grasses on the allotment include sideoats grama, black grama, blue grama, squirreltail, and curlymesquite.

The Hassayampa River through this allotment has an interrupted, intermittent flow regime with some segments exhibiting surface ephemeral characteristics due to subsurface flows in the Orofino and Middlewater pastures. There are pockets of old growth Fremont cottonwood stands in the Quartz Mountain pasture with mature cottonwood and mixed stands of riparian saplings in the south end of the Middlewater pasture, and in the Carter pasture. Herbaceous vegetation is sparse throughout the river floodplain. Net leaf hackberry, desert willow, seep willow, desert broom, burro brush, and mesquite make up the woody components associated with the ephemeral river corridor in the Middlewater and Orofino pastures.

## Desired Conditions

The desired conditions on this grazing allotment, 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.
  - On Carter TEUI 429, Middlewater TEUI 407, and North Rootplow TEUI 448, detect an improvement of vegetation spatial distribution within 5-7 years.
- Quartz Mountain Pasture. Maintain existing woody species composition and achieve age class distribution through recruitment, and increase herbaceous cover where potential exists, along the green-line of the Hassayampa River.
- Orofino and Middle Water Pastures. Promote woody riparian establishment along green-line and in floodplain (primarily seep willow and desert willow). Detect establishment and increase of perennial herbaceous plants on the seasonal green-line where the plants can grow (no rock) and indicators of increased bank and channel stability within 3-5 years.
- Carter Pasture. Maintain existing herbaceous cover and increase native composition within the riparian corridor. Maintain existing woody composition and achieve age class distribution through recruitment. Increase cottonwood and willow distribution along green-line. Improve bank and channel stability. Detect establishment and an increase of perennial herbaceous plants on the seasonal green-line where the plants can grow (no rock) and indicator of increased bank and channel stability within 3-5 years.

## Grazing Management

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

Permit Type	# of Livestock	Season of Use	Animal Months
Term (10 years)	From 49 to 109 head of cattle, cow/calf pairs and bulls	Dormant season generally from October 1 through March 31	From 284 to 656 Animal-Unit- Months <sup>1</sup>

<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.

The current grazing permit will allow for 49 to 109 cow calf pairs and bulls on a dormant season basis (generally from October 1<sup>st</sup> through March 31<sup>st</sup>), annually.

An Annual Operating Instruction (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 may be managed by dispersing in the Quartz Mountain, Rootplows, Orofino, and Middle water Pastures during the dormant season, or one herd in rotation. The Carter Pasture use period is restricted to when woody riparian plants along the Hassayampa River are fully dormant (generally December through February).

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.

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:

- Up to 30% utilization of key herbaceous plants in the riparian corridor (TEUI 44); use active livestock management techniques (herding, salt and supplement placement, etc.) to disperse cattle throughout the pasture and discourage concentration and trailing within the river corridor.
- Grazing may be deferred in riparian areas showing recruitment until seedlings become established and can be maintained while withstanding grazing impacts.
- Manage the Carter Pasture as a riparian pasture. Defer livestock grazing within the Pasture annually until riparian vegetation is dormant (generally December through February); manage to encourage woody species recruitment and to establish and maintain effective herbaceous vegetation along the green-line, where present. Emphasize sedges and rushes and/or deergrass for the herbaceous component.
- Construct a fence along the lower 1/2-mile of the Hassayampa River in the Carter Pasture to exclude livestock access to the riparian corridor if livestock use is expected outside the proposed December through February period, or if 3-5 years of monitoring data shows that desired conditions are not being met through limiting season of use alone.

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 that have been developed to address resource concerns and are intended to aid in the achievement or maintenance of desired resource conditions by improving livestock distribution have been approved.

- Increase water storage capacity at the Orofino Well#2 and increase the size of the existing corral.

- Construct a new water development in the northeast part of the Quartz Mountain Pasture in the vicinity of the south half of section 35 or the north half of section 2. The water development may be a well with storage, pipeline, and troughs, an earthen stock tank, or a trick tank collection apron with storage, pipeline, and troughs.
- Develop a new water source in the Carter Pasture. This water system will be located in the uplands west of the river and may include such facilities as a well development, storage tank(s), pump/windmill, pipeline, troughs, and corral facilities.
- Develop a dependable water source at or near Orofino Tank.
- Develop a dependable water source in the area of Miner's Tank in the Carter Pasture.
- Construct a riparian enclosure at the lower end of the Hassayampa River in the Carter Pasture if livestock use is expected outside the proposed December through February period, or if 3-5 years of monitoring data shows that desired conditions are not being met through limiting season of use alone.

## 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:

The Prescott National Forest designated a system of roads and trails that are open to motor vehicle use in 1989 through Forest Plan Amendment #4. Motor vehicle use off the designated road system by the permit holder to conduct activities associated with administration of the term grazing permit is allowed under the terms and conditions of the term grazing permit.

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.

## 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).

### Periodic Monitoring of Short-term Indicators of Resource Conditions

Short-term indicators of resource conditions such as forage utilization, residual forage, species composition, plant cover, frequency or density, and/or vegetative ground cover will be monitored on the allotment at key areas and at areas identified with site-specific resource concerns.

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. See current map, Attachment 1.

*(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).*

Periodic field checks will be conducted by the Forest Officer to assess vegetation health and trends as well as soil function to identify needed adjustments in season of use and/or livestock numbers.

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. 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.

The following Key Areas have been identified as needing improvement in order to meet desired resource conditions. These sites will be monitored to gauge progress toward those desired conditions.

### **Upland Key Sites:**

Carter Pasture, key soil map unit TEUI 429  
Middlewater Pasture, key soil map unit TEUI 407  
North Rootplow, key soil map unit TEUI 448

### **Riparian Area Management:**

Quartz Mountain, Orofino, Middlewater, and Carter Pastures: Hassayampa River

## Attachment 1.

