

**K4 Grazing Allotment**

**Chino Valley Ranger District**

**Prescott National Forest**

**Prepared by: Jake Russell      Date: Dec. 1<sup>st</sup>, 2014**

**Agreed to/Reviewed by: Jake Russell      Date: 1-16-15**  
Permittee

**Approved by: James Gilday      Date: 1-21-15**  
District Ranger

**Allotment Management Plan**  
**K-4**  
**USDA Forest Service**  
**Chino Valley Ranger District, Prescott National Forest Service**  
**Yavapai County, Arizona**

## **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).

The K Four Allotment is comprised of National Forest System (NFS) lands with some inclusions of private land found within the borders of the allotment, an area of approximately 27,200 acres. The allotment is located in the northwestern portion of the Chino Valley District, approximately 10 miles northwest of Williamson Valley, Arizona.

The allotment is centered around lower Walnut Creek, though most of the creek is found on private land. Elevation ranges from about 4,900 feet on the east side of the allotment to nearly 7,000 feet in the Juniper Mesa Wilderness at the northwest corner. The topography of the allotment is varied from steep, rocky terrain around Juniper Mesa to rolling hills around Indian Spring. Precipitation patterns in this area are bi-modal with monsoon events occurring during the summer and a second period of precipitation occurring within the winter season.

## **Desired Condition & Resource Objectives**

The desired conditions and resource objectives for resources and infrastructure on this grazing allotment, based on the Forest Plan and the work of the Interdisciplinary Analysis Team, include:

- rangeland management that can respond to local or national demands for livestock production while maintaining air, soil, and water resources at or above minimum local, State, or Federal standards (Forest Plan, pg. 11);
- the maintenance of satisfactory rangeland management status with a stable or upward apparent trend (Forest Plan, pg. 32);
- management of the grazing operations using a system that is responsive to changing climatic or environmental conditions;
- the maintenance of vegetation with mid- to high similarity to the potential natural plant community (PNC) 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 with improvement shown in areas departing from satisfactory condition where livestock grazing is contributing to the condition;

- 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, 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, Federally listed Threatened and Endangered species, Regional Forester Sensitive species, and for indigenous plant and animal species.

## Grazing Management

Permitted Numbers, Season of use and Animal Months

Permittee	Permit Type	# of Livestock	Season of Use	Animal Months
John I. Kieckhefer	Term (10 years)	Up to 600 head of Cattle	Winter Seasonal (generally from Oct 15-Apr 15)	2100-3600 Animal-Unit Months

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 350-600 cow calf pairs and bulls for six months. An 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

Dormant season grazing using a rest rotation grazing strategy whereby 2 out of 3 pastures are used every 6-month season, and one pasture is rested every season. Each pasture would receive 18-months of rest one grazing season out of three, and warm-growing season rest every year.

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. Adaptive management will also include the implementation of resource protection measures.

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  $\frac{1}{4}$  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.

- A management guideline of 35-45% utilization of key forage plants in upland key areas as measured at the end of the 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. Guidelines would be adjusted if periodic monitoring indicates that desired resource conditions are not being maintained.

### Site-specific Measures:

Soil conditions associated with TEUI 481 in the pinion-juniper vegetation type were determined to be in impaired condition due to low soil surface and subsurface organic matter and elevated soil loss. These areas are located within portions of the Indian and North Pastures. Site-specific measures are summarized as follows:

- North and Indian Pastures will be rested for 18-months in 1 out of 3 grazing seasons to provide cool-season grasses with rest and allow for accumulation of surface litter to protect soil from accelerated erosion.
- Fence portions of Hitt Wash near Round Valley Spring to protect breeding habitat for lowland leopard frogs that are on the Regional Forester's Sensitive Species list. Alternate water sources would be provided in the uplands for livestock, as needed.

In the event that the above resource protection measures do not accomplish site-specific resource objectives, additional management options may be implemented. These 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, drift fences, additional livestock enclosures, water pipelines, storage and troughs; reconstruction of non-functional improvements and construction of new improvements such as spring boxes, drift fences, and water gaps.

## Rangeland Improvement Program

### Construction of New Range Improvements:

This alternative includes construction of the following new structural improvements that have been developed to improve grazing management. If some of these improvements are not implemented over the life of the term grazing permit, the upper limit of permitted livestock numbers may not be achievable on a sustained basis, or seasonal use periods may be shortened. Different types of water developments may be employed depending on the location, and could include a catchment apron and storage tank ("trick tank") with pipeline to water troughs, or pipelines to water troughs from existing spring developments or wells.

- Add approximately 2.5 miles of new pipeline, storage tanks, and troughs in the North Pasture as an extension of the existing Juniper Springs water system and Juniper horizontal well. Two separate lengths of pipeline will be added; one segment to the north in sections 1 and 6, and

another segment heading south and west in sections 18, 19, and 24. Cultural resource surveys need to be completed before construction.

- Develop a new water source, likely a well with storage tank and troughs, in the Round Pasture, section 6.
- Develop a new water source in the Round Pasture east of Round Valley Spring.
- Add approximately 2 miles of pipeline and troughs to extend the Indian Springs water system in the Indian Pasture, sections 2 and 3. Cultural resource surveys need to be completed before construction.
- Relocate and reconstruct the allotment boundary fence in the North Pasture so that the fence is located on National Forest System lands bordering the private land on the north and west sides of section 3. Cultural resource surveys need to be completed before construction.

## **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. Existing improvements may be replaced when 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. 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. Approval is granted at annual authorization meetings or on a case by case basis.

### Nonstructural Range Improvements:

- Juniper cutting without prescribed burning – 384 acres. Located in northeast corner of North Pasture.
- Juniper cutting and possible prescribed burning follow-up treatment – 1,658 acres. Located primarily on TEUI 481 in North and Indian Pastures. Cut to a residual basal area of 5-10 square feet per acre average over the treatment block, achieved by retaining “reserve island” clumps across the treatment block with multiple age classes, generally retaining pinyon and large (monarch) alligator junipers.
- Group selection juniper cutting with possible follow-up burning – 1,064 acres. Located in Round Pasture, primarily on TEUI 461. Cut junipers on up to 40% of the treatment block in more productive sites that are likely to be able to respond to canopy cover removal and have a low density of shrub oak in understory. Hand cutting with no lop and scatter (leave juniper skeletons to create microclimates for grass). Evaluate follow-up burning treatment based upon recovery of vegetation in openings; burning would only occur after herbaceous plants have established and when juniper skeletons have broken down to a point where burn severity will likely be low.
- Spot tree and brush cutting with prescribed burning – 3,382 acres. Located in Indian Pasture, primarily on TEUI 434. Mechanical or hand cutting of juniper trees and brush either leaving juniper skeletons in place to create microclimates for grass establishment, or removal of cut vegetation off-site. Apply to create openings on approximately 25% of the treatment block. Evaluate follow-up burning treatment based upon recovery of vegetation in openings; burning would only occur after herbaceous plants have established and when juniper skeletons have broken down to a point where burn severity will likely be low.

- Targeted prescribed burning – 7,380 acres. Located in all three pastures. On areas with productive soils supporting high levels of shrub cover and generally located on steeper slopes. Some burn blocks will be pretreated by hand or machine cutting of brush and juniper to provide an adequate fuel load to facilitate fire spread.

The vegetation treatment acreage shown above has areas of overlap and should not be added together to constitute total treatment acres. For example, most juniper treatments areas will be burned in 3-5 years after the juniper cutting, so the same acres are counted twice in the above description, in both "Juniper cutting and possible prescribed burning" and "Targeted prescribed burning".

## **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.

*(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.

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