

Hackberry Pivot Rock Allotment Management Plan (AMP)

Red Rock Ranger District

Coconino National Forest

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Date 2-17-16

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Date 2/18/16

Record of Decision Summary

This Allotment Management Plan follows the “Environmental Assessment” and “Decision Notice and Finding of No Significant Impact” for the Hackberry Pivot Rock Range Allotment signed on February 18, 2010. Complete information on the purpose and need of the project, alternatives considered, and effects of the alternatives can be found in the EA or the Decision Notice and FONSI.

According to Ch. 90 Rangeland Management Decision-making, concurrent with modification or issuance of a new permit following a NEPA decision the allotment management plan must be modified to be consistent with the NEPA decision and must be included in Part 3 of the term grazing permit. All allotments must maintain a current AMP developed within the bounds of the NEPA based decision.

The Hackberry Pivot Rock Permittee recently received the Baker Lake Calf Pen Allotment through the USFS Grant Process. This allotment will be incorporated as pastures within the Hackberry Pivot Rock Allotment. Due to the addition of pastures that formerly made up the Baker Lake Calf Pen Allotment this AMP supercedes the Hackberry Pivot Rock 2011 AMP and the Baker Lake Calf Pen 1999 AMP.

Purpose and Need for Action

The Hackberry Pivot Rock environmental analysis was required by the Burns Amendment (1995) to ensure that livestock grazing was consistent with goals, objectives, and the standards and guidelines of the Coconino National Forest Plan (1987, as amended).

The purpose of the analysis was to authorize livestock grazing in a manner that maintained and/or moved the area toward Forest Plan objectives and desired conditions. The analysis showed a need to change from previous management which was not meeting or moving toward desired conditions in an acceptable timeframe.

Desired Conditions

Soil and Vegetative Conditions:

- Vegetation density, diversity, height, canopy cover and production are improving and moving towards Potential Plant Community.
- Soil stability is satisfactory with soil loss below tolerance, and there are no visible signs of accelerated erosion.
- Surface hydrologic soil condition and nutrient cycling is in satisfactory condition.

Riparian Streams and Reaches

- Riparian streams and reaches are improving and are in proper functioning condition or making significant improvements towards desired conditions.
- Springs show marked improvement, with healthy and vigorous riparian vegetation.
- Woody vegetation and other riparian plant species along stream reaches and springs increase.

Wildlife Habitat Conditions

- Habitat conditions for wildlife and other threatened and endangered species at several springs, and riparian areas improve.

Objectives and Measures

The allotment would meet the desired conditions for soil and vegetative conditions on the allotment:

- Improve vegetative composition towards Potential Plant Community by Terrestrial Ecosystem Survey (TES) map unit
- Improve vegetative cover towards potential as defined by TES map unit. Increase both the probability and rate of improvement of soil and watershed conditions during periods of drought and recovery periods after drought

The following objectives and measures would meet the desired conditions for leopard frogs and other important wildlife that occupy or use habitat at earthen tanks, springs and other riparian areas.

- Improve habitat and forage conditions around sites that have occupied or potential habitat for wildlife at springs and riparian areas
- Improve riparian conditions

Authorization

Hackberry Pastures

Permitted Livestock:

The determination was made in the EA that the initial permitted use would be issued for a maximum of 2,250 AUMs on Hackberry.

The initial permitted livestock use level of 2,250 AUMs equates to a total of 450 Animal Units of which 440 are for cattle and 10 are for horses for the 5 month season of use.

Season of Use

The typical season of use will be 5 months; from December 1 to April 30. The season of use may be extended to 6 months if necessary to achieve management objectives. If the season of use is extended, the permitted AUMs will not be exceeded.

Management:

There will be only one authorized emergency watering access point to the Verde River and that will be at Gospel Hollow.

Pivot Rock Pastures

Permitted Livestock:

According to the EA, the maximum permitted livestock use level for the Pivot Rock portion would be 5,250 AUMs. The figure represents the maximum number of AUMs that would be permitted when all pastures on the allotment were available for livestock use and favorable climate conditions exist. Conditions within the Kehl pasture, however, did not allow for livestock grazing because of exist wildlife (elk) use.

The determination was made in the EA to defer Kehl pasture until desired conditions in the headwater meadow/riparian areas were achieved. Until that time and while Kehl is rested the initial permitted livestock use level would be 4,650 AUMs. 4,650 AUMs equates to a total of 664 Animal Units of which 654 are for cattle and 10 are for horses for the 7 month season of use.

Season of Use:

The typical season of use will be 7 months; from May 1 to November 30.

Management:

Pastures in the Baker Lake and Calf Pen area have been incorporated into the Pivot Rock pastures of the Hackberry Pivot Rock Allotment. Grazing is based on livestock numbers and will stay within the allowable AUMs. Pastures in the area would receive approximately two months of use each year, occurring between May and November. The past use of these pastures was for six months each year.

Structural Improvements

A maintenance plan will be developed by the permittee to facilitate cleaning and repair of all allotment range improvements, as part of the plan a list of what has been surveyed or what stills needs surveyed for archaeology will be added. Existing range structural improvements are to be maintained annually or prior to livestock entering a pasture. New range structural improvements are to be constructed to Forest Service standards, and will not be located in areas such as swales, drainages, riparian areas, meadows and heritage sites. Installation and maintenance of approved range structural improvements will allow for the implementation of proper livestock control and distribution. To insure that range improvements are cleaned, repaired or reconstructed to Forest Service standards a Range Improvement Permit, with attached diagrams will be filled out and followed to ensure that other resource values are not adversely impacted. Any new range improvement work will be documented on a Cooperative Range Improvement Agreement and will become a part of the Term Grazing permit.

1. If necessary to improve vegetation and soil conditions, construct approximately 3.5 miles of new 3-strand barbwire fence in the Toms Creek pasture. This fence will create the North and South Toms Creek pastures and will allow better control of the timing, intensity, frequency and duration of livestock grazing. This fence will be constructed in accordance with wildlife specifications.
2. The permittee may be responsible for maintaining exclosure fences into Clear Creek and other riparian areas and ensure that all pasture and exclosure fences are functional before moving cattle into a pasture.
3. It has yet to be determined which fences in the Baker Lake Calf Pen pastures will be used to manage livestock. After one year the permittee will notify the Forest Service on which fences will be kept for management and which are to be removed.

4. Livestock exclosure fencing may be constructed at the following spring/seep riparian areas: Grapevine Spring (Bull Run pasture), Towel Creek Perennial Pool (Middle Towel pasture), and Wet Prong Spring (Middle Towel pasture). Pastures with springs or seeps include: Basin, Bull Run, Doren, Hackberry Springs, Pambo, Phrone, and Lower, Middle and Upper Towel. Exclosure fencing will be designed and constructed to protect the important riparian areas while still providing for livestock watering if feasible.

Management Practices Common to the Allotment

Management:

Livestock grazing will occur through a rotational management system (either deferred or deferred, rest-rotation grazing) which will allow for plant growth and recovery and reduce impacts to wildlife and its habitat.

The livestock moves from the winter range to the summer range and vice versa will be completed using vehicles to transport the livestock.

Annual Authorized Livestock Numbers

Annual authorized livestock numbers will be based on existing conditions, available water and forage, and predicted forage production for the year. Adjustments to the annual authorized livestock numbers (increase or decrease; increases will not exceed permitted livestock numbers) may occur during the grazing year, based on conditions and/or range inspections.

Pasture Grazing Period:

The grazing period within each pasture will be based upon weather/climate conditions, current growing conditions and the need to provide for plant regrowth following grazing. The length of the grazing period within each pasture will also consider and manage for the desired grazing intensity and utilization guidelines. The grazing period per pasture will generally not exceed the pasture AUMs.

Generally pastures will be grazed only once during the grazing year. However, if the need arises to provide rest (or deferment) for other pastures, a pasture may be used twice provided there has been sufficient vegetative growth/regrowth and grazing is managed within the intensity and utilization guidelines.

Adaptive Management

The No Trailing Action Alternative implemented adaptive management and complies with the Coconino Forest Plan standards and guidelines. Adaptive management provides a menu of management options that may be used to adjust management decisions and actions to meet desired conditions as determined through monitoring. If monitoring indicates that desired conditions are not being achieved, management will be modified in cooperation with the permittee.

Range Monitoring and Adaptive Management

Two types of monitoring will be used for upland vegetation: *implementation monitoring and effectiveness monitoring*. Both qualitative and quantitative monitoring methods will be used in accordance with the Interagency Technical References, Region 3 Rangeland Analysis and Management Training Guide, (USDA – Forest Service 1997) and the Region 3 Allotment Analysis Handbook. Monitoring frequency varies by each activity and may be accomplished collaboratively by Forest Service personnel, permittee, and cooperating agencies. The level of monitoring will be based off of issues, availability of personnel and funding and other priorities.

Implementation Monitoring

Implementation monitoring may be conducted on an annual basis and will include: permit compliance, livestock actual use data, grazing intensity, utilization, and allotment inspections.

Permit Compliance: Throughout each grazing season, Forest Service personnel may monitor activities on the allotment to ensure compliance with Permit terms and conditions, the AMP, and the Annual Operating Instructions (AOI).

Livestock Actual Use: Permittee will keep accurate records regarding actual livestock numbers and pasture use dates on the form supplied as part of the AOI. This form will be submitted to the Forest Service at the end of the grazing season.

Grazing Intensity:

Grazing intensity is defined as the amount of herbage removed through grazing or trampling during the grazing period in key areas which reflect grazing effects within an entire pasture. Grazing intensity will be managed to allow for the physiological needs of plants. Generally, grazing intensity will be managed at conservative levels, 30-40%. Annual reductions in the grazing intensity guideline may be made based on resource conditions.

Grazing Utilization:

Forage utilization as measured at the end of the growing season in key areas which reflect grazing effects within an entire pasture. Utilization will be managed at conservative levels, 30-40% to maintain or improve rangeland vegetation and long term soil productivity. Within riparian areas allowable use will not exceed 20% on the woody vegetation. Annual reductions in the allowable use guideline may be made based on resource conditions.

Effectiveness Monitoring

Effectiveness monitoring will be used to evaluate the success of management in achieving the desired objectives. Effectiveness monitoring will occur within key areas on permanent transects at an interval of 10 years or less. Effectiveness monitoring may also be conducted if data and observations from implementation monitoring (annual monitoring) indicate a need. Effectiveness monitoring will include forage production and vegetation condition and trend.

Forage Production: Forage production surveys may be conducted in the future using the best available methods, but will not be the sole measurement to establish carrying capacity.

Range Condition and Trend: Eleven Parker Three-Step clusters were established on the Hackberry Pastures in 1958 and 1961. Sixteen Parker Three-Step clusters were established on

the Pivot Rock Pastures in 1956 and 1957; eight of these permanent transects still exist. These transects are one of best historic records of range condition and trend. The photo points and vegetative ground cover data show how the site has changed over time. On the Hackberry Pastures, canopy cover and frequency plots will be placed with the Parker Three-Step transects in 2007 to add to this historic data. Canopy cover and frequency plots have been added to the Parker Three-Step transects on the Pivot Rock Pastures.

Ocular plant canopy cover 0.10-acre plots will be used to compare existing conditions with potential and desired vegetative community conditions. Over time, these plots will document canopy cover changes.

Frequency and ground cover data will be collected using the widely accepted plant frequency method (University of Arizona, Extension Report 9043, 1997). These plots will monitor trends in plant species abundance, plant species distribution and ground cover. This will provide information on plant composition and additional information on regeneration.

Soil and Riparian Condition: The intergovernmental agreement between the Forest Service and State of Arizona that controls water quality and the Clean Water Act requires implementation and effectiveness monitoring. The objectives of monitoring are to: (1) collect data sufficient to evaluate effects of management activities on soil and water resources; and (2) support changes in management activities to protect soil and water quality. Monitoring will help determine how successfully managers are implementing guidance practices and how effectively those practices are protecting soil and water quality. The current and proposed livestock grazing system incorporates best management practices (BMPs) specific to grazing practices and constitutes compliance with Arizona State and Federal Water Quality Standards. Arizona Department of Water Quality (ADEQ) will continue to monitor water quality in the area.

Watershed condition can be assessed using information from the monitoring schemes described above. Monitoring of plant abundance, ground cover, species diversity, and estimates of overall soil condition (using the methods described throughout this monitoring section) will indicate whether or not management practices are effectively meeting management goals. Trends toward improvements in species abundance and diversity as well as ground cover would indicate that management practices are effectively improving soil condition and, by inference, maintaining or improving downstream water quality and complying with water quality standards. Conversely, decreases in plant abundance and species diversity may indicate that management practices are not effective and need to be changed. Environmental factors, especially precipitation, will be considered when evaluating monitoring results.

If monitoring indicates soil conditions are not improving towards satisfactory, current livestock grazing utilization and intensity will be adjusted and may include pasture deferral or reduced grazing utilization and intensity. Trend transects will be read at least every 5 years by Forest Service personnel to assess the affects of grazing.

Wild and Scenic Rivers Monitoring: Monitor and maintain fences along Verde River to minimize impacts to Wild and Scenic Outstanding, Remarkable Values, (ORVs). There is only one authorized emergency watering access point along the Verde where livestock have access to the river and that is at Gospel Hollow in the Lower Towel Pasture.

Heritage Resources Monitoring: The District will periodically monitor known archaeological sites to ensure they have been avoided.

Precipitation: Precipitation is currently recorded at 3 sites that approximate the precipitation for the allotments. Additional precipitation gauges may be placed on the allotment for more localized information.

Resource Protection Measures

The No Trailing Action Alternative is designed to comply with the Coconino Forest Plan standards and guidelines as amended. Design features are incorporated into the project to protect forest resources of rangelands, soil, water, scenery values, wildlife and aquatic habitat. Mitigation measures and Best Management Practices (BMPs) will be implemented to reduce non-point source pollution into connected waters, prevent the introduction and spread of invasive plants, to retain water in stock tanks for wildlife, to protect heritage resources, to maintain and improve soil conditions, soil productivity and water quality and to protect public health and safety during project implementation [Environmental Assessment, PR#102, pages 38-46].

Design Features

Range Management

The following actions will be implemented to provide resource information to make adjustments in management and to achieve, maintain or improve the long-term diversity, density, and production of upland vegetation, and achieve the objective of improving and/or maintaining long-term soil productivity and enhancing water quality.

Permit Compliance

- The District Range Staff will monitor permittee compliance with the Term Grazing Permit, Allotment Management Plan, and Annual Operating Instructions throughout the life of the Permit. Compliance with the terms and conditions of the livestock grazing permit will be strictly enforced including livestock grazing rotations, contingencies for drought conditions, monitoring agreements and any cost sharing for structural range improvements.
- Manage livestock grazing intensity and utilization to improve vegetative ground cover and to improve the quality and quantity of desirable vegetation.
- Design and implement a planned grazing system that will provide for adequate rest during the plants' growing season. Monitoring and adaptive management will be used to modify the grazing system to account for the continually changing effects of resource conditions and climate.
- Key grazing areas will be monitored for grazing intensity, utilization, production, and vegetation condition and trend. Areas other than key areas may be monitored to obtain resource information necessary for management decisions.

- To avoid unintentional grazing, ensure that fences (allotment boundary, pasture boundary, enclosure, etc.) are functional prior to moving livestock into a pasture.

Salt

- Utilize temporary salt to improve livestock distribution. Temporary salt will generally be placed no closer than ¼ mile from waters or natural congregating areas such as swales, drainages, riparian areas and meadows. Avoid placement of temporary salt within heritage resource sites. Temporary salt will be moved when livestock distribution objectives are not being achieved or when there is a need to correct localized over use by livestock grazing and when the livestock grazing period ends within a pasture.

Grazing schedule:

Grazing Scenarios for the Hackberry portion of the allotment: grazing for each pasture is approximate and based on annual precipitation, temperature, time moved off summer country, etc. In some years two or more pastures may be grazed together, as shown in the table below. AUMs based off 440 cow/calf pairs.

Rotation 1	Weeks	AUMs	Rotation 2	Weeks	AUMs
Pipeline	2 weeks	286	Mesquite	3 weeks	401
Basin (Buckhead, Basin & Doren)	4 – 5 weeks	573	Jims	3 weeks	401
Hackberry	4 weeks	573	Bull Run	3 weeks	401
Upper/Middle Towel	4 – 5 weeks	573	Lower Towel	3 – 4 weeks	401
Lower Towel	3 – 4 weeks	401	Upper/Middle Towel	4 – 5 weeks	573
Bull Run	3 weeks	401	Hackberry	4 weeks	573
Jims	3 weeks	401	Basin (Buckhead, Basin & Doren)	4 – 5 weeks	573
Mesquite	3 weeks	401	Pipeline	2 weeks	286
Totals	26 weeks	3323	Totals:	26 weeks	3323

Grazing Scenarios for the Pivot Rock portion of the allotment: Use for wet spring, dry spring, fire, timber sale activities, etc. AUMs based off 440 cow/calf pairs.

Rotation 1	Weeks	AUMs	Rotation 2	Weeks	AUMs
Neck/Bald	5 weeks	993	Jones Corral	1 week	199
BBW/Shipping/BBE	1 week	199	Dry Lake	2 weeks	397
Dry Lake	2 weeks	397	Clear Creek	2 weeks	397
Clear Creek	2 weeks	397	Miller	4 weeks	795
Potato North	3 weeks	596	Kehl	5 weeks	993
Potato South	3 weeks	596	Potato South	3 weeks	596
Tom's Creek	4 weeks	795	Toms Creek	4 weeks	795
Calloway	3 weeks	596	Calloway	2 weeks	397
27-Mile	2 weeks	397	27-Mile	2 weeks	397
Sandrock/Corral	1 week	199	Sandrock/Corral	1 week	199
Totals	26 Weeks	5165	Totals:	26 weeks	5165

Rotation 3	Weeks	AUMs	Rotation 4	Weeks	AUMs
Sandrock/Corral	1 week	199	Jones Corral	1 week	199
27-Mile	2 weeks	397	Neck/ Bald	5 weeks	993
Pocket/29-Mile/Brush (North of HWY 87)	3 weeks	596	BBW/ BBE	1 weeks	199
5-Mile/Cinch Hook/ Strawberry Pt. Baker Lake/Milk Ranch (South of HWY 87)	3 weeks	596	Dry Lake/ Clear Creek	3 weeks	596
Potato South	2 weeks	397	Miller	3 weeks	596
Potato North	2 weeks	397	Kehl	4 weeks	795
Clear Creek/ Dry Lake	3 weeks	596			
BBE	1 week	199	5-Mile/Cinch Hook/ Strawberry Pt. Baker Lake/Milk Ranch (South of HWY 87)	3 weeks	596
BBW	1 week	199	Pocket/29-Mile/Brush (North of HWY 87)	3 weeks	596
Toms Creek	4 weeks	795	27-Mile	2 weeks	397
Calloway	3 weeks	596	Sandrock/Corral	1 week	199
Sandrock/ Corral					
Totals:	25 weeks	4967	Totals:	27 weeks	5166

Rotation 5	Weeks	AUMs	Rotation 6	Weeks	AUMs
Jones Corral	1 week	199	Jones Corral	1 week	199
Neck/Bald	5 weeks	993	Neck/ Bald	5 weeks	993
BBW/BBE/Shipping	1 week	199	BBW/ BBE/Shipping	1 week	199
Potato North	3 weeks	596	Dry Lake/ Clear Creek	2 weeks	397
Potato South	3 weeks	596	Miller	3 weeks	596
5-Mile/Cinch Hook/ Strawberry Pt. Baker Lake/Milk Ranch (South of HWY 87)	3 weeks	596	Kehl	4 weeks	795
Kehl	4 weeks	795	5-Mile/Cinch Hook/ Strawberry Pt. Baker Lake/Milk Ranch (South of HWY 87)	3 weeks	596
Miller	3 weeks	596	Potato South	2 weeks	397
Dry Lake/ Clear Creek	2 weeks	397	Potato North	2 weeks	397
Shipping	1 week	199	BBE/Shipping	1 week	199
Jones Corral			Jones Corral		
Totals:	26 weeks	5166	Totals:	25 weeks	4768

Noxious and Invasive Weeds

The following Best Management Practices are listed to prevent and control weeds during range management, minimize transport of weed seed into and within allotments, maintain healthy desirable vegetation that is resistant to weed establishment, minimize ground disturbances, and encourage permittees to prevent the introduction and spread of weeds.

Best Management Practices (BMPs) for Range Management

- Include weed prevention practices, inspection and reporting direction provisions for inspection of livestock concentration areas in Allotment Management Plans and Annual Operating Instructions for active grazing allotments.
- For each grazing allotment containing existing weed infestations, include prevention practices focused on preventing weed spread and cooperative management of weeds in the annual operating instructions.
- If livestock are potentially a contributing factor to seed spread, schedule units with existing weed infestations to be treated prior to seed set before allowing livestock on those units. Schedule these infested units to be the last in the rotation.
- If livestock were transported from a weed-infested area, corral livestock with weed-free feed, and annually inspect and treat allotment entry units for new weed infestations.
- Designate pastures as unsuitable range to livestock grazing when infested to the degree that livestock grazing will continue to either exacerbate the condition on site or contribute to weed seed spread.
- Through the allotment management plan or annual operating instructions, manage the timing, intensity (utilization), duration, and frequency of livestock activities associated with harvest of forage and browse resources to maintain the vigor of desirable plant species and retain live plant cover and litter.
- Manage livestock grazing on restoration areas to ensure that vegetation is well established. This may involve exclusion for a period of time consistent with site objectives and conditions. Consider practices to minimize wildlife grazing on the areas if needed.
- Include weed prevention practices that reduce ground disturbance in allotment management plans and annual operating instructions. Consider for example: changes in the timing, intensity, duration, or frequency of livestock use; location and changes in salt grounds; restoration or protection of watering sites; and restoration of yarding/loafing areas, corrals, and other areas of concentrated livestock use.
- Inspect known areas of concentrated livestock use for weed invasion. Inventory and manage new infestations.
- Use education programs or annual operating instructions to increase weed awareness and prevent weed spread associated with permittee livestock management practices.
- To aid in their participation in allotment weed control programs, encourage permittee to become certified pesticide use applicators.

General Practices for All Site-Disturbing Projects and Maintenance Programs

- Remove mud, dirt, and plant parts from project equipment before moving it into a project area. Determine the need for, and when appropriate, identify sites where equipment can be cleaned. Clean all equipment before entering National Forest System lands; a forest officer, in coordination with the unit invasive species coordinator, needs to approve use of on-forest cleaning sites in advance. This practice does not apply to service vehicles traveling

frequently in and out of the project area that will remain on a clean roadway. Seeds and plant parts need to be collected when practical and incinerated.

- If operating in areas infested with weeds, clean all equipment before leaving the project site. To minimize time spent cleaning equipment, time all work in infested areas last and concurrently, designate a “contaminated” parking lot where project vehicles working in the infested area may be parked for the duration of the project. This area should be monitored in follow-up mitigation and should be near a “clean” vehicle/equipment lot. Identify sites where equipment and vehicles can be cleaned before leaving the site at the end of the project. Seeds and plant parts need to be collected when practical and incinerated.
- Workers need to inspect, remove, and properly dispose of weed seed and plant parts found on their clothing and equipment after being trained to recognize the priority species in the area. Proper disposal means bagging the seeds and plant parts and incinerating them.

Mitigation Measures

The following mitigation measures are an integral part of the AMP. They have been used on previous projects and are considered to be effective at reducing environmental impacts. They are consistent with applicable Forest Plan Standards and guidelines, and the terms, conditions and conservation measures of existing biological opinions. Implementation of the mitigation measures in combination with project design features will avoid the occurrence of potentially significant environmental impacts.

Mitigation Measures and Design Features for the Action Alternatives

#	Mitigation	Purpose & Rationale
Range		
R1	If the Palmer Drought Index displays a severe or extreme drought for 3 years or greater in a row, utilization levels will be reduced or grazing deferred until drought conditions lessen and there is conservative utilization for 3 growing season following initiation of wet cycle.	To minimize the effects of drought on plant production and corresponding above ground plant production available for litter.
R2	During drought conditions, adjust grazing timing, intensity, frequency, numbers, and the management system as necessary to protect the upland vegetation resource. Applicable to the Soil and Water Resource.	To achieve the objective of improving and/or maintaining long-term diversity, density, and production of upland vegetation.
Soil and Water		
SW1	Do not graze soils in unsatisfactory soil condition.	To achieve the objective of improving long-term soil productivity
Fisheries		
F1	If woody riparian vegetation utilization by livestock exceeds 20%, then other actions may be implemented such as fencing, decreasing numbers of livestock, removing livestock or changing the timing of grazing.	To maintain riparian vegetation and maintain age-class distribution of woody riparian vegetation.
Wildlife		
W1	Livestock grazing and management	To minimize disturbance to MSO during the

#	Mitigation	Purpose & Rationale
	activities will occur within PACs, but no human disturbance or construction activities associated with cattle grazing operations would occur within PACs during the breeding season (March 1 through August 31). Although fence construction and reconstruction would not be allowed during the breeding season, fence maintenance, cattle gathering and herding may be allowed if necessary.	breeding season, in accordance with Mexican spotted owl recovery plan, 1995, and Region 3 FS Framework for streamlining informal consultation for livestock grazing activities, 2004.
W3	Fences will be built to wildlife standards.	To facilitate wildlife movement from one pasture to another.
W4	All open storage tanks and drinkers will be provided with entry and escape ramps for wildlife.	To provide for wildlife needs.
W5	Rotate salt blocks regularly, at least every 2 weeks, within spotted owl restricted habitat.	To minimize grazing impacts to Mexican spotted owls or goshawks.
Heritage Resources		
HR1	Activities associated with allotment improvements and maintenance will be managed to avoid cultural resource sites and ensure no effect to cultural resources. Improvements will be surveyed prior to construction activities once they have been proposed and located on the ground.	To protect the integrity of the archaeological resource.
HR2	Management practices that tend to concentrate livestock, such as placement of salt, construction of fences, etc., will be located away from cultural resources.	To protect the integrity of the archaeological resource.
HR3	Before initiating any activities, apart from the grazing activity, as part of this project, a District Archaeologist will be notified to ensure the proposed activities have cultural resource clearance and project personnel are aware of the conditions specified in the final Hackberry and Pivot Rock Range Allotment Cultural Resource Clearance Report.	To protect the integrity of the archaeological resource.
HR4	Located sites will be marked for avoidance and will be avoided during construction of structural improvements. If any new sites are discovered during construction of the improvements, all construction will cease and such findings will be reported to the District Archaeologist.	To prevent additional archaeological resource damage.
Botany and Rare Plants		
B1	Survey areas containing proposed structural improvements before construction for TES plants and noxious or invasive weeds before construction of improvement. Identify populations and mitigate impacts of	Identifies locations of TES plants and identifies potential impacts to TES plants that may found during construction of improvements. Incorporate the appropriate Best Management

#	Mitigation	Purpose & Rationale
	management actions if needed.	Practices for soil disturbing activities as outlined in the Final Environmental Impact Statement for Integrated Treatment of Noxious or Invasive Weeds, Coconino, Kaibab, and Prescott National Forest (2005).
B2	Avoid TES plants (if found during survey) during the construction of structural improvements	Mitigates impacts to TES plants.