

2009 Fossil Creek Allotment Management Plan (AMP)

Red Rock Ranger District

Coconino National Forest

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Date 10-26-09

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Record of Decision Summary

This Allotment Management Plan follows the “Environmental Assessment” and “Decision Notice and Finding of No Significant Impact” for the Fossil Creek Range Allotment signed on April 28, 2009. 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.

Objectives and Measures

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

- Improve vegetative composition towards 2/3 of Potential Plant Community by Terrestrial Ecosystem Survey (TES) map unit. The number of species present at any one time will be variable depending on moisture conditions within next 10 years.
- Improve vegetative cover to a minimum of 2/3 of potential as defined by TES map unit, as evidenced by an effective ground cover (where achievable) averaging between a minimum of 13% to 20% within the next 10 years.

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 forage conditions around sites that have occupied or potential habitat for wildlife at tanks, springs and riparian areas.
- Improve habitat conditions at tanks, springs and riparian areas.
- Strict adherence to disease prevention protocol.
- Identify critical water tanks for wildlife and leave water in stock tanks for wildlife use after livestock have been removed from the grazing unit.

Authorization

Permitted Livestock

At a state of desired vegetation/soil conditions, and during favorable climate, the allotment can support 5800 AUMs. However, current conditions will not support this level of grazing. Initial permitted livestock numbers will be a maximum of 3,600 AUMs (300 AUs yearlong) until soil and vegetation conditions improve.

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) may occur during the grazing year, based on conditions and/or range inspections, however yearly numbers will not exceed the permitted stocking rate.

Season of Use

Season of use will be year long.

Management System

Grazing will occur through a rotational management system (either deferred or rest-rotation grazing) which will allow for plant growth and recovery.

Grazing Utilization

A management guideline of conservative use (30-40% forage utilization as measured at the end of the growing season) will be employed to maintain or improve rangeland vegetation and long term soil productivity. Within riparian areas (Management Area 12), allowable use will not exceed 20% on the woody vegetation.

Grazing Intensity

Grazing intensity is defined as the amount of herbage removed through grazing or trampling during the grazing period. Grazing intensity will be managed to allow for the physiological needs of plants. Generally, moderate grazing intensity (40-50%) will be managed for in the late spring to early summer months when sufficient opportunity exists for plant regrowth. During the remainder of the year, grazing intensity will be managed at conservative levels (30-40%) when the potential for plant regrowth is limited.

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 desired grazing intensity and utilization guidelines. The grazing period per pasture will generally not exceed 30 days.

Pasture Grazing Frequency

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.

Riparian Areas

To protect and enhance woody riparian vegetation, pastures with riparian areas (Management Area 12, perennial and intermittent streams, springs and seeps, perennial pools) that are grazed during the critical growth period for woody riparian species (3/1-4/30) one year will not be grazed during the critical growth period the following year (i.e. Stehr Lake, Sally Mae, Boulder, Lower Wilderness, and Upper Wilderness pastures).

If livestock enclosure fences are constructed at spring/seep riparian areas (as identified in the Structural Improvements section below), alternate year livestock deferment during the critical growth period will no longer be necessary in pastures that have only spring/seep types of riparian areas.

Stock Tank Water and Wildlife Use

Water will be left in stock tanks for wildlife use after domestic livestock have been removed from the grazing unit. Critical water tanks for wildlife include: Doren's Defeat, Herbies, Hogback, Natural, Needed, Mail Trail Tank #2, Middle, Pine, Tanque Aloma, and others.

Structural Improvements

1. Improvements and erosion control measures that have been previously implemented to improve soil and vegetative conditions around stock tanks will be maintained or upgraded with fencing to exclude livestock as needed.
2. Remove unneeded electric fences that divide North and South Salmon Lake pastures and North and South Natural pastures.
3. Construct three fenced, livestock water access lanes along Fossil Creek: two locations in the Stehr Lake pasture and one location in the Boulder pasture. Livestock currently have unrestricted access to Fossil Creek at the two locations in Stehr Lake pasture. The proposed livestock watering access lane in the Boulder pasture would be a new watering location. Livestock grazing in Boulder and Stehr Pastures will not be authorized until these improvements are constructed.
4. Construct about 0.75 miles of new allotment boundary fence along the eastern edge of the recently decommissioned Stehr Lake. This fence is necessary to keep livestock out of the adjacent grazing allotment.

Livestock enclosure fencing may be constructed at spring/seep riparian areas if desired conditions are not achieved through the control of livestock grazing. Enclosure fencing will be designed and constructed to protect the important riparian vegetation while still providing for livestock watering. Pastures with springs or seeps include: Chalk Springs, Sally Mae, Surge, Sycamore Canyon, and Lower Wilderness.

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 will be accomplished collaboratively by Forest Service personnel, permittee, and cooperating agencies.

Implementation Monitoring

Implementation monitoring will be conducted on an annual basis and will include: permit compliance, livestock actual use data, grazing intensity, utilization, assessments of forage production and ground cover, precipitation, and allotment inspections.

Permit Compliance: Throughout each grazing season, Forest Service personnel will monitor activities on the allotment to ensure compliance with Permit terms and conditions, the Allotment Management Plan (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 monitoring will occur within each of the main grazing pastures during, or immediately after, the period when livestock are grazing the pasture. Each pasture would be visited two times every year. Grazing intensity is defined as the amount of herbage removed through grazing or trampling during the grazing period. Grazing intensity will be used by the Forest Service and the permittee to control actual pasture moves. Livestock may need to be moved out of a pasture sooner if the grazing intensity guideline is reached before the planned move date. Likewise, livestock may stay longer in a pasture if grazing intensity is below the established guideline when the planned move date arrives.

Grazing intensity measurements will be taken in key areas which reflect grazing effects within an entire pasture. A minimum of one key area will be established within each main grazing pasture, at existing long-term monitoring sites if possible, to represent the overall grazing intensity within the pasture.

Utilization: Utilization monitoring will occur at the end of the growing season within each of the main grazing pastures. Utilization is defined as the proportion or degree of current year's forage production that is consumed or destroyed by animals (including insects). It is a comparison of the amount of herbage left compared with the amount of herbage produced during the year. Utilization is measured at the end of the growing season when the total annual production can be accounted for and the effects of grazing in the whole management unit can be assessed.

Utilization measurements will be taken in key areas which reflect grazing effects within an entire pasture. A minimum of one key area would be established within each main grazing pasture, at existing long-term monitoring sites if possible, to represent overall pasture utilization. Utilization guidelines are not intended as inflexible limits. Utilization measurements can indicate the need for management changes prior to this need being identified through long term monitoring. Utilization data would not be used alone, but would be used along with climate and condition/trend data, to determine stocking levels and pasture rotations for future years.

If monitoring shows that the utilization guideline was exceeded in a pasture, the grazing schedule and/or livestock numbers would be adjusted for the following year. If utilization is exceeded after these adjustments are made, then changes would be made to the grazing management system.

Forage Production and Ground Cover: Forage production assessments will be made to determine stocking levels for the grazing season and will also be used during the grazing season to determine if adjustments in the stocking level would be made. Qualitative assessments of ground cover will also be made and used as an indicator of apparent condition and trend; observed changes may indicate the need to conduct effectiveness monitoring (condition and trend) prior to the scheduled interval.

Precipitation: Precipitation is currently recorded at 4 sites that approximate the precipitation for the allotment. Two additional precipitation gauges may be placed on the allotment for more localized information.

Allotment Inspection: A written summary will be completed each year by Forest Service personnel to document the overall history of that year's grazing. This document will include a monitoring summary, livestock actual use, weather history, and a discussion of the year's accomplishments and problems. Information from this report will be used in preparing the following year's grazing plan.

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 will be conducted using the best available methods at that time. Forage production data will be used as a tool to manage this allotment, but will not be the sole measurement to establish carrying capacity. The most recent forage production survey was completed in 2006. The next survey is scheduled to occur after 2015.

Range Condition and Trend: Eighteen Parker Three-Step clusters were established throughout this allotment in 1961; fifteen of these permanent transects still exist. These transects are one of the best historic records of range condition and trend. The photo points and vegetative ground cover data show how the site has changed over time. Canopy cover and frequency plots were placed adjacent to the existing Parker Three-Step transects in 2007 to add to this historic data.

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 as described in Rule (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.

Initially, two to three years of baseline data will be collected from the canopy cover and frequency plots. After the baseline data has been collected, these transects will be read at least every 10 years by Forest Service personnel.

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.

Resource Protection Measures

The proposed action is designed to comply with 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, and rare plants. Mitigation measures and Best Management Practices (BMPs) will be implemented to reduce nonpoint 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. The following design features are incorporated into the Proposed Action Alternative of the Environmental Analysis (EA). The design features include standard operating procedures and best management practices.

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 grazing period of each year for the life of the Permit. Compliance with the terms and conditions of the livestock grazing permit will be strictly enforced including livestock grazing scheme, 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 salt to improve livestock distribution. Temporary salt will not be placed closer than approximately $\frac{1}{4}$ 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, when necessary to correct localized over use by livestock grazing, and when the livestock grazing period ends within a pasture.

Structural Improvements

Existing range structural improvements are to be maintained. New range structural improvements are to be constructed to standard and maintained as necessary. New structural range improvements such as corrals, troughs, storage tanks, should not be located in areas such as swales, drainages, riparian areas and meadows. Installation and maintenance of approved range structural improvements will allow for the implementation of proper livestock control and distribution, shorter graze periods and longer rest periods, and other livestock management techniques.

Soil and Watershed Resources

The following measures and BMPs are designed to achieve the objectives of improving or maintaining long-term soil productivity and enhancing water quality.

Soil Condition Objectives

Manage livestock grazing to move towards satisfactory soil conditions through ground cover objectives listed below.

Manage livestock grazing to improve vegetative ground cover on inherently unstable soils.

Ground cover

Manage livestock grazing at an intensity that will maintain and improve vegetative ground cover (primarily the litter component) to enhance soil function (minimizes soil erosion, promotes water infiltration and enhances nutrient recycling) and to improve the quality and quantity of desirable vegetation. Each pasture is grazed in a planned sequence. Adequate rest during the plants' growing season allows plants to become established and grow undisturbed. Adequate rest during the plant's dormant season allows for the accumulation of plant litter. Key grazing areas will be monitored to determine when livestock should be moved to prevent over use. A planned grazing system is designed to promote flexibility in the grazing program and to buffer the adverse effects of drought.

Manage livestock grazing at an intensity that will improve effective ground cover (effective ground cover is defined as the % litter greater than 1.25 cm in size and % total plant basal area) to enhance soil function (minimizes soil erosion, promotes water infiltration and enhances nutrient recycling) and to improve the quality and quantity of desirable vegetation.

Livestock grazing will be designed to move towards these effective ground cover goals or to be maintained at the effective ground cover goals. During drought, these effective ground covers will be difficult to attain, but livestock grazing should not decrease existing effective ground cover.

To filter sediments and maintain bank stability, leave a minimum 10 centimeter residual stubble height of hydrophilic vegetation (sedge/rush) to improve conditions in riparian areas. (Clary and Leininger, 2000)

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. They are taken from the Range Management BMPs in the "Final Environmental Impact Statement for Integrated Treatment of Noxious or Invasive Weeds" (USDA-Forest Service, 2005a).

Weed BMPs for Range Management

Include weed prevention practices, inspection and reporting direction, and 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. Prevention practices may include, but are not limited to:

- Maintaining healthy vegetation
- Preventing weed seed transportation
- Minimize potential ground disturbance - altering season of use or exclusion
- Weed control methods
- Revegetation
- Inspection and Monitoring
- Reporting
- Education

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 permittees' livestock management practices.

To aid in their participation in allotment weed control programs, encourage permittees 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 followup 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 would be implemented under all action alternatives. 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.

Range Management

During drought conditions, and in periods of drought recovery, adjust grazing timing, intensity, frequency, numbers, and the management system as necessary to protect the upland vegetation resource.

Soil, Watershed and Fisheries Resources

If woody riparian vegetation utilization exceeds 20% for two consecutive graze periods, fence riparian sites before next graze period. Fencing would better maintain riparian vegetation and maintain age-class distribution of woody riparian vegetation.

Utilize the Forest Drought policy to manage utilization levels and stocking during and immediately following drought. When implemented, this would minimize the effects of drought thereby reducing soil erosion and maintaining soil productivity and water quality and improving plant production.

Noxious and Invasive Weeds

A weeds assessment and inventory was completed for this analysis. Weeds species of concern in the allotment would be treated as necessary following guidelines in the "Final Environmental Impact Statement for Integrated Treatment of Noxious or Invasive Weeds" (USDA, 2005a).

Identify and treat noxious or invasive weed populations that may occur in areas of proposed structural improvements and mitigate impacts to threatened, endangered and R3 Regional Forester's sensitive (TES) plants by reducing the risk of noxious or invasive weed infestations in populations or habitats.

Wildlife, Fisheries and Rare Plants

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 management actions if needed.

Avoid TES plants (if found during survey) during the construction of structural improvements.

All open storage tanks and drinkers will be constructed with entry and escape ramps for wildlife.

In order to minimize the risk for introducing and spreading disease among aquatic systems, approved protocols will be followed when conducting work in earthen livestock tanks. This protocol will be attached to the AOI.

Biologists will be given at least 60 days notice prior to conducting work in earthen tanks. This notice will allow for surveys, if needed, and/or mitigation to reduce adverse affects to amphibians.

Fences will be constructed to meet wildlife standards.

Heritage Resources

Activities associated with allotment improvements and maintenance will be managed to avoid cultural resource sites and ensure no adverse effect to cultural resources. All of the new ground disturbing activities that are planned to be implemented within two years and can be identified on the ground have been surveyed and will be cleared prior to authorizing grazing on the allotment as per Section 93.2 of the Region 3 Issuance Forest Service Handbook 2209.13, Grazing Permit Administration Handbook, Chapter 90, Rangeland Management Decisionmaking (PR#5), and following the First Amended U.S.D.A., Forest Service, Region 3 Programmatic Agreement Regarding Cultural Property Protection and Responsibilities (PR#4), dated December 24, 2003.

Before initiating any of the ground disturbing activities that are part of this project, the 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 Fossil Creek Range Allotment

Cultural Resource Clearance Report. Any additional ground disturbing activities that are proposed in the future must receive archaeological clearance prior to implementation.

Located sites will be marked for avoidance and will be avoided during construction. If any new sites are discovered during construction activities, they are to be reported to the district or forest archeologist and ground-disturbing work halted.

Management practices that tend to concentrate livestock, such as placement of salt, construction of fences, etc., will be located away from cultural resources.

Monitoring

Range Resources

The following would be monitored for all action alternatives: permit compliance; actual livestock use, grazing intensity, grazing utilization, forage production and vegetative ground cover, vegetation condition and trend, noxious weeds and precipitation.

Soil, Watershed and Fisheries Resources

Soil condition assessments will be conducted at least once every ten years, with the exception of unsatisfactory soils in the Boulder and Stehr Lake pastures. In these pastures, baseline soil condition data will be collected along established transects prior to implementing the first years authorized grazing. After the baseline data has been collected, soil condition will be monitored every 2 years to determine extent of soil improvement, if any. If monitoring indicates soil conditions are not improving towards satisfactory, current livestock grazing utilization and intensity will be immediately adjusted and may include pasture deferral or reduced grazing utilization and intensity. In all other pastures, transects will be read at least every 10 years by Forest Service personnel to assess the effects of grazing. If monitoring indicates that soil conditions are not improving towards satisfactory conditions, the current livestock grazing strategy will be adjusted using the adaptive management strategy.

Vegetation transects using 20 meter transects with a 30 x 50 cm hoop read every two meters for a total of 10 readings per 20 meter transect within each Terrestrial Ecosystem Map Unit. Monitoring will occur at least once every ten years. Species composition, effective ground cover, and species diversity will be read from each 30 x 50 cm hoop. Monitoring sites will be placed in key areas representative of the map unit. Key areas will be more than ¼ mile from water.

Riparian areas within the allotment will continue to be monitored for Proper Functioning Condition (PFC). Sycamore Canyon and Mud Tanks Draw will be done in the first year, all other reaches at least once every ten years.

Aquatic habitat monitoring will be conducted on all perennial streams in the allotment using established regional protocols. This monitoring will establish the condition and trends of the aquatic habitat in response to grazed riparian and upland areas.

Vegetation conditions at livestock water access points along Fossil Creek will be monitored using established regional protocols which may include a combination of measurements, observations and photo points.

Wildlife

The Forest will periodically monitor water quality in water bodies (especially tanks and springs) where livestock have access. Parameters that may be monitored include (but are not limited to) nitrates, nitrites, ammonium, coliform, pH, dissolved oxygen, and the presence of Chytrid (Bd). There is no protocol at this time. We will use the initial baseline data to compare to the available literature that cites tolerable limits of these parameters for aquatic and amphibian species.

Wild and Scenic Rivers

Monitor effects to bank stability and riparian vegetation at existing and proposed livestock water access points on Fossil Creek.

Heritage Resources

The District will periodically monitor known archaeological sites to ensure they have been avoided.

Noxious and Invasive Weeds

Noxious and invasive weeds will be monitored during regular range allotment monitoring. As noxious weed populations are found they will be mapped and entered into the Invasive Plants database. Control or treatment options would be considered and implemented depending on class and priority of weeds and funding.