

2007

**Wild Bill and Slate Mountain
Allotment Management Plan**

Peaks Ranger District

Coconino National Forest

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Date 9/27/2007

Agreed to/Reviewed by: [Signature]
Permittee

Date 9/27/07

Approved by: [Signature]
District Ranger

Date 9-28-07

Record of Decision Summary

This Allotment Management Plan (AMP) follows the “Record of Decision for the Wild Bill and Slate Mountain Allotments Management Plan” and the “Categorical Exclusion” signed on 9/17/07 which includes the following:

- Reauthorize grazing for Slate Mountain Allotment for up to 600 cattle (cow/calf) from May 15th through September 30th (3619 AUMs) and for Wild Bill Allotment for up to 502 cattle (cow/calf) from May 15th through September 30th. The authorization is granted through a term grazing permit.
- The proposed permitted use is based on condition and trend studies completed in 2006, actual use data for the allotments for the past 10 years and the effects of this use on resource conditions. It also reflects the estimated annual forage production available for cattle on the allotments considering climate, grazing period, grazing occurrence, timing, frequency, and intensity of grazing proposed as well as proper livestock management.
- The current utilization guideline will continue to allow up to 35 percent use by cattle and/or wildlife for the cattle grazing season of May through September. This includes “light to moderate” seasonal utilization which is measured before the end of the growing season and is used in determining when cattle need to move, in consideration of other factors such as weather patterns, likelihood of plant regrowth, and previous years’ utilization levels. Cattle will move from one pasture to another when seasonal utilization approaches a “light to moderate” level, approximately 21-50 percent. Pastures will not be grazed again during the grazing season. Once the use guideline is met across the allotments, cattle will be moved off the allotments.

Adaptive Management

- The Proposed Action includes the continued use of adaptive management, which provides more flexibility for managing cattle. Adaptive management allows the Forest Service to adjust the timing, period and occurrence of cattle grazing, movement of cattle within the allotments, and cattle numbers. The adaptive management flowchart and Plan-to-Project Matrix (attached) will help make these adaptive management decisions. If adjustments are needed, they are implemented through the Annual Operating Instructions, which will adjust numbers so cattle use is consistent with current productivity. This allows plant, soil, and watershed conditions to be maintained or improved while range improvements are implemented over time. An example of a situation that could call for adaptive management adjustments is drought.
- Adaptive management is designed to provide sufficient flexibility to adapt management to changing circumstances. If monitoring indicates that desired conditions are not being achieved, management will be modified in cooperation with the permittee. Changes may include administrative decisions such as the specific number of livestock authorized annually, specific dates of grazing, class of animal or modifications in pasture rotations, but such change will not exceed the limits for timing, intensity, period, occurrence and frequency of cattle grazing described in the Management Plan.

Monitoring

The Proposed Action includes monitoring. Monitoring is adaptive, and as improved methods are developed these new methods will be used. Historic monitoring will be adapted to include these improved methods. Depending on the availability of funding, the type of monitoring and frequency for the monitoring will include:

- visual observations will be conducted on a yearly basis, which includes: permittee compliance, allotment inspections, range readiness, forage production, rangeland utilization;
- long term trend monitoring will be conducted at the 16 historic Parker three step plots scattered throughout these allotments every 5 to 10 years or as funding is available. Currently this includes: pictures, plant frequency and ground cover plots will continue in order to estimate trend, dry weight rank method estimates relative species composition by weight, and species composition by 1/10 acre canopy cover plots;
- an annual monitoring plot was established on each Coconino National Forest allotment in 2006 to record annual range observations such as; forage production, moisture, frequency, canopy cover, ground cover and photo points; these plots will continue as funding is available.

Existing Improvements

- There will be continued management and maintenance on all real property as listed on the Deferred Maintenance Inventory and Certification for Range Improvements list.

Mitigation

The Forest Service will apply the following mitigation measures to minimize and reduce potential impacts from grazing management activities.

1. **Watershed Protection:** The grazing system incorporates Best Management Practices (BMP) and constitutes compliance with Arizona State and Federal Water Quality Standards. The following BMPs, applicable to this project, are designed to protect resource values, uses, maintenance of soil productivity, stability, and water quality.
 - Monitor ground conditions before and during any future construction activities to avoid wet ground conditions that can negatively affect soil condition and water quality.
 - Grazing systems are alternatively rested and grazed in a planned sequence.
 - Grazing at a level that will maintain enough cover to protect the soils and maintain or improve the quantity and quality of desired vegetation. This practice will be applied through the utilization guidelines.
 - Fencing to improve cattle management, control access, prevent soil loss, and improve water quality. Fencing was not designed to prevent soil loss and improve water quality.

2. **Noxious Weeds:** State-listed noxious weeds located on this allotment will be treated as necessary. The permittee and Forest Service will coordinate the weed inventory and treatment with responsibilities identified through the AOI. Noxious weed monitoring is carried out at the same time allotment inspections are conducted. As noxious weed populations are found they are mapped, monitored and, in some areas, manually removed. Other treatment methods will follow guidelines established in the Coconino National Forest Plan.
3. **Sensitive Plant Species:** Sensitive plant surveys will be completed before constructing any new fences. If sensitive plant species are located, coordination with a wildlife biologist or botanist will occur to mitigate impacts as needed (i.e. flagging specific plants and adjusting the location of the improvement).
4. **Cultural Resources:** Activities associated with allotment improvements will be managed to avoid cultural resource sites and ensure no effect to cultural resources. Before initiating any future improvements, a district archeologist will be notified to ensure the proposed activities have cultural resource clearance and project personnel are aware of the conditions of the Wild Bill and Slate Mountain Allotments Management Plan Cultural Resource Clearance Report. Management practices that tend to concentrate cattle, such as placement of salt, supplements, construction of waters or corrals, etc., will be located away from cultural resources. Ground disturbing activities, such as the construction of improvements (e.g., pipelines, stock tanks, cattle guards, etc.), will require separate archeological survey and clearance prior to implementation.

The district will periodically monitor known archeological sites to ensure they have been avoided, and such inspections will be reported in writing to the forest archeologist. Should any additional prehistoric or historic archeological sites be encountered during the course of this project, they are to be avoided and immediately reported to a district or zone archeologist. If any of these new discoveries are rock shelters, they will be closely monitored and if cattle are using these sites for shelter and impacting the fragile nature of the site, the shelter should be excluded from future grazing. Should the tribes identify any plants in the area having traditional importance, the district will encourage and protect the natural regeneration of such plants.

Goals and Objectives of Management

Background and Location

The Peaks Ranger District of the Coconino National Forest is proposing to re-authorize cattle grazing on the Slate Mountain and Wild Bill Allotments (see Maps 1 and 2). Grasslands and ponderosa pine dominate the vegetation on the Slate Mountain and Wild Bill Allotments at an elevation ranging from 6,700 to 7,300 feet. This vegetation varies from open grasslands to dense ponderosa pine trees. The allotments lie on the lower slope of the San Francisco Peaks. No major canyons or riparian areas exist on the allotments.

The Slate Mountain Allotment consists of approximately 46,115 acres, divided into four pastures (see Map 1). These pastures include: Maverick, Cedar, Cedar Holding, and Slate. Current permitted use for the allotments allows up to 600 head (2,742 HM's or 3,619 AUM's) of cattle (cow/calf) from May 15 through September 30.

The Slate Mountain Allotment boundary begins approximately 19 miles north of the City of Flagstaff with the allotment lying on both sides of Highway 180, and runs to the northern end of the Coconino National Forest. This allotment is located within all or portions of: T24N, R6E Sections 2-10, 15-22, 27-29; T24N, R5E Sections 1-3, 10-12, 13-15, 23, and 24; T25N R6E, Sections 1-4, 9-12, 13-16, 20-36; and T25N R5E Sections 5-8, 17-23, 26-35.

The Wild Bill Allotment consists of approximately 26,327 acres, divided into four pastures (see Map 2). These pastures include: Kendrick Park, Hochderffer, South Wild Bill, North Wild Bill. Current permitted use for the allotments allows up to 502 head (2,294 HM's or 3,028 AUM's) of cattle (cow/calf) from May 15 through September 30.

The Wild Bill Allotment boundary starts approximately nine miles northeast of Flagstaff with the allotment also lying on both sides of Highway 180. This allotment is located within all or portions of: T24N R6E Sections 32 and 33; T23N R6E Sections 4-9, 19-21, 27-34; T22N, R6E Sections 4-6; T22N R5E Sections 1-4, 9-16, and 18; T23N R5E Sections 12-14, 23-26, and 34-36.

Purpose and Need

The Slate Mountain and Wild Bill Allotments are scheduled for an environmental analysis of grazing use on the Coconino National Forest, as required by the Burns Amendment (1995). This analysis is required in order to ensure cattle grazing is consistent with goals, objectives, and the standards and guidelines of the Coconino National Forest Plan (1987, as amended).

The purpose of this project is to re-authorize cattle grazing on the Slate Mountain and Wild Bill Allotments and to ensure the allotments are managed in a manner that maintains and/or moves the area toward Forest Plan objectives and desired conditions. Existing condition information outlined above indicates rangeland conditions on the allotments are being maintained or improved under the current cattle grazing management in place. Continued monitoring will help managers to evaluate the status of maintaining and improving rangeland conditions.

A management plan is in place and land management objectives under the current livestock management are shown to be meeting or moving the area toward desired conditions. Management is consistent with Forest Plan standards, guidelines, goals, and objectives.

The Slate Mountain and Wild Bill Allotments contain lands identified as suitable for domestic livestock grazing in the Coconino Forest Plan. Continued cattle grazing is consistent with the goals, objectives, standards, and guidelines of the Forest Plan (USDA Forest Service, 1987).

Management Strategy

Reauthorize grazing for Slate Mountain Allotment for up to 600 cattle (cow/calf) from May 15th through September 30th (3619 AUMs) and for Wild Bill Allotment for up to 502 cattle (cow/calf) from May 15th through September 30th. The authorization is granted through a term grazing permit.

Cattle will be grazed in a rest rotation grazing system, allowing for complete pasture rest of one large pasture one year in every three years (example grazing schedules are attached). The proposed permitted use is based on condition and trend studies completed in 2006, actual use data for the allotments for the past 10 years and the effects of this use on resource conditions. It also reflects the estimated annual forage production available for cattle on the allotments considering climate, grazing period, grazing occurrence, timing, frequency, and intensity of grazing proposed as well as proper livestock management.

The current utilization guideline will continue to allow up to 35 percent use by cattle and/or wildlife for the cattle grazing season of May through September. This includes "light to moderate" seasonal utilization which is measured before the end of the growing season and is used in determining when cattle need to move, in consideration of other factors such as weather patterns, likelihood of plant regrowth, and previous years' utilization levels. Cattle will move from one pasture to another when seasonal utilization approaches a "light to moderate" level, approximately 21-50 percent. Pastures will not be grazed again during the grazing season. Once the use guideline is met across the allotments, cattle will be moved off the allotments.

Adaptive Management

The adaptive management flowchart and explanation for these allotments is attached to this document.

The objective of adaptive management for these allotments is to maintain or improve perennial grasses and ground cover trends. When possible, annual and long term monitoring is conducted and evaluated with the permittees and/or the interdisciplinary team.

Plant frequency and ground cover plots have been established for trend monitoring on these allotments at historic Parker three step sites. Other data has been collected at these sites for inventory purposes and includes; 1/10 acre canopy cover, dry weight rank, and cluster readings. If and or when better trend monitoring methods are developed or discovered this monitoring may be transitioned into these new methods.

The three most common causes of downward rangeland condition and trend on these allotments include woody species encroachment, livestock grazing management impacts, and drought. Other factors that may affect trend include; fire, insects, or disease, but these are not as common on the allotments. If these other factors do occur, then annual implementation monitoring would gauge the effects and determine if further frequency and ground cover monitoring is necessary.

When downward trend is found at one or more monitoring sites, this data will be analyzed by the range specialist and permittee (at a minimum) to determine the appropriate action to reverse this trend. The line officer will determine who will be part of this process and what action will need to be taken based on this analysis.

Plan-to-Project Matrix

Plan-to-Project Matrix is taken from the R3 Supplement 2209.13. A full explanation of this process can be found in the supplement. This matrix was developed as a tool to be used by an interdisciplinary team, in coordination with the permittee. Desired conditions, existing conditions, and resource management objectives were developed to address resource management needs. Possible management practices and information needs are also determined during this analysis. The full matrix document is attached as a supplement to this report. Management practices address any and all practices to be addressed through the adaptive management flowchart designed for this project (attached to this document).

This Plan-to-Project Matrix is designed for the Slate Mountain and Wild Bill Allotment range analysis to compare potential, desired, and existing conditions for vegetation, wildlife, and soils for the larger TES units grazed by cattle. Comparisons are made for grass, forb, and shrub species diversity and canopy cover for each condition class, as well as wildlife habitat and ground cover. In some cases several TES units are combined in the Matrix because they have similar characteristics. Within the matrix rangeland management status, rangeland capacity rating, range trend, soil condition rating, objectives for range management and monitoring are also displayed.

Monitoring

The Proposed Action includes monitoring. Monitoring is adaptive, and as improved methods are developed these new methods will be used. Historic monitoring will be adapted to include these improved methods. Depending on the availability of funding, the type of monitoring and frequency for the monitoring will include:

- visual observations will be conducted on a yearly basis, which includes: permittee compliance, allotment inspections, range readiness, forage production, rangeland utilization;
- long term trend monitoring will be conducted at the 16 historic Parker three step plots scattered throughout these allotments every 5 to 10 years or as funding is available. Currently this includes: pictures, plant frequency and ground cover plots will continue in order to estimate trend, dry weight rank method estimates relative species composition by weight, and species composition by 1/10 acre canopy cover plots;
- an annual monitoring plot was established on each Coconino National Forest allotment in 2006 to record annual range observations such as; forage production, moisture, frequency, canopy cover, ground cover and photo points; these plots will continue as funding is available.

Additional Management Items

Annual Operating Instructions: Annual operating instructions (AOI) make adjustments to cattle numbers and time and duration of pasture use based on current climatic and range conditions. The AOIs are established at the beginning of each grazing season (spring) and published on the Coconino National Forest Web site (www.fs.fed.us/r3/coconino/publications). Annual operating instructions may be adjusted throughout the grazing season as conditions change.

The AOIs are the means by which adjustments of cattle numbers, change of season of use, and pasture rest periods are made in response to monitoring information such as frequency, canopy cover, Parker Three-Step plots and allotment inspections. Cattle numbers may go up or down annually but will not exceed the maximum number permitted. The annual minimum cattle number is zero.

Cattle Guards: For this Allotment Management Plan there is the need to keep cattle contained to pastures and prevent forest users from leaving pasture gates open. Where roads are open for public use, cattle guards will be maintained. Where roads are identified for closure, in past and future road decisions, no cattle guards are necessary. If gates are left open more often, new cattle guards may need to be installed.

Cattle guard maintenance is shared between the Forest Service and the permittee for level 3 roads (main surfaced roads). Cattle guard maintenance on level 2 roads (smaller, secondary roads) is the responsibility of the permittee.

Structural Improvements: During the life of the permit, there may be additional or fewer improvements needed based on adapting to changes and meeting the goals of the new system. All future structural improvement projects, including the waterlots and wetland fences, will be coordinated with cultural, wildlife and recreation personnel before implementation.

Utilization: Long-term condition and trend monitoring is the primary standard for monitoring of this cattle grazing management system. Utilization is used as a tool to understand and achieve the goals of long-term management. Utilization guidelines are intended to indicate a level of use or desired stocking rates to be achieved over a period of years.

The definition of utilization and seasonal utilization come from standard protocols established by the Society of Rangeland Management, and the new guidelines established by the Region 3 Regional Forester.

Utilization is 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 guidelines are not intended as inflexible limits.

Utilization measurements will be sampled in a pasture to reflect grazing effects within an entire pasture. Utilization measurements can indicate the need for management changes prior to this need being identified through long-term monitoring. Utilization data will not be used alone, but will be used along with climate and condition and trend data, to set stocking levels and pasture rotations for future years. One key area will be established within the allotment and read yearly (when possible) to monitor vegetation on the allotment. Monitoring at this site will likely include precipitation, ground cover, plant canopy cover, plant frequency, utilization, and production data.

Cattle will move when seasonal utilization in a pasture approaches a “moderate” level. Moderate seasonal utilization is an approximate value because it takes into account any additional growth which might occur later that year and considers season of use, wildlife use, weather conditions, availability of forage, and water in pastures. This moderate seasonal utilization level leaves residual cover for wildlife and soils and provides for long-term health of the grazed plants.

If monitoring shows utilization rates exceed the utilization guideline in a pasture in a given year, the grazing schedule and/or cattle numbers will be adjusted the following year so the utilization guidelines are not exceeded again. If utilization is exceeded after these adjustments are made, then the grazing management system will be changed to ensure this does not happen in the future.

Fencing: All new fencing will have a smooth bottom wire at an 18-inch height for wildlife passage. Where possible, fences will be located within tree lines to limit impacts to visual quality. Elk jumps and goat bars (PVC pipes placed on the bottom two strands and on the top strand at a crossing point) will be constructed along new fences or along existing fences on game trails and known migration corridors as volunteers and funding are available. As fence inventories are completed, those fence segments that restrict wildlife movement will be modified as funding becomes available.

Stock tank maintenance:

- maintenance will be limited to the original boundary of the stock tank;
- maintenance will be limited to removal of sediment that has accumulated in the stock tank and maintenance of the tank berm and spillway;
- equipment that will be used includes but is not limited to a dozer, backhoe, or front end loader;
- maintenance frequency will range from no maintenance to whenever needed, depending on the amount of sediment flowing into the stock tank;
- maintenance will be done when the stock tanks are either dry or the water level is low enough so that the equipment will not get stuck in the mud;
- any requirements or timing restrictions related to water quality, wildlife, archaeology, or Forest Plan standards and guidelines will be followed; and
- Marshall, Little Dry, Fisher/Fry, Vail, Prime, Dry, Lost, and Youngs Lakes stock tanks will not be maintained for the next 10 years.

Salting:

No salting will be permitted within one-quarter mile from water.

Monitoring

Monitoring will occur during the permit term and includes the following activities: permit compliance, allotment inspections, range readiness, forage production, rangeland utilization, condition and trend, soil condition, noxious weeds, and threatened and endangered species. Monitoring frequency varies by each activity and may be accomplished by either Forest Service personnel when funding is available, and/or the permittee.

Permit Compliance: Throughout each grazing season Forest Service personnel will monitor to determine accomplishments of the permit terms and conditions, the AMP, and the AOI.

Allotment Inspections: Allotment inspections are a written summary completed each fall by Forest Service personnel to document compliance monitoring and to provide an overall history of that year's grazing. This document may include weather history, the year's success, problems, improvement suggestions for the future, and a monitoring summary.

Range Readiness: Each spring, Forest Service personnel and/or the grazing permittee will assess range readiness prior to cattle coming on the allotments to determine if vegetative conditions are ready for cattle grazing. The range is generally ready for grazing when cool season grasses are leafed out, forbs are in bloom, and brush and aspen are leafed out. These characteristics indicate the growing season has progressed far enough to replenish root reserves so that grazing will not seriously impact these forage plants.

Forage Production: Production surveys for these allotments will be done every 9 to 13 years. Methods used for these surveys will use the best available methods at that time. These values will be used as tools to manage this allotment, but will not be the sole measurement to establish carrying capacity. The most recent forage production surveys were done as part of this analysis in 2006. The next survey is scheduled to occur after 2016.

Rangeland Utilization: Long-term condition and trend monitoring is the primary standard for monitoring of this cattle grazing management system. Utilization is used as a tool to understand and achieve the goals of long-term management. Utilization guidelines are intended to indicate a level of use or desired stocking rates to be achieved over a period of years.

The definition of utilization and seasonal utilization come from standard protocols established by the Society of Rangeland Management and the new guidelines established by Region 3 Regional Forester (PRD Reference 80). The following definitions and procedures for utilization were taken and adapted to fit this project.

Utilization is 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 guidelines are intended to indicate a level of use or desired stocking rate to be achieved over a period of years.

Utilization measurements will be sampled in a pasture to reflect grazing effects within an entire pasture. Utilization measurements can indicate the need for management changes prior to this need being identified through long-term monitoring. 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 will not be used

alone, but will be used along with climate and condition/trend data, to set stocking levels and pasture rotations for future years. One key area has been established within each of these allotments and when possible will be read yearly to monitor yearly variations on these allotments. Monitoring at this site will likely include measurements of precipitation, ground cover, plant canopy cover, plant frequency, utilization, production, and photo points.

Cattle will move when seasonal utilization in a pasture approaches a “moderate” level. Moderate seasonal utilization will be approximately 21-50 percent. Moderate seasonal utilization is an approximate value because it takes into account any additional growth which might occur later that year and considers season of use, wildlife use, weather conditions, availability of forage, and availability of water in pastures. This moderate seasonal utilization level leaves residual cover for wildlife and soils and provides for long term health of the grazed plants.

If monitoring shows utilization rates exceed the utilization guideline in a given year, the grazing schedule and/or cattle numbers will be adjusted the following year so the utilization guidelines are not exceeded again. If utilization is exceeded after these adjustments are made, then the grazing management system will be changed to ensure this does not happen in the future.

Condition and Trend: Watershed and vegetative condition and trend monitoring will help determine the effectiveness of the allotment management plans, and long-term range and watershed trends.

Eighteen Parker Three-Step and paced transect monitoring points were established throughout these allotments in the 1965. 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. Canopy cover and frequency plots were placed and monitored along with the Parker Three-Step transects in 2006. The data from the canopy cover and frequency plots will add to this historic data for the allotment.

Ocular plant canopy cover 0.10-acre plots and are used to compare existing conditions with potential and desired vegetative community conditions. Over time, these plots will show how canopy cover changes. Canopy cover will provide an indication of how plants are growing, assuming that if they are getting bigger and occupying more space, and then they are doing well and can be a relative gauge of vigor.

Frequency and ground cover data are 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.

These transects will be read at least every 10 years by Forest Service personnel. These plots will help determine the effectiveness of current management.

One key area plot has been established each allotment:

Slate Mountain

- Management Area: Juniper/Grassland
- Pasture: Slate Mountain
- Location: one mile northeast of Babbitt Lake
- Key Species: Blue grama

Wild Bill

- Management Area: Ponderosa Pine
- Pasture: Hochderffer
- Location: one mile east of Highway 180
- Key Species: Arizona Fescue and Mountain muhly

Precipitation: Precipitation is currently recorded at the Flagstaff National Weather Service Office at Bellemont. Precipitation data may also be recorded within or near the allotments for more localized information. Precipitation data may be recorded throughout the year and summarized in the annual inspection. This data assists managers with forage utilization and production data analyses.

Soil Condition: The Intergovernmental Agreement between the Forest Service and the 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 cattle grazing system incorporates Best Management Practices (BMP) and grazing practices (GP) 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 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 should 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.

Noxious Weeds: State-listed noxious weeds located in these allotments will be treated as necessary. The permittee and Forest Service coordinate the weed inventory and treatment with responsibilities identified through the AOI. Noxious weed monitoring is carried out at the same time allotment inspections are conducted. As noxious weed populations are found they are mapped, monitored and in some areas, manually removed. Other treatment methods will follow guidelines established in the “Final Environmental Impact Statement for Integrated Treatment of Noxious or Invasive Weeds” (USDA 2005b).

Grazing Schedule

Three grazing schedules for current management are given in the following tables. These schedules are given as examples for comparison purposes only. Grazing schedules will be determined each year depending on weather, forage conditions, and with permittee input. Cattle numbers are given as maximums. Numbers may vary below these maximums to zero.

Example grazing schedules for Years 1 to 3 for the Slate Mountain Allotment.

Year 1

| Grazing Location | Graze Dates | Cattle Number |
|------------------|-------------|---------------|
| Maverick | 5/15-7/16 | 600 |
| Cedar | 7/17-9/22 | 600 |
| Cedar Holding | 9/23-9/30 | 600 |
| Slate | Rested | 0 |

Year 2

| Grazing Location | Graze Dates | Cattle Number |
|------------------|-------------|---------------|
| Slate | 5/15-7/16 | 600 |
| Maverick | 7/17-9/22 | 600 |
| Cedar Holding | 9/23-9/30 | 600 |
| Cedar | Rested | 0 |

Year 3

| Grazing Location | Graze Dates | Cattle Number |
|------------------|-------------|---------------|
| Cedar | 5/15-7/16 | 600 |
| Slate | 7/17-9/22 | 600 |
| Cedar Holding | 9/23-9/30 | 600 |
| Maverick | Rested | 0 |

Example grazing schedules for Years 1 to 3 for the Wild Bill Allotment.

Year 1

| Grazing Location | Graze Dates | Cattle Number |
|-------------------------|--------------------|----------------------|
| Kendrick Holding | 6/1-6/10 | 502 |
| Hochderffer | 6/11-7/20 | 502 |
| S. Wild Bill | 7/21-9/20 | 502 |
| Kendrick Holding | 9/21-9/30 | 502 |
| N. Wild Bill | Rested | 0 |

Year 2

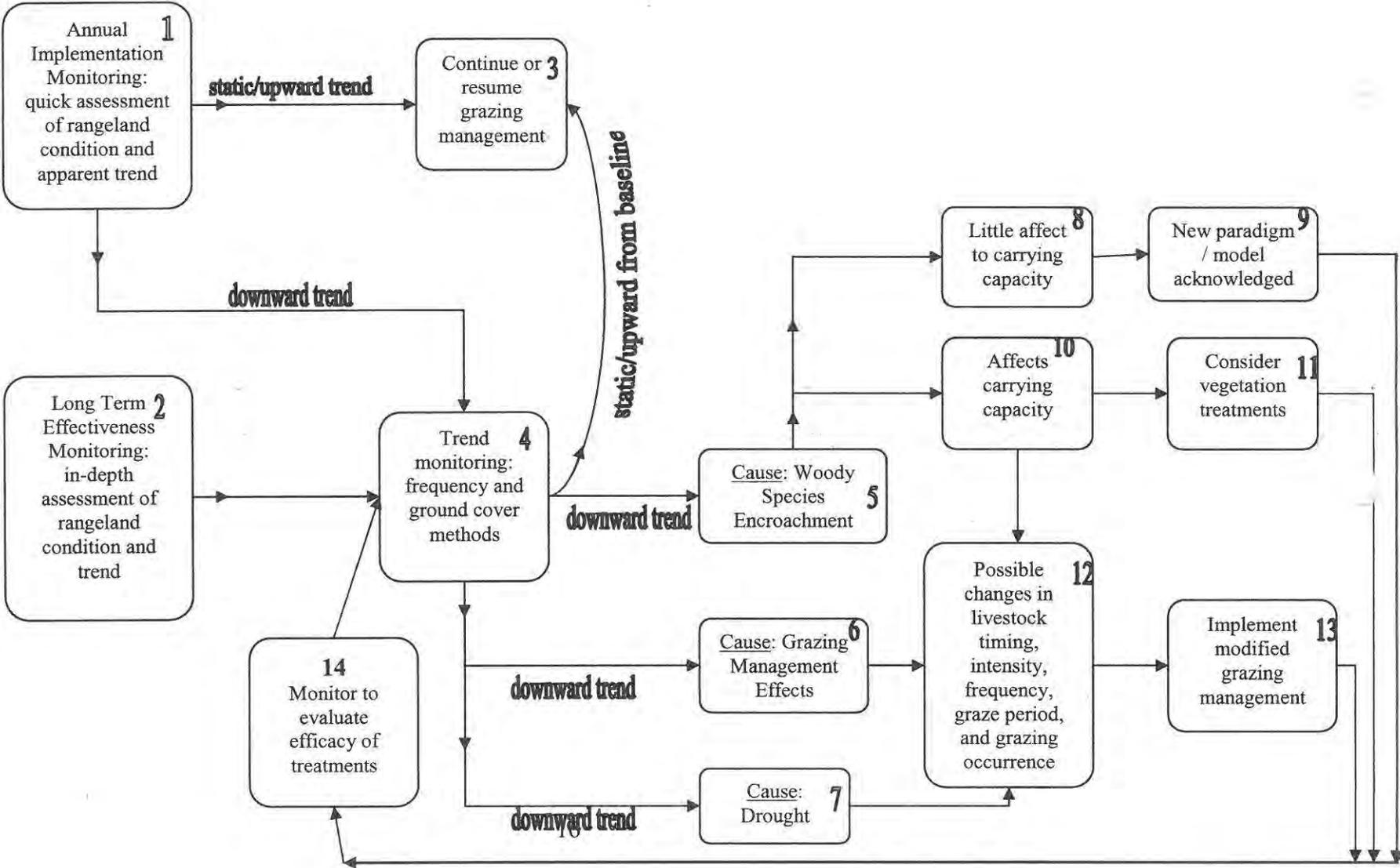
| Grazing Location | Graze Dates | Cattle Number |
|-------------------------|--------------------|----------------------|
| Kendrick Holding | 6/1-6/10 | 502 |
| N. Wild Bill | 6/11-7/20 | 502 |
| Hochderffer | 7/21-9/20 | 502 |
| Kendrick Holding | 9/21-9/30 | 502 |
| S. Wild Bill | Rested | 0 |

Year 3

| Grazing Location | Graze Dates | Cattle Number |
|-------------------------|--------------------|----------------------|
| Kendrick Holding | 6/1-6/10 | 502 |
| S. Wild Bill | 6/11-7/20 | 502 |
| N. Wild Bill | 7/21-9/20 | 502 |
| Kendrick Holding | 9/21-9/30 | 502 |
| Hochderffer | Rested | 0 |

Adaptive Management for Slate Mountain and Wild Bill Allotments

Grazing Objective: Maintain or Improvement of Perennial Grasses and Ground Cover Trend



4/1/07

Adaptive Management Flowchart Explanation

The objective of adaptive management for these allotments is to maintain or improve perennial grasses and ground cover trends. When possible, annual and long term monitoring is conducted and evaluated with the permittees and/or the interdisciplinary team.

Plant frequency and ground cover plots have been established for trend monitoring on these allotments at historic Parker three step sites. Other data has been collected at these sites for inventory purposes and includes species composition by 1/10 acre canopy cover plots, relative species composition by weight using the dry weight rank method, and nearest plant frequency and ¼" loop data based on the Parker 3-step cluster readings. In the future, additional methods may be considered if they are determined to more effectively meet monitoring objectives and stay within budgetary limitations.

The following are details for each block in the adaptive management flowchart for livestock grazing on the Slate Mountain and Wild Bill Allotments.

1. Annual implementation monitoring is intended to be a quick assessment of general rangeland condition and apparent trend during the regular allotment inspections. These annual regular inspections can be more or less comprehensive depending on funding. This monitoring can include, but is not limited to: utilization, actual use, grazed periods, precipitation data, plant production, plant vigor, ground cover, and photo points. This data can be recorded as ocular estimates, but is supported by quantitative data (clipping and weighing, actual use, grazed periods, precipitation data, and ground cover) and qualitative data (photo points and plant vigor). This monitoring is done regardless of current or modified grazing management being in place. If this monitoring shows an apparent downward trend then more in-depth monitoring would be needed.
2. Long Term Effectiveness Monitoring of vegetation and ground cover trends is intended as a more in-depth method for estimating rangeland condition and trend. Long Term Effectiveness Monitoring requires that a baseline be established which has adequately captured the natural variability for a given allotment, TES Unit, or key area/Parker Cluster. Ideally, frequency and ground cover should be monitored for 3 out of six years to adequately describe what the typical parameters of a site may be. Legacy datasets (Parker 3-step data) for the allotment need to be included in order to add a more in depth understanding of historical plant and soil surface dynamics. After instituting a baseline, periodic monitoring would be done as needed, but likely would be conducted every three to ten years. This monitoring should be performed for several reasons including: allotment analyses for upcoming NEPA, employ more rigorous quantitative monitoring methods to investigate any perceived downward trends during annual implementation monitoring, and when funding is available, to try to strengthen trend estimates with as many quantitative data points over time as possible. These data will be used over time to determine the effectiveness of livestock management in achieving the desired objective. Funding availability is always limited for monitoring, but this method is designed to use these limited dollars to recognize potential problems and make adjustments in livestock management before they become a long term problem.

3. When annual implementation monitoring, frequency, and/or ground cover monitoring indicates a static to upward trend current management would be continued. If a modified grazing management strategy is in place, and frequency and ground cover indicate an upward trend then this modified management strategy would be continued, or a return to original management would occur as authorized through the permit.
4. When annual ocular estimates indicate an apparent downward trend, frequency and ground cover monitoring would be conducted in the area of concern, or over the entire allotment. Frequency and ground cover monitoring will also be conducted for long term effectiveness monitoring. It is important to develop a solid baseline for these values which may take up to three years of monitoring with varying climatic conditions. Adjustments in baseline information may be needed as more data is collected.

The three most common causes of downward rangeland condition and trend include woody species encroachment, livestock grazing management impacts, and drought. Other factors that may affect trend include; fire, changes in surface hydrology, insects, or disease, but these are not as common on the allotments. If these other factors do occur, then annual implementation monitoring would gauge the effects and determine if further frequency and ground cover monitoring is necessary.

When downward trend is found at one or more monitoring sites, this data will be analyzed by the range specialist and permittee (at a minimum) to determine the appropriate action to reverse this trend. The line officer will determine who will be part of this process and what action will need to be taken based on this analysis.

5. Woody species encroachment of ponderosa pine, pinyon and juniper, and woody shrubs.
6. Livestock grazing management effects of timing of use, intensity, frequency, grazing period, and grazing occurrence.
7. Drought impacts from the amount and timing of precipitation.
8. Woody species encroachment has caused a change (trend) in the plant community and/or surface components on a monitoring plot or plots within the allotment, but this has not affected carrying capacity.
9. Since vegetation treatments are outside the scope of grazing management a new paradigm or model would be acknowledged at these monitoring sites. Continued monitoring would determine any further effects to carrying capacity.
10. Woody species encroachment has caused a change in trend on a monitoring plot or plots within the allotment, and this change is large enough to affect carrying capacity.
11. Consider treatment of woody species to improve trend, and complete any necessary NEPA for these treatments.

12. Livestock management would be modified to reverse the downward trend through a possible reduction of numbers, shorter grazing periods, increasing pasture rest periods, or destocking of livestock temporarily until conditions improve to support livestock production again.

If adaptive management adjustments are needed, the range specialist will develop these modifications in collaboration with the permittee(s), and others as appropriate. The modifications would be implemented through the annual operating instructions.

13. The new modified grazing management would be followed until either an upward or downward change in trend occurs.
14. Continue with Long Term Effectiveness Monitoring to evaluate success of treatments and/or changes in herd management strategies.

Plan-to-Project Matrix for Slate Mountain and Wild Bill Allotments

This Plan-to-Project Matrix is taken from the R3 Supplement 2209.13. A full explanation of this process can be found in the supplement. This matrix was developed as an optional tool to be used by an interdisciplinary team, in coordination with the permittee. Desired conditions, existing conditions, and resource management objectives were developed to address resource management needs. Possible management practices and information needs are also determined during this analysis. These management practices address any and all practices to be addressed through the adaptive management flowchart designed for this project.

This Plan-to-Project Matrix is designed for the Slate Mountain and Wild Bill Allotment range analysis to compare potential, desired, and existing conditions for vegetation, wildlife, and soils for the larger TES units grazed by cattle. Comparisons are made for grass, forb, and shrub species diversity and canopy cover for each condition class, as well as wildlife habitat and ground cover. In some cases several TES units are combined in the Matrix because they have similar characteristics. Within the matrix rangeland management status, rangeland capacity rating, range trend, soil condition rating, objectives for range management and monitoring are also displayed.

Potential Plant Community

This section contains the percent canopy coverage for understory vegetation including shrubs, forbs, and grasses by plant species, wildlife needs, and percent ground cover. These lists indicate a potential within the identified climax class for the entire TES mapping unit across the entire Coconino National Forest. Variations and/or ranges in canopy coverage and species composition, wildlife needs, and ground cover are anticipated as a result of canopy cover, tree density, basal area, climate, wildlife use, soil, slope, and aspect, etc. for the TES unit.

Potential data was derived using the modal concept. Reconnaissance plots taken for vegetation characterization were circular in shape and 375 square meters in area. These numbers are a potential average for the entire TES soil unit across the Coconino National Forest.

Vegetation

Vegetation is summarized into the total number of species and total percent canopy cover for grasses, forbs, and shrubs. In addition, the plant species within each category with highest canopy cover are listed. For a complete list of these species see the TES reference at: <http://alic.arid.arizona.edu/tes/tes.html>.

Wildlife

Mule deer and elk primarily use the understory vegetation in most of the TES units for foraging and hiding cover for their young throughout these allotments. Pronghorn primarily use the northern portion of the Slate Mountain Allotment. Turkey use the understory vegetation for foraging and hiding cover is used throughout their life. Northern goshawk prey use the understory vegetation for foraging and hiding cover.

Soils

Soil condition ratings are made by analyzing ground cover. Ground cover is summarized into bare soil, rock, litter, and basal vegetation classes. The total percents for ground cover can be greater than 100 percent. This occurs when litter is found on top of rock, and both are counted.

Desired conditions

Desired conditions are fairly broad goals that represent what the ID team would like to achieve for understory vegetation, wildlife, and soils within TES units on the Slate Mountain and Wild Bill Allotments. These goals are broad because of the natural variability found in this area. The primary factor influencing this variability on these allotments is density of ponderosa pine and juniper trees.

The numbers in the tables cover a range between desired existing values and potential values for monitoring sites found within the allotment and are not a representation of the TES unit across the entire Forest.

Vegetation and soil conditions within desired levels provide for a broad array of rangeland uses, such as livestock production, wildlife habitat, and properly functioning watersheds.

Vegetation

The desired vegetation community reflects species diversity found in the potential plant community for the TES unit; however, this diversity is not homogeneous within the allotment or within this TES unit across the Coconino National Forest. Arizona fescue and mountain muhly within the ponderosa pine areas of these allotments are high compared to potential; which is common west and north of the San Francisco Peaks. Blue grama within the pinyon/juniper areas are high compared to potential, which is also common in this area of the Coconino National Forest. Forb species' abundance is directly related to amount and timing of moisture.

Wildlife

The desired plant community provides vegetation as forage for livestock, deer, elk, pronghorn, and turkey, as well as small mammals. It also provides hiding and thermal cover for these wildlife species.

Soil

Desired soil surfaces are protected from erosion by vegetation, litter and rock. Vegetation ground cover is primarily dependent on tree, rock, and litter cover. Ground cover is adequate to protect soils with bare soil averaging less than 25 percent.

Existing conditions

Existing conditions were determined through monitoring established plots, visual observations, and data from adjacent areas collected by the ID team. Data was collected for understory vegetation, wildlife, and soils within TES units across these allotments. This data is broad due to the natural variability found in this area. The primary factor influencing this variability on these allotments is density of ponderosa pine and juniper trees.

Vegetation numbers represent 1/10th acre plots within this allotment and are not a representation of the TES unit across the entire Forest. Soil numbers are based on 600 paced 1/8" pin hits completed with frequency monitoring at established monitoring sites.

Vegetation

Currently this soil unit provides a diverse mix of grass and forb species. However, Arizona fescue and mountain muhly is dominate in the ponderosa pine areas; which is common west and north of the San Francisco Peaks. Blue grama is dominant in the pinyon/juniper areas, which is also common here. Forb species abundance is directly related to amount and timing of moisture before the monitoring is collected.

Wildlife

Existing ground cover production varies greatly with tree density; however, this area does provide adequate forage for livestock and wildlife. It also provides hiding and thermal cover for various wildlife species.

Soil

Existing soil surfaces are protected from erosion by vegetation, litter and rock. Vegetation ground cover is primarily dependent on tree, rock, and litter cover. Ground cover is adequate to protect soils with bare soil averaging less than 25 percent.

Objectives

The objectives for this area is to maintain or improve existing conditions for vegetation, wildlife and soils while cattle graze the Slate Mountain and Wild Bill Allotments for the life of this project.

Monitoring

Monitoring for these allotments will be conducted at the 16 long term condition and trend plots scatted throughout these allotments, every 5 to 10 years as funding is available. Visual observations will be conducted on a yearly basis. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. This data will be collected as long as these are the best sampling methods available. The monitoring will determine when the adaptive management decision framework is used to adjust management.

Management Actions

In order to maintain or improve exiting conditions, current management will continue to be implemented. Current management includes adaptive management, which provides flexibility in adjusting cattle numbers, season of use, length of time and timing of grazing in pastures to match forage production for the allotment as a whole.

| Plan-to-Project Matrix | | | | | |
|--|---|--|--|---|---|
| Wild Bill Allotment – TES Unit 41 | | | | | |
| Designated Area: TES Unit 41- Blue grama, western wheatgrass, and sand dropseed grassland located on a valley plain on the north end of Slate Mountain Allotment with a slope of 2percent. There are 1,153 acres in this TES unit. | | | | | |
| | Vegetation | | | Wildlife | Soils (Ground Cover percent) |
| Potential | <u>Grasses</u> 11 species 45% c. cover Bogr 15% Agsm 10% Spcr 10% | <u>Forbs</u> 5 species 1% c. cover CIRSI 1% Erfl t% Erwr t% | <u>Shrubs</u> 6 species 3% c. cover Eula 2% Chna 1% Rice t% | Corresponds to MA 9 & 10: MIS are the Pronghorn antelope. Potential TES habitat for black-footed ferret (E), Wupatki Arizona pocket mouse (S). Potential migratory birds: ferruginous & swainson's hawk, burrowing owl. | bare soil 40 rock 5 litter 25 vegetation 30 |
| Desired Condition | <u>Grasses</u> 2-11 species 15-85% c. cover Bogr 10-75% Elel 0-5% Hija 0-5% | <u>Forbs</u> 3-5 species t-2% c. cover various species | <u>Shrubs</u> 3-6 species 0.4-20% cover Chna 0.1-15% Gusa 0.1-20% Hyri 0-5% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 20-55 rock 0-10 litter 10-50 vegetation 15-40 |
| Existing Condition <small>(based on 3 long term 1/10th acre plots in 2001 and 2006)</small> | <u>Grasses</u> 2-4 species 17-82% c. cover Bogr 17-70% Elel 0-2% Hija 0-2% | <u>Forbs</u> 2-6 species t-1.3% c. cover various species less than 1% | <u>Shrubs</u> 4-5 species .5-17% cover Chna 0.1-10% Gusa 0.1-16% Hyri 0-2% | Forage and hiding cover is provided for above listed wildlife species. | bare soil 25-53 rock 0-1 litter 18-44 vegetation 18-38 |
| Rangeland Management Status | Satisfactory with mid to high similarity and static trends. | | | N/A | N/A |
| Rangeland Capacity rating | Full Capability with satisfactory soils and production >100 pounds/acre. | | | | |
| Trend | Static to Static/Upward | | | | |
| Soil Condition Rating | N/A | | | N/A | Satisfactory with little erosion |
| Objectives | Maintain or improve existing conditions while grazing cattle. | | | Maintain or improve existing conditions throughout while grazing cattle. | Maintain or improve existing conditions while grazing cattle. |
| Monitoring | Three long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. | | | Three long term condition and trend plots as well as visual observations will track important habitat attributes. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend in habitat components. | Three long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. |

| Plan-to-Project Matrix | | | | | |
|--|---|---|--|---|---|
| Wild Bill Allotment – TES Unit 440 | | | | | |
| Designated Area: TES Unit 440- Pinyon, juniper and blue grama grassland located on an elevated plain on the central region of the Slate Mountain Allotment with a slope of 5%. There are 7,296 acres in this TES unit. | | | | | |
| | Vegetation | | | Wildlife | Soils (Ground Cover %) |
| Potential | <u>Grasses</u> 12 species 14.8% c. cover Bogr 10% Bocu 3% Elel 1% | <u>Forbs</u> 9 species 1.5% c. cover Erra 1% Erfl 0.2% Erwr 0.1% | <u>Shrubs</u> 9 species 0.1% c. cover Gusa .1 % Chna t % Hyri t % | Corresponds to MA 10: MIS are the Pronghorn antelope. Potential TES habitat for black-footed ferret (E), Wupatki Arizona pocket mouse (S). Potential migratory birds: ferruginous & swainson's hawk, burrowing owl. | bare soil 15 rock 40 litter 30 vegetation 15 |
| Desired Condition | <u>Grasses</u> 2-12 species 10-85% c. cover Bogr 15-60% Elel 0.1-2% Muwr 0-0.5% | <u>Forbs</u> 7-12 species .2-3% c. cover various species | <u>Shrubs</u> 3-6 species .1-7% cover Chna 0-5% Gusa 0.1-10% Hyri t-1% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 15-35 rock 13-40 litter 25-50 vegetation 5-35 |
| Existing Condition <small>(based adjacent allotment term 1/10th acre plots)</small> | <u>Grasses</u> 2-4 species 16-53% c. cover Bogr 16-53% Elel 0.1-0.2% Muwr t-0.2% | <u>Forbs</u> 7-11 species .3-2.1% cover various species less than 1% | <u>Shrubs</u> 6-7 species 3.4-6.8%cover Chna 0-0.1% Gusa 3-5% Hyri 0.1-0.6% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 27-32 rock 13 litter 28-46 vegetation 9-31 |
| Rangeland Management Status | Satisfactory with mid to high similarity and static trends. | | | N/A | N/A |
| Rangeland Capacity rating | Full Capability with satisfactory soils and production >100 pounds/acre. | | | | |
| Trend | Static to upward | | | | |
| Soil Condition Rating | N/A | | | N/A | Satisfactory with little erosion |
| Objectives | Maintain or improve existing conditions while grazing cattle. | | | Maintain or improve existing conditions throughout while grazing cattle. | Maintain or improve existing conditions while grazing cattle. |
| Monitoring | One long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. | | | Three long term condition and trend plots as well as visual observations will track important habitat attributes. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend in habitat components. | Three long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. |

| Plan-to-Project Matrix | | | | | |
|---|---|---|---|---|---|
| Wild Bill Allotment – TES Unit 453 | | | | | |
| Designated Area: TES Unit 453- Blue grama, western wheatgrass, squirreltail grassland located on an elevated plain on the northern region of the Slate Mountain Allotment with a slope of 3%. There are 4,786 acres in this TES unit. | | | | | |
| | Vegetation | | | Wildlife | Soils (Ground Cover %) |
| Potential | Grasses 13 species 32.2% c. cover Bogr 12% Agsm 10% Elel 5% | Forbs 10 species 0.1% c. cover Erra 1% Erfl 0.2% Erwr 0.1% | Shrubs 8 species 7% c. cover Gusa 1 % Chna 5 % Befr 1 % | Corresponds to MA 9 & 10: MIS are the Pronghorn antelope. Potential TES habitat for black-footed ferret (E), Wupatki Arizona pocket mouse (S). Potential migratory birds: ferruginous & swainson's hawk, burrowing owl. | bare soil 35 rock 30 litter 20 vegetation 15 |
| Desired Condition | Grasses 2-13 species 30-70% c. cover Bogr 12-70% Elel 0-10% Hija 0-10% | Forbs 3-5 species .1-6% c. cover various species | Shrubs 3-6 species 2-10% cover Chna 0-5% Gusa 0.1-10% Hyri t-1% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 15-45 rock 3-40 litter 15-50 vegetation 5-40 |
| Existing Condition <small>(based on 3 long term 1/10th acre plots in 2001 and 2006)</small> | Grasses 2-6 species 36-66% c. cover Bogr 16-65% Elel 0-6% Hija 0-5% | Forbs 3-11 species .1-5.1% cover various species less than 5% | Shrubs 3-7 species 2.2-8% cover Opun 0.2-.5% Gusa 0-6% Hyri 0-2% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 13-41 rock 1-13 litter 15-52 vegetation 9-50 |
| Rangeland Management Status | Satisfactory with mid to high similarity and static trends. | | | N/A | N/A |
| Rangeland Capacity rating | Full Capability with satisfactory soils and production >100 pounds/acre. | | | | |
| Trend | Static to static/upward | | | | |
| Soil Condition Rating | N/A | | | N/A | Satisfactory with little erosion |
| Objectives | Maintain or improve existing conditions while grazing cattle. | | | Maintain or improve existing conditions throughout while grazing cattle. | Maintain or improve existing conditions while grazing cattle. |
| Monitoring | Two long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. | | | Three long term condition and trend plots as well as visual observations will track important habitat attributes. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend in habitat components. | Three long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. |

| Plan-to-Project Matrix | | | | | |
|---|---|--|---|---|---|
| Wild Bill Allotment – TES Unit 515 | | | | | |
| Designated Area: TES Unit 515- Blue grama, western wheatgrass, squirreltail grassland located on an elevated plain on the central region of the Slate Allotment with a slope of 2%. There are 4,186 acres in this TES unit. | | | | | |
| | Vegetation | | | Wildlife | Soils (Ground Cover %) |
| Potential | <u>Grasses</u> 13 species 32.2% c. cover Bogr 12% Agsm 10% Elel 5% | <u>Forbs</u> 16 species 1.2% c. cover Erra 0.5% Arca 0.2% Arfr 0.2% | <u>Shrubs</u> 5 species 3.5% c. cover Gusa 1 % Chna 2 % Hyri 0.5 % | Corresponds to MA 9 & 10: MIS are the Pronghorn antelope. Potential TES habitat for black-footed ferret (E), Wupatki Arizona pocket mouse (S). Potential migratory birds: ferruginous & swainson’s hawk, burrowing owl. | bare soil 30 rock 25 litter 20 vegetation 25 |
| Desired Condition | <u>Grasses</u> 2-13 species 25-85% c. cover Bogr 12-85% Elel 0.1-10% Muwr 0-15% | <u>Forbs</u> 5-16 species 0.1-15% cover various species | <u>Shrubs</u> 3-7 species 2-25% cover Chna 0-3% Gusa 0.1-25% Hyri t-5% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 10-30 rock 4-25 litter 20-55 vegetation 15-50 |
| Existing Condition <small>(based on 3 long term 1/10th acre plots in 2001 and 2006)</small> | <u>Grasses</u> 2-7 species 25-83% c. cover Bogr 24-80% Elel 0.1-8% Muwr 0-10% | <u>Forbs</u> 6-9 species 0.2-12% cover Anro 0-10% various species less than 1% | <u>Shrubs</u> 3-6 species 2.4-21%cover Chna 0-1.5 Gusa 2-20% Hyri t-2% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 13-17 rock 4-14 litter 25-51 vegetation 16-50 |
| Rangeland Management Status | Satisfactory with mid to high similarity and static trends. | | | N/A | N/A |
| Rangeland Capacity rating | Full Capability with satisfactory soils and production >100 pounds/acre. | | | | |
| Trend | Static to Upward | | | | |
| Soil Condition Rating | N/A | | | N/A | Satisfactory with little erosion |
| Objectives | Maintain or improve existing conditions while grazing cattle. | | | Maintain or improve existing conditions throughout while grazing cattle. | Maintain or improve existing conditions while grazing cattle. |
| Monitoring | Three long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. | | | Three long term condition and trend plots as well as visual observations will track important habitat attributes. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend in habitat components. | Three long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. |

| Wild Bill Allotment – TES Unit 582 | | | | | |
|--|---|--|---|---|---|
| Designated Area: TES Unit 582- Ponderosa pine, Arizona fescue, and mountain muhly grassland located on an elevated plain on the southern region of the Allotment and throughout the Wild Bill Allotment with a slope of 3%. There are 20,133 acres in this TES unit. | | | | | |
| | Vegetation | | | Wildlife | Soils (Ground Cover %) |
| Potential | <u>Grasses</u> 8 species 12% c. cover Fear 5% Pofe 3% Mumo 1% | <u>Forbs</u> 14 species 9.6% c. cover Acmil 5% Luar 4% Anro 0.5% | <u>Shrubs</u> 5 species 5% c. cover Quga 5 % Bere t % Cefe t % | Corresponds to MA-3: MIS are the Abert & red squirrel, Mexican spotted owl, elk, goshawk, pygmy nuthatch, turkey, hairy woodpecker. Potential TES habitat for Mexican spotted owl (T), Northern goshawk (S). Potential migratory birds: goshawk, olive-sided flycatcher, cordillaran flycatcher, purple martin. | bare soil 5 rock 10 litter 75 vegetation 10 |
| Desired Condition | <u>Grasses</u> 4-10 species 12-75% c. cover Fear 5-40% Bogr 0-45% Mumo 0.5-25% | <u>Forbs</u> 6-17 species 1-30% cover various species | <u>Shrubs</u> 1-5 species t-20% cover Chna 0-1% Gusa 0-25% Hyri 0-5% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 3-40 rock 0-20 litter 20-80 vegetation 5-30 |
| Existing Condition <small>(based on 3 long term 1/10th acre plots in 2001 and 2006)</small> | <u>Grasses</u> 5-9 species 28-71% c. cover Fear 18-35% Bogr 0-40% Mumo 0.5-20% | <u>Forbs</u> 7-16 species 1-22% cover Anro 0-15% various species <1% | <u>Shrubs</u> 1-3 species t-15%cover Chna 0 Gusa 0-20% Hyri 0-5% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 3-38 rock 0-17 litter 22-80 vegetation 6-27 |
| Rangeland Management Status | Satisfactory with mid to high similarity and static trends. | | | N/A | N/A |
| Rangeland Capacity rating | Full Capability with satisfactory soils and production >100 pounds/acre. | | | | |
| Trend | Static to upward | | | | |
| Soil Condition Rating | N/A | | | N/A | Satisfactory with little erosion |
| Objectives | Maintain or improve existing conditions while grazing cattle. | | | Maintain or improve existing conditions throughout while grazing cattle. | Maintain or improve existing conditions while grazing cattle. |
| Monitoring | Three long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. | | | Three long term condition and trend plots as well as visual observations will track important habitat attributes. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend in habitat components. | Three long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. |

| Wild Bill Allotment – TES Unit 595 | | | | | |
|--|---|--|--|---|---|
| Designated Area: TES Unit 595- Ponderosa pine, Arizona fescue, and mountain muhly grassland located on an elevated plain on the central region of the allotments with a slope of 2%. There are 2,412 acres in this TES unit. | | | | | |
| | Vegetation | | | Wildlife | Soils (Ground Cover %) |
| Potential | <u>Grasses</u> 12 species 69% c. cover Fear 20% Muwr 15% Mumo 20% | <u>Forbs</u> 16 species 10.5% c. cover Acnil 5% Luar 2% Anro 0.5% | <u>Shrubs</u> 5 species t % c. cover Chna t % Rice p % Cefe p % | Corresponds to MA 9: MIS are the Pronghorn antelope. Potential TES habitat for black-footed ferret (E), Wupatki Arizona pocket mouse (S). Potential migratory birds: ferruginous & swainson's hawk, burrowing owl. | bare soil 5 rock 10 litter 75 vegetation 10 |
| Desired Condition | <u>Grasses</u> 6-12 species 55-85% c. cover Fear 20-55% Bltr 0-20% Mumo 2-20% | <u>Forbs</u> 8-17 species 2-12% cover various species | <u>Shrubs</u> 1-5 species 0-1% cover Chna 0-1% Gusa 0-1% Hyri 0-1% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 5-30 rock 4-10 litter 25-75 vegetation 10-50 |
| Existing Condition <small>(based on 2 long term 1/10th acre plots in 2001 and 2006)</small> | <u>Grasses</u> 7-8 species 57-81% c. cover Fear 33-50% Bltr 1-15% Mumo 3-15% | <u>Forbs</u> 9-17 species 2-10% cover various species less than 2% | <u>Shrubs</u> 1-2 species 0-1 %cover Chna 0-t Gusa 0-0.8% Hyri 0-0.2% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 14-22 rock 4-7 litter 28-61 vegetation 13-45 |
| Rangeland Management Status | Satisfactory with mid to high similarity and static trends. | | | N/A | N/A |
| Rangeland Capacity rating | Full Capability with satisfactory soils and production >100 pounds/acre. | | | | |
| Trend | Static | | | | |
| Soil Condition Rating | N/A | | | N/A | Satisfactory with little erosion |
| Objectives | Maintain or improve existing conditions while grazing cattle. | | | Maintain or improve existing conditions throughout while grazing cattle. | Maintain or improve existing conditions while grazing cattle. |
| Monitoring | Three long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. | | | Three long term condition and trend plots as well as visual observations will track important habitat attributes. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend in habitat components. | Three long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. |

| Wild Bill Allotment – TES Unit 611 | | | | | |
|---|---|--|---|---|---|
| Designated Area: TES Unit 611- Aspen, ponderosa pine, and Arizona fescue community grassland located on an elevated plain on the central region of the allotments with a slope of 5%. There are 3,399 acres in this TES unit. | | | | | |
| | Vegetation | | | Wildlife | Soils (Ground Cover %) |
| Potential | <u>Grasses</u> 7 species 2.1% c. cover Fear 1% Popr t % Mumo t % | <u>Forbs</u> 16 species 10.5% c. cover Acmil 5% Luar 2% Anro 0.5% | <u>Shrubs</u> 7 species 1.1 % c. cover Bere 1 % Pamy 0.1% Juco t % | Corresponds to MA 5: MIS are the red naped sapsucker, mule deer. Potential migratory birds; red-naped sapsucker | bare soil 0 rock 0 litter 85 vegetation 15 |
| Desired Condition | <u>Grasses</u> 5-8 species 2-90% c. cover Fear 1-40% Popr t-35 Mumo t-20% | <u>Forbs</u> 5-16 species 1-15% cover various species | <u>Shrubs</u> 0-7 species 0-25% cover Bere 0-1% Pamy 0-0.1% Juco 0-t % | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 0-10 rock 0-1 litter 45-85 vegetation 15-50 |
| Existing Condition (based on 1 long term 1/10th acre plots in 2001 and 2006) | <u>Grasses</u> 6-8 species 40-86% c. cover Fear 26-38% Popr 5-30% Mumo 2-15% | <u>Forbs</u> 6-9 species 6-12% cover various species less than 4% | <u>Shrubs</u> 0 species 0 % cover Bere 0% Pamy 0% Juco 0% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 1-5 rock 0-1 litter 47-60 vegetation 22-47 |
| Rangeland Management Status | Satisfactory with mid to high similarity and static trends. | | | N/A | N/A |
| Rangeland Capacity rating | Full Capability with satisfactory soils and production >100 pounds/acre. | | | | |
| Trend | Static | | | | |
| Soil Condition Rating | N/A | | | N/A | Satisfactory with little erosion |
| Objectives | Maintain or improve existing conditions while grazing cattle. | | | Maintain or improve existing conditions throughout while grazing cattle. | Maintain or improve existing conditions while grazing cattle. |
| Monitoring | One long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. | | | Three long term condition and trend plots as well as visual observations will track important habitat attributes. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend in habitat components. | Three long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. |

| Plan-to-Project Matrix | | | | | |
|--|---|--|--|---|---|
| Wild Bill Allotment – TES Unit 437, 460, and 473 | | | | | |
| Designated Area: TES Unit 437, 460 and 473- Pinyon, juniper and blue grama grassland located on an elevated plain on the northern region of the Slate Mountain Allotment with a slope of 1-5%. There are 5,136 acres in these TES units. | | | | | |
| | Vegetation | | | Wildlife | Soils (Ground Cover %) |
| Potential | <u>Grasses</u> 9-16 species 15-42% c. cover Bogr 10-20% Bocu 0.5-8% Elel 0.5-2% | <u>Forbs</u> 3-10 species .5-1.1% cover Erra 0-0.1% Erfl 0-.5% Lowr t % | <u>Shrubs</u> 10-11 species 5-9% c. cover Gusa .5-1 % Chna p-0 % Hyri t % | Corresponds to MA10: MIS are the Pronghorn antelope. Potential TES habitat for Wupatki Arizona pocket mouse (S). Potential migratory birds: ferruginous & swainson's hawk, burrowing owl. | bare soil 15-25 rock 30-40 litter 25-40 vegetation 15 |
| Desired Condition | <u>Grasses</u> 2-16 species 10-85% c. cover Bogr 15-70% Elel 0.1-8% Hija 0-10% | <u>Forbs</u> 2-10 species t-1% c. cover various species | <u>Shrubs</u> 3-11 species 2-10% cover Chna 0-5% Gusa 0-10% Hyri 0-2% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 15-35 rock 5-40 litter 25-50 vegetation 15-30 |
| Existing Condition <small>(based on observations and adjoining allotment plots)</small> | <u>Grasses</u> 2-4 species 20-70% c. cover Bogr 15-65% Elel 0.1-2% Hija 0-10% | <u>Forbs</u> 2-7 species 0.2-3% cover various species less than 1% | <u>Shrubs</u> 3-6 species 2-6% c. cover Chna 0-3% Gusa 0-5% Hyri 0-1% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 15-30 rock 5-40 litter 15-50 vegetation 20-30 |
| Rangeland Management Status | Satisfactory with mid to high similarity and static trends. | | | N/A | N/A |
| Rangeland Capacity rating | Full Capability with satisfactory soils and production >100 pounds/acre. | | | | |
| Trend | Static | | | | |
| Soil Condition Rating | N/A | | | N/A | Satisfactory with little erosion |
| Objectives | Maintain or improve existing conditions while grazing cattle. | | | Maintain or improve existing conditions throughout while grazing cattle. | Maintain or improve existing conditions while grazing cattle. |
| Monitoring | One long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. | | | Three long term condition and trend plots as well as visual observations will track important habitat attributes. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend in habitat components. | Three long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. |

| Plan-to-Project Matrix | | | | | |
|--|---|---|--|---|---|
| Wild Bill Allotment – TES Unit 505 and 523 | | | | | |
| Designated Area: TES Unit 505 and 523- Ponderosa pine, pinyon, juniper and blue grama grassland located on an elevated plain on the central region of the Slate Mountain Allotment with a slope of 3-4%. There are 8,691 acres in these TES units. | | | | | |
| | Vegetation | | | Wildlife | Soils (Ground Cover %) |
| Potential | <u>Grasses</u> 11-14 species 10-11% c. cover Bogr 5% Pofe 3% Ellel 1% | <u>Forbs</u> 13-15 species 1.5-6% cover Anro t-0.5% Erra t % Luar 1-3% | <u>Shrubs</u> 9-10 species 0.1-1% cover Gusa t % Chna 0-1% Hyri t % | Corresponds to MA10: MIS are the Pronghorn antelope. Potential TES habitat for Wupatki Arizona pocket mouse (S). Potential migratory birds: ferruginous & swainson's hawk, burrowing owl. | bare soil 10 rock 20-25 litter 55-60 vegetation 10 |
| Desired Condition | <u>Grasses</u> 2-14 species 10-80% c. cover Bogr 5-75% Pofe 0-3% Ellel 0-2% | <u>Forbs</u> 3-15 species 0.2-6 c. cover various species | <u>Shrubs</u> 6-10 species 0.1-6% cover Gusa t-5% Chna 0-5% Hyri t-0.2% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 15-35 rock 13-40 litter 25-50 vegetation 5-35 |
| Existing Condition <small>(based on observations and adjoining allotment plots)</small> | <u>Grasses</u> 2-6 species 15-70% c. cover Bogr 20-70% Pofe 0-2% Ellel 0-1% | <u>Forbs</u> 3-8 species .2-5% cover various species less than 1% | <u>Shrubs</u> 6-7 species 2-5%cover Gusa t-5% Chna 0-5% Hyri t-0.1 % | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 27-32 rock 13 litter 28-46 vegetation 9-31 |
| Rangeland Management Status | Satisfactory with mid to high similarity and static trends. | | | N/A | N/A |
| Rangeland Capacity rating | Full Capability with satisfactory soils and production >100 pounds/acre. | | | | |
| Trend | Static | | | | |
| Soil Condition Rating | N/A | | | N/A | Satisfactory with little erosion |
| Objectives | Maintain or improve existing conditions while grazing cattle. | | | Maintain or improve existing conditions throughout while grazing cattle. | Maintain or improve existing conditions while grazing cattle. |
| Monitoring | One long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. | | | Three long term condition and trend plots as well as visual observations will track important habitat attributes. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend in habitat components. | Three long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. |

| Wild Bill Allotment – TES Unit 586 | | | | | |
|---|---|---|--|---|---|
| Designated Area: TES Unit 586- Ponderosa pine, Arizona fescue, and mountain muhly grassland located on an elevated plain on the southern region of the Allotment and throughout the Wild Bill Allotment with a slope of 6%. There are 2,837 acres in this TES unit. | | | | | |
| | Vegetation | | | Wildlife | Soils (Ground Cover %) |
| Potential | <u>Grasses</u> 8 species 12% c. cover Fear 5% Pofe 3% Mumo 1% | <u>Forbs</u> 14 species 9.6% c. cover Acnil 5% Luar 4% Anro 0.5% | <u>Shrubs</u> 5 species 5% c. cover Quga 5 % Bere t % Cefe t % | Corresponds to MA-3: MIS are the Abert & red squirrel, Mexican spotted owl, elk, goshawk, pygmy nuthatch, turkey, hairy woodpecker. Potential TES habitat for Mexican spotted owl (T), Northern goshawk (S). Potential migratory birds: goshawk, olive-sided flycatcher, cordillaran flycatcher, purple martin. | bare soil 5 rock 10 litter 75 vegetation 10 |
| Desired Condition | <u>Grasses</u> 2-8 species 12-75% c. cover Fear 5-40% Bogr 0-45% Mumo 0.5-25% | <u>Forbs</u> 5-14 species 1-30% cover various species | <u>Shrubs</u> 1-7 species 2-25% cover Chna 0-10% Gusa 0-25% Hyri t-5% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 4-40 rock 2-15 litter 20-75 vegetation 10-30 |
| Existing Condition <small>(based on observations and adjoining allotment plots)</small> | <u>Grasses</u> 2-7 species 28-71% c. cover Fear 18-35% Bogr 0-40% Mumo 0.5-20% | <u>Forbs</u> 7-13 species 1-27% cover Anro 0-15% various species < 1% | <u>Shrubs</u> 1-4 species t - 8%cover Chna 0-2 Gusa 0-6% Hyri 0-1% | Forage and hiding cover is provided for above listed wildlife species and their prey. | bare soil 4-35 rock 2-15 litter 24-72 vegetation 23-27 |
| Rangeland Management Status | Satisfactory with mid to high similarity and static trends. | | | N/A | N/A |
| Rangeland Capacity rating | Full Capability with satisfactory soils and production >100 pounds/acre. | | | | |
| Trend | Static | | | | |
| Soil Condition Rating | N/A | | | N/A | Satisfactory with little erosion |
| Objectives | Maintain or improve existing conditions while grazing cattle. | | | Maintain or improve existing conditions throughout while grazing cattle. | Maintain or improve existing conditions while grazing cattle. |
| Monitoring | Three long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. | | | Three long term condition and trend plots as well as visual observations will track important habitat attributes. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend in habitat components. | Three long term condition and trend plots as well as visual observations. Continued monitoring of the frequency and ground cover plots at the long term sites will determine trend. |