Veach Allotment Analysis

Environmental Assessment

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CHAPTER 1 – PURPOSE AND NEED

Background

This Environmental Assessment (EA) describes a Forest Service proposal to authorize grazing on the Veach Allotment in the Pinaleño Mountains, on the Safford Ranger District, in Graham County, Arizona. The EA discloses the direct, indirect, and cumulative environmental impacts on National Forest System lands that would result from the proposed action and one alternative.

Federal actions such as authorization of grazing must be analyzed to determine potential environmental consequences (National Environmental Policy Act (NEPA) of 1969; Rescission Act of 1995, P.L. 104). Supporting documentation, including more detailed analyses of project area resources and records of public participation, is on file in the project planning record in the Coronado National Forest Safford Ranger District Office in Safford, Arizona.

Purpose and Need for Action

Where consistent with other multiple use goals and objectives, there is congressional intent to allow grazing on suitable National Forest System lands (*Multiple Use and Sustained Yield Act of 1960, Wilderness Act of 1964, Forest and Rangeland Renewable Resources Planning Act of 1974, Federal Land Management and Policy Act of 1976, National Forest Management Act of 1976*). By regulation, forage-producing lands will be managed for livestock grazing where consistent with land management plans (*36 CFR 222.2(c)*). Where consistent with the goals and objectives of Land and Resource Management Plans, it is Forest Service policy to make forage from lands suitable for grazing available to qualified livestock operators (*FSM 2202.1, FSM 2203.1*).

The Veach grazing allotment includes land identified as suitable for grazing in the Coronado National Forest Land and Resource Management Plan (Forest Plan). This allotment is currently authorized for livestock grazing and has been authorized for many years. The environmental impacts analysis of grazing authorizations has been completed in compliance with the requirements of NEPA and Section 504 of the Rescission Act of 1995 (P.L. 104, 1995). [1]

The purpose of the proposed action is to reauthorize livestock grazing in a manner that would maintain current resource conditions where allotment conditions are satisfactory and move resource conditions towards meeting Forest Plan objectives and desired on-the-ground conditions where allotment conditions are unsatisfactory. The purpose of the project is also to

[1] Records indicate the Veach Allotment had an Environmental Assessment completed and Decision Notice signed in 2003. The NEPA analysis for the Veach Allotment was completed in 2003. This analysis resulted in a Decision Notice and Finding of No Significant Impact. An interdisciplinary approach was applied in the analysis in designing livestock management actions consistent with the Coronado National Forest Land and Resource Management Plan.

maintain or move toward desired conditions based on the specific need statements identified below.

From the purpose, several needs arose:

- There is a need to formally incorporate additional flexibility into the management of the allotment to allow the Forest Service and individual grazing permit holder to adapt management to changing resource conditions or management objectives, and to comply with Forest Service Policy (*FSH 2209.13 Chapter 90*).
- There is a need to achieve better livestock distribution to maintain and/or improve resource conditions. Rangeland vegetation condition is less than desirable in some areas as a result of poor distribution and low pasture reliability.
- There is a need for additional waters and fencing to improve distribution, increase the reliability of the allotment, and improve vegetation conditions. These facilities would aid in providing better distribution across the entire allotment and provide for reliability of allotment use each year.

To address the purpose and need, a Forest Service interdisciplinary team developed a proposed action for the allotment based on a comparison of existing resource conditions in the project area with desired conditions identified in the Forest Plan and through site-specific evaluation of the project area resources. Existing and desired conditions are described briefly below. The proposed action is described in Chapter 2 of this EA.

Existing Conditions

Location and Setting. The Veach Allotment is located on the Safford Ranger District, approximately 14 miles south of Safford, Arizona, within the Pinaleño Mountains. It is bound by Swift Trail (HWY 366) on the North, HWY 266 on the South, and Stockton Pass Wash on the East (Figure 1). The allotment is roughly bounded by private and state lands on the north and east and to the south and west by the Pinaleño Mountains.

The Pinaleño Mountains contain a total of 17 grazing allotments which have been utilized for grazing since the 1800s. The Veach grazing allotment encompasses 12,860 acres of which 7,549 are capable of livestock grazing. Predominant vegetation types include semi-desert grasslands (20%) and Chihuahuan desert scrub (16%) at lower elevations, transitioning to interior chaparral communities (12%; 3,000 to 6,000 feet), and Madrean encinal woodlands (40%) at higher elevations (3,600 to 6,500 feet). Topography at lower elevations is sandy wash bottoms moving up to broad mesas and are bisected by smaller drainages and steep canyons at higher elevations. The majority of suitable and capable[2] rangelands are located on the gentler terrain near the base of the mountain range.

[2] Determination of rangeland capability and suitability involves the designation of areas that can support domestic livestock grazing (capability) along with an evaluation of the appropriateness (suitability) of livestock grazing in capable areas relative to all other competing resource values and management objectives. The National Forest Management Act requires the identification of the suitability of lands for resource management (16 USC 1604 (g) (2) (a)). Grazing suitability is identified in the Forest Plan by Management Area. Capable rangelands are defined as areas under 40% slope and capable of producing at least 100 pounds per acre per year of dry forage. In addition to broad suitability designations in the Forest Plan, analysis at the project level may identify additional areas considered unsuitable for grazing.

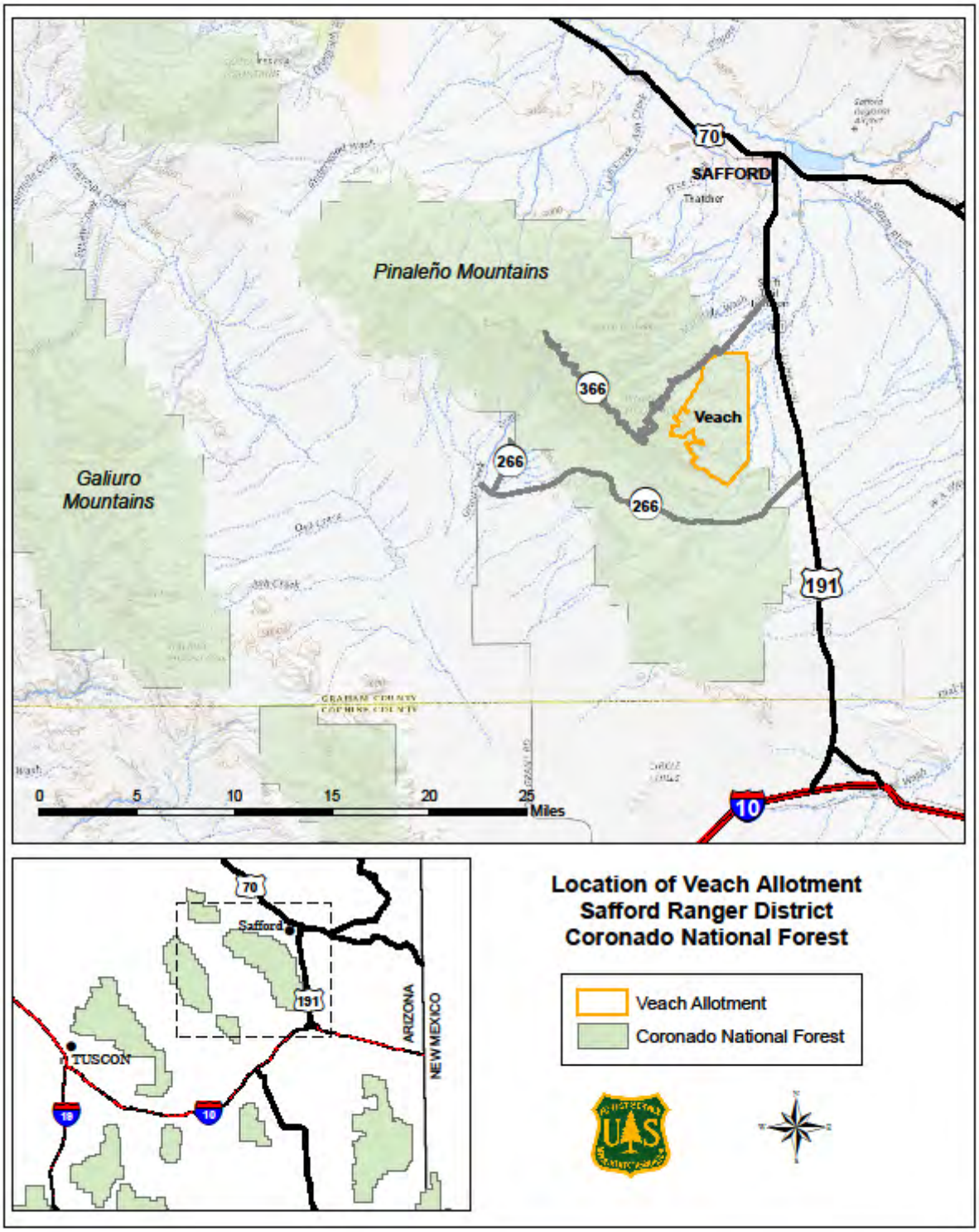


Figure 1. Project vicinity map

This portion of the Pinaleño Mountains is relatively dry. Streams run seasonally and some ephemeral drainages run in response to precipitation events. There are no perennial streams in the project area.

Resource Condition. Rangeland monitoring data has been collected periodically since the 1950's, demonstrating a marked improvement in ground cover and overall health of the resource. However, condition and trends in rangeland health have been the focus in more recent years (since 2001) to determine the effectiveness of current management. The allotment has two long term monitoring areas (Table 1). Key area 2 has a low-similarity index due to the site trending toward a monoculture of Lehmann lovegrass. Vegetative cover is increasing where lovegrass is present and contributing to soil stabilization. Indicators of watershed health, such as litter and bare soil measurements, are satisfactory and trends are static or increasing. Monitoring in the past 18 years has shown static trends in vegetation and soil conditions.

Soil condition was evaluated on the Veach Allotment. Soil monitoring sites were chosen to represent areas with ongoing grazing across the allotment. Soil conditions were evaluated based on interpretations of the three primary soil functions: soil hydrologic function, soil stability, and nutrient cycling. Overall, soil condition on the allotment rates at satisfactory which is the highest category according to the Soil Condition Rating Guide. Areas on the allotment with impaired or at-risk nutrient cycling are generally very sandy and are not supporting perennial grasses or have numerous prickly pear and mesquite with low understory growth. Although isolated areas were found to have impaired soils, the allotment is satisfactory in hydrologic function and soil stability and the majority of the areas are satisfactory in nutrient cycling.

Drainages in the project area include Lefthand, Dutch Henry, Veach, Jacobson and Spring Canyons. Jacobson Canyon and Stockton Pass Wash are the only areas identified by the Regional Riparian Mapping Project (RMAP) as having deciduous riparian vegetation. A detailed general description of the vegetation types on the allotment are located in the Forest Plan and in the RMAP document for Region 3 of the Forest Service.

Three riparian monitoring points in the allotment were reviewed in 2016. These monitoring points are located in Veach, Dutch Henry and Lefthand Canyons and were surveyed using the Woody Species Regeneration method. Results show static or increasing trends in relation to mature and young/sapling woody species.The limited number of reliable water sources and need for improved fencing result in poor distribution of livestock over the allotment. Of the 11 water developments on the allotment, only three are in working order. Due to the lack of permanent water, the ranch depends heavily on seasonal creek water to help distribute cattle each grazing season. Poor distribution has left ample unused forage each year. Monitoring records indicated that annual grazing intensity was moderate to high on low elevations/easy terrain near the FS boundary and conservative on slopes and higher elevations.

Table 1. Allotment condition and trend summaries

Veach Allotment – Key Area 1			
Year	**Condition**	**Site Trend**	**Soil**
2001	Mid Similarity	Static	Satisfactory
2005	Mid Similarity	Static	Satisfactory
2008	Mid Similarity	Static	Satisfactory
2011	Mid Similarity	Static	Satisfactory
2014	Mid Similarity	Static	Satisfactory
2018	Mid Similarity	Static	Satisfactory
2021	Mid Similarity	Static	Satisfactory
Veach Allotment – Key Area 2			
Year	**Condition**	**Site Trend**	**Soil**
2001	Low Similarity	Static	Satisfactory
2005	Low Similarity	Static	Satisfactory
2008	Low Similarity	Static	Satisfactory
2011	Low Similarity	Static	Satisfactory
2014	Low Similarity	Static	Satisfactory
2018	Low Similarity	Static	Satisfactory
2021	Low Similarity	Static	Satisfactory

Recent Management. Grazing has occurred in the project area since the 1800's and records on the forest date back to the 1910's. The permit prior to the 2003 NEPA analysis and resulting decision authorized grazing of 275 cow/calf pairs from 11/01-04/30 (1,650 animal unit months[3], AUMs). The 2003 NEPA analysis and resulting decision permitted 275 yearling cattle to graze from 12/01-04/30 (1,031 AUMs) reducing AUMs and duration of grazing. This allotment has been held by the same permittee for the last five years (since 2015) and is part of a larger ranch containing private, BLM and State lands. This document only proposes and analyzes Forest Service actions that would take place exclusively on NFS lands. The current management permitted on the allotment is described below and recent livestock use is shown in Table 2.

The allotment currently consists of three pastures divided by natural barriers and drift fences. At times, cattle may find their way out of a pasture within the allotment through natural barriers where drift fences do not reach. Cattle are divided into different herds and grazed in these three pastures. Supplement is used in each pasture to help achieve desired grazing distribution. The allotment is used by livestock during the winter dormant period (12/01-04/30) and receives growing season rest every year.

To obtain a more accurate number of AUMs that could be allowed on this allotment, a production/utilization (PU) study was performed. PU studies analyze the amount of forage available (current year's growth), how much was utilized that year, and how many capable

[3] An animal unit month (AUM) is a measure of the amount of *forage* required by a 1000 lb. cow or its equivalent for one month based on a daily allowance of 26 lbs. of dry forage per day (Society for Range Management 1998, USFS 1997). It is not synonymous with animal month (or head-month), which is an expression of one month's *occupancy* of the range by an animal. Forage production can be variable, and stocking is determined on an annual basis in response to actual use monitoring.

acres there are and compares these amounts with total AUMs permitted that grazing year. This study was initiated in 2017 for the 2016 grazing season but was interrupted by the Frye Fire. The study was continued in 2018 and 2019 to determine allowable AUMs. This study allows for a temporary increase in numbers and is monitored intensively throughout the allotment for annual forage production and its utilization by cattle that season. Grazing season 2017 was arid compared to the strong monsoons and winter precipitation in the 2018 grazing season. This presented a range of what would be considered above and below average years with respect to precipitation and forage growth. Results indicate that the allotment is capable of permitting 230 cow/calf pairs or 1,380 AUMs.

Table 2. Allotment size, permitted head, and season of use

Veach	
Total Acres	12,860
Capable Acres	7,549
Permitted Use	192 Cow/Calf
Grazing Season	12/01-04/30
Permitted Use: Animal Unit Months[4]	960
Actual Use By Grazing Year (AUMs)	
2007	875
2008	1,190
2009	446
2010	Non-Use, Resource Protection
2011	Non-Use, Resource Protection
2012	595
2013	774
2014	1,012
2015	899
2016	1,367
2017	1,369
2018	1,356
2019	1,367
2020	993

[4] An animal unit month (AUM) is a measure of the amount of *forage* required by a 1000 lb. cow or its equivalent for one month based on a daily allowance of 26 lbs. of dry forage per day (Society for Range Management 1998, USFS 1997). It is not synonymous with animal month (or head-month), which is an expression of one month's *occupancy* of the range by an animal. Forage production can be variable, and stocking is determined on an annual basis in response to actual use monitoring.

Forest Plan Consistency and Management Direction

This EA is based upon background information about the allotment including current and past inventory and monitoring data. The desired condition of resources on the allotment were derived from direction and guidelines in the Forest Plan, as well as from resource specialists' knowledge of the allotment. This project is utilizing the direction provided in the Forest Plan related to desired resource conditions and rangeland management. You can find the Forest Plan, and related documents, at: https://www.fs.usda.gov/detail/coronado/landmanagement/planning/?cid=fswdev7_018702.

The Forest Plan provides guidance for the management of multiple-use activities that occur within the Coronado National Forest. Objectives, standards, guidelines, and statements related to the desired conditions for range management, vegetation communities, riparian areas, constructed waters, animals and rare plants, invasive species, soil, air, watersheds, cultural resources, and the Pinaleño Ecosystem Management Area (EMA) as well as management area direction for recommended wilderness areas and wilderness study areas have been used to develop and analyze the proposed action and alternatives. Grazing is one of the many uses allowed on the Forest. Forest Service policy is to make forage available to qualified livestock operators from lands suitable for grazing, provided it is consistent with the Forest Plan and meets the terms of the administrative permit. The project area was determined as suitable and capable for grazing.

Future Review of the Decision

In accordance with Forest Service Handbook direction [FSH 1909.15(18) and 2209.13(96)], an interdisciplinary review of the decision would occur within 10 years, or sooner if conditions warrant. If this review indicates that management is meeting standards and achieving desired condition, the initial management activities would be allowed to continue. If monitoring demonstrates that objectives are not being met and management options beyond the scope of the analysis are warranted, or if new information demonstrates effects not previously considered, a new proposed action would be developed and further analysis under NEPA would occur.

Public Involvement

The proposal has been listed on the Coronado National Forest's Schedule of Proposed Actions (SOPA) since June 1, 2016 (http://www.fs.fed.us/nepa/nepa_project_exp.php?project=49781). In March of 2016, a Forest interdisciplinary team met to develop the proposed action and identify preliminary issues, concerns and measures to carry forward into the analysis. The proposal was mailed to 223 individuals and organizations for a 30-day scoping period on July 27, 2016. These individuals and organizations included: Forest Service grazing permit holders, individuals of the public who expressed interest, city and community leaders, and government entities. Seven comment letters were received during scoping. Using the comments from the public, the interdisciplinary team developed a list of issues to address.

On June 29, 2019, a legal notice announcing the start of the 30-day comment period was published in the *Eastern Arizona Courier*. A letter announcing the formal opportunity to

comment on the draft EA was sent to approximately 473 individuals; no public comment letters were received during the comment period.

Issues

Two main topics of concern were identified through the scoping period. The first issue dealt with effects on traditional cultural lands and resources that may be affected from changes in livestock numbers and duration. The second issue was why we were increasing livestock numbers and the duration of grazing during a time of drought. Comments that were not considered for analysis in this EA were identified as those that were: 1) outside the scope of the proposed action and thus irrelevant to the decision being made; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) conjectural and not supported by scientific or factual evidence.[5]

No issues were identified that could not be addressed through mitigation or project design modifications and no issues were brought forward that would necessitate developing additional alternatives to the proposed action.

CHAPTER 2 - ALTERNATIVES, INCLUDING THE PROPOSED ACTION

This chapter describes and compares the alternatives considered for management of the Veach Allotment. This section presents the alternatives in comparative form, in order to define the differences between each alternative and to provide a clear basis for choice among options by the decision maker and the public. Mitigation and monitoring measures incorporated into the alternatives are also described.

Alternatives Considered in Detail

Alternative 1: No Action

Authorization

No action, or no permitted livestock grazing, is included as an alternative in this analysis to provide an environmental baseline against which the effects of the other alternatives may be compared (FSH 2209.13, Ch. 90). Under this alternative, grazing would not be authorized and use of the allotment by domestic livestock would be discontinued. Permittee would be given one year from the date of the decision to remove livestock from the allotment.

Improvements

Existing structural improvements would remain in place but would not be maintained. Improvements contributing to resource protection or enhancement, such as water developments important for wildlife, would be maintained where feasible using other

[5] The Council on Environmental Quality (CEQ) NEPA regulations require this delineation in Sec. 1501.7, "…identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)…"

program funds. Periodic inspection of structural improvements would be used to determine whether maintenance or removal is needed. Removal or maintenance of improvements would be authorized by a separate decision. Where necessary, maintenance of allotment boundary fences would be reassigned to adjacent permittees with the understanding that livestock are to be kept off the allotment(s).

Alternative 2: Proposed Action

The Safford Ranger District, Coronado National Forest proposes to reauthorize livestock grazing on the Veach Allotment. Proposed structural range improvements include installation of new waterlines, storage tanks, and troughs. Water improvements would be supplied from existing water sources both on and off FS lands and waterlines would be buried where possible. Additional drift fences would also be installed and linked to natural barriers to improve livestock grazing distribution. The addition of new drift fences would make six pastures which would alleviate some of the pressure that the lower and easier terrain receives. The District also proposes to extend the grazing season by one month, to include the month of November, increasing management flexibility (11/1 to 4/30). Proposed permitted numbers would be 1,380 AUMs equivalent 230 cow/calf pairs for six months.

Under the proposed action, livestock grazing would continue on the Veach Allotment with light to moderate grazing intensities with yearly growing season rest or deferment. Growing season rest provides for grazed plant recovery, increased plant vigor and retention of sufficient herbaceous vegetation for soil protection and to provide herbaceous cover for wildlife conservative forage utilization guidelines.

On the Veach Allotment where grazing would be authorized, the proposed action consists of four components – **authorization, improvements, management practices/design features and monitoring –** implemented using an adaptive management strategy as defined in FSH 2209.13, Chapter 90.

1. Authorization

Grazing would be authorized on the allotment under the following terms and conditions.

- Duration and timing of grazing – The maximum duration of use on the Veach Allotment would be extended from 5 months (12/01 to 04/30) to 6 months (11/01 to 04/30). Season of use would still be winter use during the dormant period so plants would still have full growing season rest each year. Timing and sequence of pasture moves would be based on monitoring of range readiness, livestock nutritional needs, ecological condition, and forage utilization.
- Authorized grazing – Annual authorized livestock numbers would be based on existing conditions, available water and forage, and predicted forage production for the year. Adjustments to the annual authorized livestock numbers and AUMs (increase or decrease) may occur during the grazing year, based on conditions and/or range inspections.
- Intensity of grazing – Proposed permitted numbers would be 1,380 AUMs, equivalent to 230 cow/calf pairs. The new improvements would be installed within the first three years following the NEPA decision and monitoring would occur to further assess

conditions and carrying capacity. Expected grazing intensity would decrease on the lower areas with the addition of drift fences and new watering systems. Forage use would be managed at a level corresponding to light to moderate intensity (30-45%)[6,7] to provide for grazed plant recovery, increased plant vigor, and retention of herbaceous litter to protect soils and provide forage and herbaceous cover for wildlife. Consistent patterns of utilization in excess of 45% of key species[8] in key areas would be used as a basis to modify management practices or take administrative actions necessary to reduce utilization in subsequent grazing seasons.

- Actions required to implement the decision – Grazing authorization would be implemented through the following administrative actions.

  A new ten-year term grazing permit would be issued for the allotment in accordance with Forest Service policy (FSM 2231.03) for the numbers and terms displayed above. The term grazing permit would identify the number, kind and class of livestock authorized and the season of use as required by Forest Service policy (FSM 2231.11), which would be allowed to vary in response to resource conditions and management objectives. Resource conditions that would affect management decisions may include but not be limited to precipitation, forage production, water availability and previous annual or seasonal utilization levels. Annual use would not exceed the total AUMs authorized or the season of use identified in the permit. Changes would be authorized and documented annually in the annual operating plans.

  The grazing permit would be issued within 90 days of final agency action following the NEPA decision to authorize grazing [FSH 2209.13(94) and Region 3 Supplement 2209.13-2016-1].

- Allotment Management Plans – Consistent with Forest Service manual guidance, (FSH 2209.13, 94) new allotment management plans (AMP) would be developed for the allotment and would be incorporated into Part 3 of any term grazing permit issued. The AMP would specify the goals and objectives of management,

[6] Based on review of numerous grazing intensity studies, Holechek (1999, 2004) identifies light to moderate grazing as 32-43% average use of primary forage species. These averages are based on pasture-wide utilization averaged over time. The Forest Service monitors utilization based on the use of key forage species in key areas. Key areas are selected to be representative of management effectiveness over the entire pasture. For the purposes of monitoring, an annual use guideline of 30%-45% of key species in key areas will be used to monitor use in all pastures, which, combined with growing season rest or deferment, should insure pasture-wide *average* use of less than 45%.

[7] Grazing intensity is the percentage of forage produced in the current season, to the date of the measurement that has been consumed or trampled by animals. It is a comparison of the amount of herbage left compared with the amount of herbage that has been produced to the date of the measurement. Grazing intensity is measured at the end of a grazing period. Grazing intensity differs from utilization because it does not account for subsequent growth of either the ungrazed or grazed plants. May also be referred to as "seasonal utilization" or "relative utilization". Descriptors for grazing intensity levels as determined at the end of the grazing period (FSH, R3-2209.13-2016-1). Light to non-use 0-30 percent, Conservative 31-40 percent, Moderate 41-50 percent, Heavy 51-60 percent, Severe 61+ percent.

[8] Key species are perennial plants whose forage use serves as an indicator to the degree of use or species which must, because of their importance, be considered in a management program.

management strategies, range improvements, monitoring requirements and would incorporate an adaptive management strategy described below. The use of coordinated resource management plans[9] (CRMPs) will be encouraged where the coordinated use of intermingled private, state and federal lands is conducive to more effective management.

- Annual Operating Instructions – On an annual basis, the District and permittee would continue to meet and jointly prepare Annual Operating Instructions (AOI) prior to each grazing year to set forth (FSH 2209.13):
  - The maximum permissible grazing use authorized on the allotment for the current grazing season and the numbers, class, type of livestock, and timing and duration of use.
  - The planned sequence of grazing on the allotment, or the management prescriptions and monitoring that would be used to make changes.
  - Structural and non-structural improvements to be constructed, reconstructed, and/or maintained and who is responsible for these activities.
  - Allowable use or other standards to be applied and followed by the permittee to properly manage livestock.
  - Monitoring for the current season that may include, among other things, documentation demonstrating compliance with the terms and conditions in the grazing permit and AMP.

2. Improvements

The lack of reliable water and well placed fencing (including drift fences) have been limiting factors of desired livestock distribution and forage utilization on the Veach Allotment. Several improvements are proposed in the context of adaptive management, meaning that they have been identified as possible practices to assist in the achievement of desired conditions (Figures 2 and 3). In order to improve livestock distribution and pasture reliability, several structural improvements are proposed, which are described in this section.

Maintenance of existing improvements would continue as needed both within and outside of the Mount Graham Wilderness Study Area (WSA), designated under the 1984 Arizona Wilderness Act. No new improvements are proposed within the WSA. Improvements include fences and water systems (spring boxes, trick tanks, existing pipelines and earthen stock tanks) that were in place prior to the designation of the WSA. These facilities will continue to be maintained which, at times, may require the use of motorized equipment such as chainsaws, generators, or longline helicopter drops of materials. The responsibility for maintenance of range improvements is assigned to the permittee in the terms and conditions of each grazing permit (FSM 2244.03). On an annual basis, responsibilities for repair and maintenance of existing improvements would be identified in the AOI.

[9] Coordinated resource management is the process by which various users and agencies cooperate to manage a variety of resources across multiple jurisdictional boundaries, which allows for landscape-level management and involvement of a variety of stakeholders.

Dutch Henry Improvements

1. A new poly pipe waterline would be installed. It will be buried where possible and placed on top of the ground where bedrock prohibits burying, starting from the forest boundary and served by an off-forest water source. The pipeline will run west along Forest Service Road (FSR) 119 and then southwest following an existing two track road near Dutch Henry Canyon for approximately 1.2 miles. At the end of the two track road it will cross a drainage and end at the WSA boundary. The legal location of this proposed improvement is T9S R25E Sections 25, 35 and 36. A sufficient number of troughs and storage tanks will be placed along the pipeline at appropriate locations to achieve desired grazing distribution. All proposed locations of improvements are shown in Figure 2.

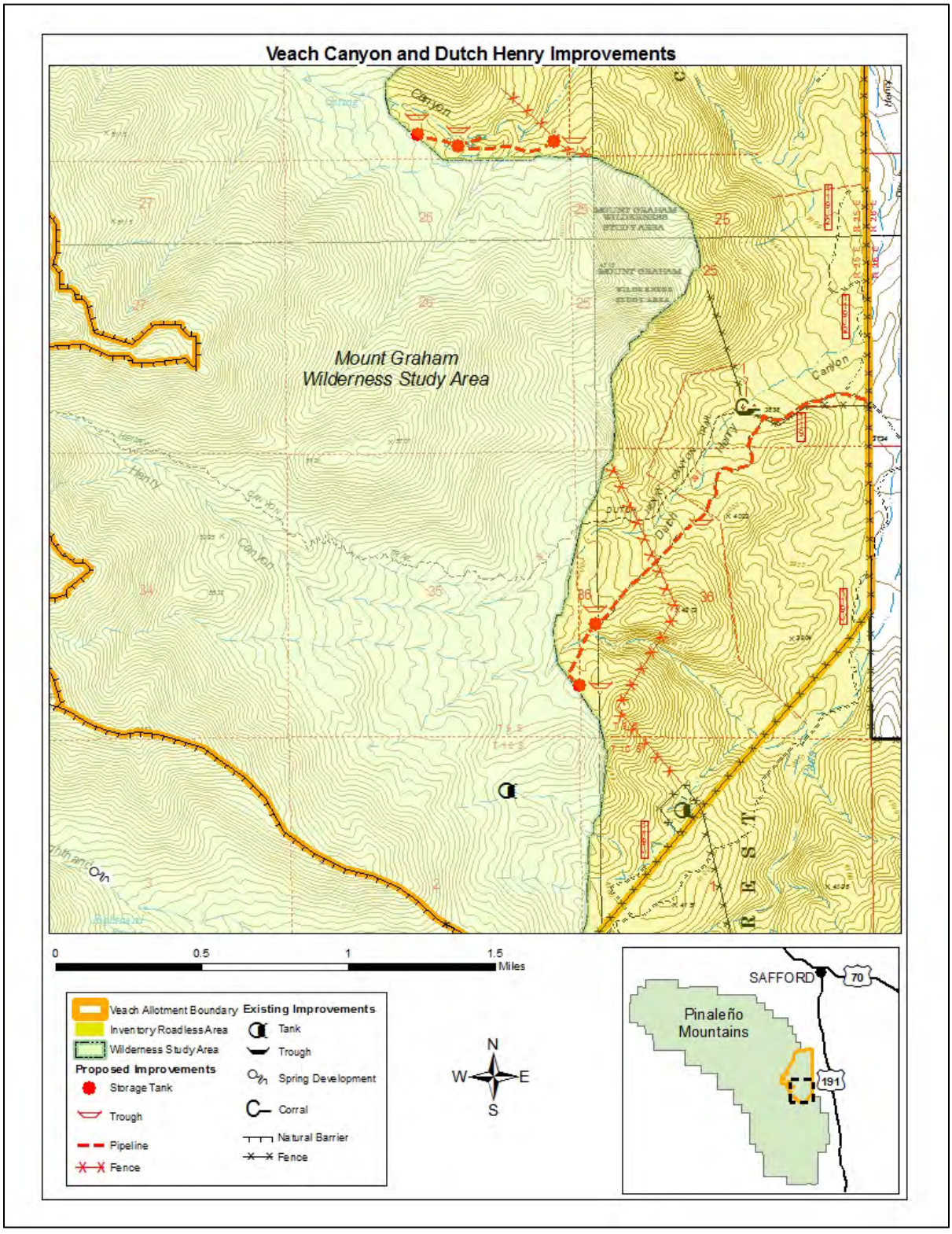
2. A new drift fence is proposed on the south end of the allotment. The legal description of this proposed improvement is T9S R25E Sections 1 and 36. The fence would stretch from the Forest Service (FS) allotment boundary to the northwest side of Dutch Henry Canyon in Section 36. Proposed location of this improvement is shown in Figure 2.

Veach Canyon Improvements

1. A new poly pipe waterline would put in from a large permanent pool of water within the streambed of Veach Canyon and would extend west ½ mile and east for ¾ mile (Figure 2). The pipeline would be placed on top of the ground. The new poly pipe waterline would include 5,000-gallon storage tanks and troughs enough to facilitate watering of cattle and wildlife in the area and increase cattle grazing distribution. This pool is approximately 40 ft. in diameter and greater than 30 ft. depth and has been observed to have water year-round. This project proposes water would be pumped out of the pool using a floating solar pump to a storage tank and gravity-feed the connected watering facilities. The water-level in the pool could be drawn down by a maximum of four feet below the high-water mark which was noted in the field by District Wildlife Biologist Staff and Range Management Specialist. This drawdown would only occur during the active winter seasonal grazing of the allotment when precipitation is likely to recharge the pool. The legal location of this proposed improvement is in T9S R25E Sections 23, 25 and 26 (Figure 2).

2. A drift fence exists in Veach Canyon but doesn't serve its function in that area. To increase livestock distribution, a new drift fence would be installed approximately ¼ mile up-canyon and would serve to keep cattle higher in Veach Canyon (Figure 2). The old fence and material would be removed. The legal description of this proposed improvement is T9S R25E Sections 23, 25 and 26 (Figure 2).

Figure 2. Veach and Dutch Henry Canyon Proposed Improvements



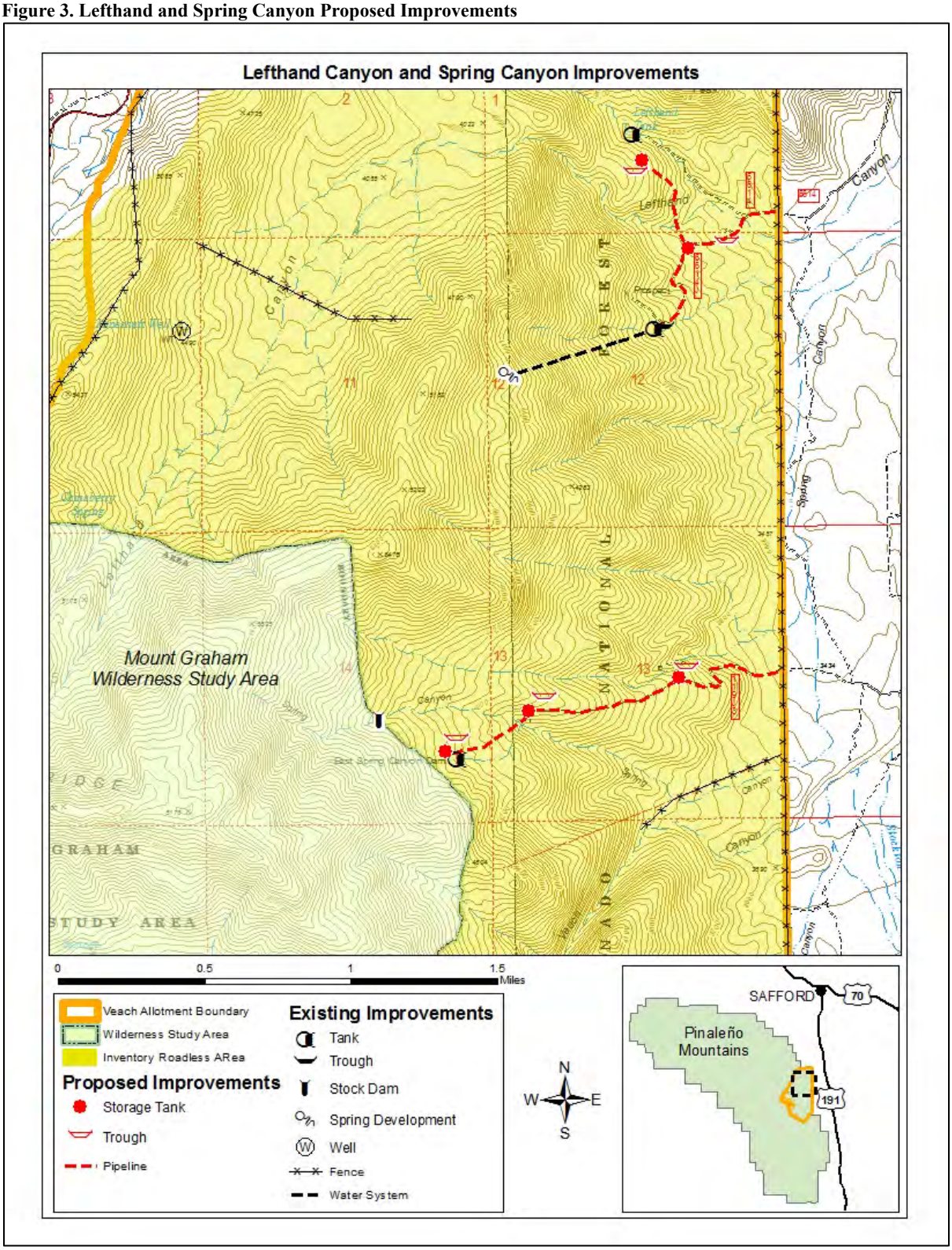
Spring Canyon Improvements

A new poly pipe waterline would be buried where possible and laid on top of the ground where bedrock prohibits, along FS road 119J3 (Figure 3). The water source would be from non FS lands and the waterline would start at the FS boundary fence, where FS road 119J3 enters the forest, and run approximately 1 ¼ mile up Spring Canyon. A sufficient number of troughs and storage tanks would be placed along the pipeline at appropriate locations to achieve desired grazing distribution patterns. The legal locations of the proposed improvement are in T8S R25E Section 13 and 14 (Figure 3).

Lefthand Canyon Improvements

1. A new poly pipe waterline would be buried where possible and laid on top of the ground where bedrock prohibits burying and served from a private water source. The pipeline would be laid along FS roads 6614 and 6614J for approximately ¾ mile to an existing drinker and storage and would T and extend north about ½ mile toward Lefthand Tank (Figure 3). A sufficient number of troughs and storage tanks would be placed along the pipeline to achieve desired grazing distribution patterns. The legal locations of the proposed improvement are in T8S R25E Section 1 and 12 (Figure 3).

Figure 3. Lefthand and Spring Canyon Proposed Improvements



3. Management Practices and Design Features

To mitigate resource impacts, the following measures would be implemented. These practices have been demonstrated to be successful when used on similar projects and are considered effective at reducing environmental impacts. They are consistent with applicable Forest Plan standards and guidelines and USFS Best Management Practices. Implementation of the mitigation measures and design criteria is intended to preclude the occurrence of potentially significant environmental impacts.

Soil, Hydrology, Vegetation and Watershed – The objective is to mitigate effects of livestock grazing and facility construction through the use of Best Management Practices (FSH 2509.22) and adaptive management. Practices include but are not limited to the following.

- Utilization of key upland herbaceous forage species in key areas would be managed to achieve the goal of light to moderate grazing as a pasture average. The objective is to protect plant vigor, increase herbaceous residue needed for soil protection and to increase herbage producing ability of forage plants. A utilization guideline of up to 45% use of key species in key areas would be used to achieve this objective.
- Management practices would be used to achieve proper distribution or lessen the impact on sensitive areas. Practices include herding, salting and controlling access to waters. Salt would be placed away from roads and one quarter mile from waters. Placement of liquid or bulk supplements would require prior approval of the District Ranger.
- Improvement and maintenance construction in the Proposed Action would be carried out utilizing USFS Best Management Practices. This would mitigate any effects to soil and reduce the measurable effects. These practices include the construction of water bars or erosion control structures, and installation of appropriate signage or barriers where necessary to prevent off-road travel along pipeline routes.

Wildlife – The objective is to mitigate impacts to wildlife from livestock grazing and from disturbance associated with maintenance of range facilities.

- The proposed improvement in Veach Canyon would not reduce the water level in the Veach Canyon pool by greater than 4 feet from the designated high-water mark. The water would be stored in the winter while the system is recharging and no water would be pumped if the water level is less than the 4 foot level without consultation with the District Biologist and further consideration of the pool water depth and accessibility to wildlife.
- Avoid the removal of Yucca or Agave to conserve nectar sources for bats.
- This project will comply with Coronado Stock Pond Management Plan.
- Fences constructed around natural waters should allow bats and other desirable wildlife to pass through unharmed.
- Wildlife escape ramps should extend to the bottom and near the edge of aboveground constructed waters, and at an angle to avoid entrapment of wildlife in constructed water facilities.

- This project will meet the applicable Wildlife Conservation Measures agreed to in the 2019 Ongoing Grazing Biological Assessment (USFS 2019) and Biological Opinion (USFWS 2021) including the following criteria used to meet the Mexican Spotted Owl concurrence determination:
- In the action area, livestock grazing or livestock management activities will occur within PACs, but no human disturbance or construction actions associated with the livestock grazing will occur in PACs during the breeding season (exceptions may occur where recent surveys indicate non- breeding or infer absence).
- Livestock grazing and livestock management activities within PACs in the action area, will be managed for levels that maintain or enhance prey availability, maintain potential for beneficial surface fires while inhibiting the potential for destructive stand-replacing fire, and to promote natural and healthy riparian, meadow, and upland plant communities including their functional processes (see guidelines for assessing and monitoring in 2012 recovery plan, first revision).
- Within protected and recovery habitat as described within the species' 2012 recovery plan, first revision, forage utilization is maintained at conservative levels, i.e., light to moderate grazing intensity.

Cultural Resources – The objective is to protect heritage resources (historic and prehistoric sites) from direct or indirect impacts caused by ground-disturbing activities associated with the construction of range facilities and to monitor the effects of cattle grazing on sites to ensure that adverse effects are not occurring. In general, these measures include the following:

- All proposed range facilities would be surveyed by qualified personnel for heritage resources prior to any ground-disturbing activities. Facilities would be built or modified to avoid impacts to sites.
- If unrecorded sites are discovered during project implementation, activities would cease, and the Forest or District Archeologist would be notified.
- Proposed facilities are located so as to avoid concentrations of livestock on identified heritage resource sites.
- No salting would occur within or adjacent to identified heritage sites.
- If impacts from grazing (e.g. excessive trampling, cattle rubbing against and knocking down standing features) are determined to be impacting heritage sites, measures would be taken (e.g. fencing) to protect them.

Invasive Weeds – The objective is to minimize the introduction and establishment of invasive weeds on National Forest System lands.

- Equipment would be cleaned prior to moving between units known to be infested with invasive plants and other units that are free of such plants.

4. Monitoring

The objective of monitoring is to determine whether management is being properly implemented and whether the actions are effective at achieving or moving toward desired conditions. Monitoring is necessary under the adaptive management strategy proposed to implement timely and effective management changes. The Safford Ranger District Range Program would be primarily responsible for monitoring. Active cooperation and participation by the permittee would be encouraged.

Effectiveness monitoring includes measurements to track condition and trend of upland and riparian vegetation, soil, and watersheds. Monitoring would be done following Sampling Vegetation Attributes procedures described in the Interagency Technical Reference (1996) and the Region 3 Rangeland Analysis and Training Guide. This data would be interpreted to determine whether management is achieving desired resource conditions, whether changes in resource condition are related to management and to determine whether modifications in management are necessary. Effectiveness monitoring typically occurs every three to five years but would occur at least once over the ten-year term of the grazing authorization.

Implementation monitoring would occur yearly and may include inspection reports, forage utilization measurements in key areas, livestock counts and facilities inspections. Utilization measurements are made following procedures found in the Interagency Technical Reference (1999) and with consideration of the Principles of Obtaining and Interpreting Utilization Data on Southwest Rangelands (2007).

Utilization would be monitored on key forage species, which are perennial grasses that are palatable to livestock. At a minimum, monitoring would include use in key areas but may include monitoring outside of key areas. Utilization may be monitored both during the grazing season (seasonal use) and at the end of the growing season (annual 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 reporting actual use (the number of AUMs grazed), climate and condition/trend data, to determine stocking levels and pasture rotations within the Veach grazing allotment for future years.

In addition, pool water in Veach Canyon would be monitored in order to not exceed the allowable limit of water pumped from there during the year. Improvements would be checked for adherence to FS guidelines and standards as well as effectiveness.

The Safford Ranger District Range Staff Officer and the permittee would be responsible for monitoring livestock grazing utilization. Permittee would be encouraged to participate in monitoring activities. Records of livestock numbers and movement dates would be kept by the permittee and would be provided to the District Range Staff.

Adaptive Management

Adaptive management uses documented results of management actions (monitoring) to continually modify management in order to achieve specific objectives, which are identified

in Chapter 1 of this EA. Adaptive management provides the flexibility to adjust livestock numbers and timing of grazing so that use is consistent with current productivity and is meeting management objectives. Under the adaptive management strategy proposed, the specific number of livestock authorized, specific dates for grazing, class of animal and modifications in allotment use may be administratively modified as determined to be necessary and appropriate based on implementation and effectiveness monitoring and current year production. However, such changes would not exceed the limits for timing, intensity, duration and frequency authorized in the NEPA-based analysis and decision. Administrative changes would be documented and implemented in the AOI which is made part of the term grazing permit.

Adaptive management also includes monitoring and analysis to determine whether identified structural improvements are necessary or need to be modified. In the case that changing circumstances require physical improvements or management actions not disclosed or analyzed herein, further interdisciplinary review would occur. The review would consider the changed circumstances and site-specific environmental effects of the improvements in the context of the overall project. Based on the results of the interdisciplinary review, the Deciding Official would determine whether correction, supplementation or revision of the EA is necessary in accordance with Forest Service Handbook direction at FSH 1909.15(18) and FSH 2209.13(96.1), or whether further analysis under NEPA is required.

Alternatives Eliminated From Detailed Study

Continue Current Management

Under this alternative, there would be no change in allotment management. As permits expire, new permits would be issued for the classes and numbers of livestock currently permitted. Annual authorized use would continue to be controlled through annual operating instructions (AOI's). None of the proposed improvements would be implemented, but existing improvements would be maintained. For the purposes of comparison, this alternative assumes management intensity, utilization and distribution patterns similar to the past five years. This alternative was not analyzed in detail because it does not meet the purpose and need to manage resources in a manner that achieves Forest Plan objectives and desired conditions, nor does it formally incorporate adaptive management to allow for sufficient management flexibility.

CHAPTER 3. ENVIRONMENTAL CONSEQUENCES

This chapter summarizes the physical, biological, social and economic environments of the affected project area and the potential effects to those environments due to implementation of the alternatives. It also presents the scientific and analytical basis for comparison of alternatives. The chapter is organized by resource. Within each section, the affected environment is briefly described, followed by the environmental consequences (effects) of implementing each alternative.

Cumulative effects are the past, present and reasonably foreseeable future actions that add to the direct and indirect effects considered in this EA (Table 3). If a resource indicated there

are no direct or indirect effects, then no cumulative effects were analyzed. The following activities have been identified as potentially contributing to the effects analyzed herein. These activities and occurrences have contributed incrementally to changes in ecological conditions in the project area and may continue to influence conditions in the project area over the term of the project. Foreseeable future actions are those for which a proposed action has been approved or those proposed for NEPA analysis in the future. For those resources which a cumulative effect contribution reasonably exists, the geographical extent considered and timeframe in which they were considered is listed in Table 4.

Table 3. Past, present and reasonably foreseeable actions considered in the cumulative effect's analysis for the Veach Allotment analysis

Project	Year	Affected Area	Affected Resources/Issues
Forest-regulated harvests: fuelwood and forest products (e.g., acorns, berries) (40% slope or less)	1940-Future	Up to 80,000 acres	Soils, vegetation, wildlife habitat/decreased sustainability, loss of biodiversity, loss of soil fertility, deforestation, increased risk of introduction or spread of invasive species.
Grazing –ongoing and Two Troughs, 76, and Cedar Springs Allotments EA	1912-Future	372,464 acres	Soils, water, vegetation, habitat/increased erosion and sedimentation, loss of soil fertility, decreased sustainability, loss of biodiversity.
Vegetation management (thinning, prescribed fire) – Including Pinaleño Firescape Analysis	1970-Future	Approximately 150,000 to 200,000 acres	Vegetation, air quality, habitat/improved Forest health and vigor, improved wildlife habitat, short-term degraded air quality.
Pinaleño Ecosystem Restoration Project	2011 - 2021	5,754 acres	Air quality, scenic resources, vegetation, cultural resources, water, soils, habitat/exhaust and fugitive dust emissions, noise, damage or loss of vegetation, damaged heritage resources, increased erosion and sedimentation, soil compaction and erosion, loss of habitat and scenic quality, increased risk of introduction or spread of invasive species.
Pinaleño Mountains Pheromone Deployment	2019 - 2020	10,831 acres	Air quality, scenic resources, vegetation, water, soils, improved Forest health and vigor and improved wildlife habitat.
OHV and other motorized use, including restricted use and unauthorized roads	1920-Future	About 275 miles of ML-2 thru ML-5 roads; 20 miles of ML-1 roads	Air quality, scenic resources, vegetation, cultural resources, water, soils, habitat/exhaust and fugitive dust emissions, noise, damage or loss of vegetation, damaged heritage resources, increased erosion and sedimentation, soil compaction and erosion, loss of habitat and scenic quality, increased risk of introduction or spread of invasive species.
<u>Historical fires</u> Bald Ridge Frye Bar-X	 2009 2017 2017	 606 acres 48,443 acres 2,786 acres	Air quality, vegetation, soils, water, cultural resources, habitat/loss of terrestrial habitat, aquatic habitat degradation, increased erosion and sedimentation, short-term degraded air quality, loss of wildlife, increased risk of introduction or spread of invasive species.

Project	Year	Affected Area	Affected Resources/Issues
Maintenance, NFS roads	1920-Future	275 miles	Air quality, ambiance/short-term dust and exhaust emissions, noise, and disruption of ambiance and use, increased risk of introduction or spread of invasive species.
Maintenance, developed recreation sites and ongoing special use permits (Proposed Cluff Ranch Water Pipeline Special Use Permit)	1960-Future	Approximately 35 acres	Air quality, ambiance/short-term dust and exhaust emissions, noise, and disruption of ambiance and use, increased risk of introduction or spread of invasive species.
Maintenance, hiking trails	Ongoing	30-100 miles/year (320+ miles total)	Air quality, recreation/short-term disruption of recreational use, short- term dust emissions.
Mining (production and exploration)	1880-Future	District-wide	Air quality, scenic resources, vegetation, water, soils, cultural resources, habitat/fugitive dust, airborne contaminants, noise, loss of vegetation and habitat, increased erosion, wildlife displacement, contaminated runoff to streams and groundwater, increased risk of introduction or spread of invasive species.
Rural and urban development	1880-Future	Off-Forest	Soils, air quality, water, scenic quality, vegetation, cultural resources, habitat/decreased sustainability, loss of habitat, short- term air quality degradation, increased erosion and sedimentation, wildlife displacement, increased risk of introduction or spread of invasive species.
Decommission of unauthorized roads	2014	About 7 miles	Air quality, short-term exhaust and dust from heavy machinery use, increased risk of introduction or spread of invasive species.

Table 4. Cumulative effects, spatial and temporal boundaries

Resource	Spatial Bound	Temporal Bound
Wildlife	Project Area (the grazing allotment)	The timeframe selected for this analysis is 10 years into the future and 10 years into the past. This timeframe was selected because 10 years is the term of the term grazing permit.
Soil Condition and Air Quality	6th code watersheds in which the allotment is located.	
Vegetation Condition	Project Area (the grazing allotment)	
Water Quality and Quantity	6th code watersheds in which the allotment is located.	
Cultural Resources	Safford Ranger District	
Special Management Areas	Project Area (the grazing allotment)	

Wildlife

Affected Environment

Management of wildlife species and habitat, and maintenance of a diversity of animal and plant communities is an important part of the mission of the Forest Service. Management activities on NFS lands must be planned and implemented so that they: do not jeopardize threatened or endangered species; do not lead to a trend toward federal listing under the Endangered Species Act (ESA); and do not lead to a trend of loss of viability of Regional Forester Sensitive Species (RFSS) and migratory birds.

Effects of the ongoing grazing activities on the allotments have been evaluated in Biological Assessments (BA) of Ongoing and Long-term Grazing on the Coronado National Forest. A Biological Assessment/Evaluation Wildlife Specialist Report (BABEWS) which tiers to the programmatic Biological Assessment and Biological Opinion for Ongoing Grazing on the Coronado National Forest USFS 2019; USFWS 2021), and includes RFSS and migratory birds, has been completed and is summarized below. The action area for the BABEWS analysis is the same as the proposed project area: the Veach Allotment. This tiers to the scope of activities described in the programmatic BA and BO (USFS 2019, USFWS 2021).

Table 5 includes federally listed threatened and endangered species and their critical habitat within the project area.

Table 6 below includes RFSS known or which have the potential to occur within the project area. Species listed were selected from the Forest Service Region 3 sensitive species list, revised in 2013. Many species are listed as RFSS because their distribution and habitat requirements are poorly known, or the species are believed to be rare. For the purpose of analysis, their presence or absence within the project area is assumed in this EA. Some RFSS were not considered in this analysis because either (1) they or their habitat do not occur in or near the proposed project area; (2) potential impacts from the proposed project are so remote as to be non-existent; or (3) no information as to occurrence or habitat needs is available. A table of the RFSS for the Coronado National Forest and their occupancy status is available in

Appendix B of the BABEWS report. Further information on these determinations can be found in the BABEWS.

Federally-listed Species

Table 5. Threatened and Endangered Species found in the project area or suitable habitat exists in the project area

		Habitat[1]		
Species	**Status**	**Occ.**	**Pot.**	**Comments/Effects Determination**
Mexican Spotted Owl (*Strix occidentalis lucida*) and designated critical habitat	T	Y	Y	There are four Mexican spotted owl Protected Activity Center (PACs) partially located within this allotment of the Pinaleño Mountains. All of these PACS have been confirmed to be occupied recently. Additionally there is 120 acres of mapped recovery habitat and 3,244 acres of the allotment occurs in designated critical habitat. It is discountable that MSO will be harassed by cattle operations. No improvements are proposed within the PACS. Cattle are unlikely to access the steep upper areas of the allotment where the PACs occur. Grazing that might occur will be at low to moderate intensity and will allow for vigorous plant growth providing food sources and cover for the small mammal prey base. The likelihood of this grazing measurable affecting key MSO habitat components and primary constituent elements of critical habitat is discountable. This project meets the guidance criteria in the Ongoing Grazing on the Coronado National Forest Consultation Guidance, Biological Assessment and Biological Opinion...***May affect, not likely to adversely affect***

[1] Occ. (Occupied Habitat) = species recorded in project area or has a high potential to occur in suitable habitat within the project area. Pot. (Potential Habitat) = potential habitat for the species occurs in the project area but species has not been recorded there.

Forest Service Sensitive Species

Table 6. Forest Service Sensitive Species for the Veach Allotment

SPECIES NAME	HABITAT*		Comments/Effects Determination
	OCC.	POT.	
BIRDS			
American peregrine falcon *Falco peregrinus anatum*	N	Y	No Effect
Northern Goshawk *Accipiter gentilis*	N	Y	No Effect
Gray Vireo *Vireo vicinior*	N	Y	May impact individuals but not likely to trend towards federal listing
Gould's Wild Turkey *Meleagris gallopavo mexicana*	Y	Y	May impact individuals but not likely to trend towards federal listing
Lucifer Hummingbird *Calothorax lucifer*	N	Y	May impact individuals but not likely to trend towards federal listing
Arizona woodpecker *Picoides arizonae*	Y	Y	May impact individuals but not likely to trend towards federal listing
Yellow-eyed Junco *Junco phaetonus*	Y	Y	May impact individuals but not likely to trend towards federal listing
White-eared Hummingbird *Hylocharis leucotis*	N	Y	May impact individuals but not likely to trend towards federal listing
Whiskered Screech Owl *Megascops trichopsis*	N	Y	May impact individuals but not likely to trend towards federal listing
Broad-billed hummingbird *Cynanthus latirostris*	N	Y	May impact individuals but not likely to trend towards federal listing

SPECIES NAME	HABITAT*		Comments/Effects Determination
	OCC.	POT.	
Rose-throated Becard *Pachyramphus oglaiae*	N	Y	May impact individuals but not likely to trend towards federal listing
Buff-Breasted Flycatcher *Empidonax fulviforms*	N	Y	May impact individuals but not likely to trend towards federal listing
Northern beardless tyrannulet *Camptostoma imberbe*	N	Y	May impact individuals but not likely to trend towards federal listing
Abert's towhee *Pipilo aberti*	N	Y	May impact individuals but not likely to trend towards federal listing
Varied Bunting *Passerina versicolor*	N	Y	May impact individuals but not likely to trend towards federal listing
FISH			
Desert Sucker *Catostomus clarkia*	N	Y	May impact individuals but not likely to trend towards federal listing
Sonoran Sucker *Catostomus insignis*	N	Y	May impact individuals but not likely to trend towards federal listing
AMPHIBIANS			
Lowland Leopard Frog Lithobates yavapaiensis	N	Y	May impact individuals but not likely to trend towards federal listing
MAMMALS			
Mexican long-tongued bat *Choeronycteris mexicanus*	N	Y	No Effect
Lesser long-nosed bat *Leptonycteris yerbabuenae*	N	Y	No Effect
Western red bat *Lasiurus blossevillii*	N	Y	No Effect
Western yellow bat *Lasiurus xanthinus*	N	Y	No Effect
Allen's lappet-browed bat *Idionycteris phyllotis*	N	Y	No Effect
Pale Townsend's big-eared bat *Corynorhinus townsendii pallescens*	N	Y	No Effect
Northern Pygmy Mouse *Baiomys taylori ater*	N	Y	May impact individuals but not likely to trend towards federal listing
Hooded Skunk *Mephitis macroura milleri*	N	Y	No Effect
REPTILES			
Giant Spotted Whiptail *Aspidoscelis sticogramma*	N	Y	May impact individuals but not likely to trend towards federal listing
Twin-spotted Rattlesnake *Crotalus pricie*	Y	Y	No Effect
PLANTS			
Arizona alum root *Heuchera glomerulata*	N	Y	May impact individuals but not likely to trend towards federal listing
Broadleaf Ground Cherry Physalis latiphysa	N	Y	May impact individuals but not likely to trend towards federal listing
Chihuahuan Sedge *Carex chihuahuaensis*	N	Y	May impact individuals but not likely to trend towards federal listing
Chihuahuan Scurfpea *Pediomelum pentaphyllum*	N	Y	May impact individuals but not likely to trend towards federal listing

Environmental Consequences

Alternative 1-No Action

Under the No Action alternative, there would be no adverse effects to federally listed

Threatened, Endangered, or Proposed wildlife species, Regional Foresters' Sensitive Species, Migratory birds or their habitat.

Alternative 2- Proposed Action

The proposed action may affect, but is not likely to adversely affect Mexican Spotted Owl. Concurrence was received from USFWS on September 30th 2021 as part of the Biological Opinion for Ongoing Grazing on the Coronado National Forest and this project tiers to that consultation (USFWS 2021).

For Forest Sensitive Species, some disruption of individuals might occur from grazing or the proposed improvements. This disruption is anticipated to be minimal scope, duration, and intensity because grazing activities would be monitored regularly, are planned to be maintained at light to moderate intensity and are planned to allow for 6 months of rest each year for the areas to regenerate during the main growing season and because of the conservation measures in the EA and in the programmatic BA/BO (USFS 2019, USFWS 2021) are followed. Effects from grazing should not reach significant levels to cause negative impacts nor downward trends toward Federal listing for any of the above species.

For migratory bird species, no impacts to birds of conservation concern are expected. Because grazing activities are monitored regularly, are planned to be maintained at light to moderate intensity, are heavily influenced by precipitation, and are planned to allow 6 months of each year for the areas to regenerate during the main growing season, impacts from grazing should not reach significant levels to cause negative impacts or downward population trends leading toward Federal listing for any species of conservation concern.

It was determined the proposed action will not impact bald eagles and is not likely to cause a trend to Federal listing or loss of viability.

Cumulative Effects

The analysis area includes the Veach Allotment. The duration of effects is considered the ten-year term of the grazing permit, therefore ten years in the past and ten years in the future.

For the purpose of NEPA analysis, past, present and reasonably foreseeable activities are listed in Table 3. These activities are not expected to create a cumulative effect with the proposed action that would further affect the species analyzed.

For the purpose of consultation under the ESA, cumulative effects include future State, tribal, local or private actions that are reasonably certain to occur in the project area. Future federal actions that are unrelated to the proposed action are not considered because they require separate consultation under Section 7 of the ESA (USFWS 1998).

Livestock grazing on private and state land adjacent to the eastern boundary of the project area is expected to continue. Rangelands adjacent to the forest have been grazed for over 100 years. Well-managed grazing occurs on the private and state lands, but this activity is not expected to contribute to cumulative effects downstream when added to the effects of the proposed action. Recreational activities such as hiking, birding, hunting, and off-highway vehicle driving are expected to continue within the project area over the life of the project. Hunting is regulated by the Arizona Game and Fish Department and is restricted to relatively few hunters, generally during the fall and winter deer and quail seasons. Hiking, birding, and

off-highway vehicle driving occur year-round, but levels of activity are low and confined to a few roads and trails. Off-highway vehicle use is expected to remain low. It is not anticipated that these activities will add to the effects of the proposed action. Therefore, no cumulative effects to wildlife are anticipated.

Soil Condition and Air Quality

Affected Environment

A General Ecosystem Survey (GES) was completed by the Forest Service in 1991 and covers the entire Safford District (USDA, 1991). The GES report states that there are three soil types within the allotment (490, 476 and 475; Table 7). All of the soils found within the allotment are within the High Sun Mild (HSM) GES climatic gradient. This gradient receives more than half of the mean annual precipitation during the periods of April 1 to September 30 and has mild winters.

Table 7. General Ecosystem Survey Units Descriptions

GES UNIT	Average Slope	Surface Texture/ Modifier	Soil Depth	Erosion Hazard	Percent of Allotment Area
490	15% to 40%	Sandy Loam/Cobbly to Very Cobbly	Deep	Moderate to Severe	30.9%
475	40% to 120%	Extremely Cobbly Sandy Loam	Shallow	Moderate	57.5%
476	40% to 120%	Extremely Cobbly Sandy Loam	Shallow to Deep	Moderate	11.7%

The most current available soil condition data collected in 2019 and 2021 (Table 1) assesses several previously classified unsatisfactory soil conditions, some of which were not formally validated on-site when they were first classified. Since these units were not initially verified in the field, the results of the 2002 Biological Opinion showed soil erosion modeled GES soil conditions. The changes in soil condition classes are therefore not all improvements; some are a representation of better available site-specific data that was not previously available.

Environmental Consequences

Alternative 1- No Grazing

Under this alternative, livestock grazing would not occur. Soil condition on areas that are currently more heavily grazed, such as near water sources, may improve over time, resulting in decreased runoff and improved water infiltration into the soil in these areas. Decreased runoff would reduce the amount of water flowing into drainages during storm events and would also reduce the potential for soil erosion from these areas. Also, improved plant productivity and improved soil health may reduce wind erosion in these areas over time. Under the no action alternative there would be no more cattle on the allotment, therefore new water developments would not be needed, and there would be no resulting effects.

Alternative 2 – Proposed Action

Under this alternative, fencing, pipelines and watering facilities would be installed for improved grazing distribution. The AUMs would be increased and the potential grazing

season would be extended to include the month of November to improve management flexibility, but grazing intensity would remain light to moderate with growing season rest or deferment. As a result of improved grazing distribution, areas of the allotment that are currently more heavily grazed as a result of limited water availability will have improved soil condition over time. Improved soil condition could result in improved rainwater infiltration and reduced runoff. Reduced runoff would mean less water in drainages during flood events and would reduce the potential for soil erosion. Improved soil condition and vegetative cover in areas that are currently more heavily grazed could also reduce wind erosion in these areas. Air quality would not be impacted by the proposed action.

Cumulative Effects

Past, present and foreseeable future projects or actions that have affected or will affect the project area within 10 years pre and post grazing permit include wildfire and prescribed burns, recreation, invasive plants, and water developments.

Pinaleño Ecosystem Restoration Project (PERP) will reduce fuel loads, improve habitat, and reduce susceptibility to insect and disease outbreaks through targeted fuels treatments using a variety of methods including prescribed burning and mechanical vegetation treatments. The mechanical vegetation treatments planned through PERP are planned with procedures and best management practices in place to reduce potential for soil compaction and soil erosion. However, some soil erosion and compaction can be expected due to soil disturbance and compaction associated with access and practice implementation. These activities would be in the higher elevations of the watersheds, with the practices and grazing for the Veach Allotment occurring lower in elevation within the watersheds. As previously discussed, erosion from the Veach Allotment is expected to be very minor and localized, so it is not expected to significantly contribute to that which occurs from PERP.

Prescribed burns and wildfires cause a significant air quality impact in the short term from smoke. The Arizona Department of Environmental Quality (ADEQ) regulates prescribed burning in the state in accordance with the State Implementation Plan and any prescribed burning in the project area would be coordinated through the ADEQ and would follow the State Implementation Plan. Prescribed burns and wildfire can increase erosion in the short term if it results in significant decreases in ground cover or if the heat of the fire becomes such that hydrophobic soil conditions result. Ultimately, however, prescribed burns seek to minimize or eliminate both of these effects. In the long term, the vegetation re-establishment after a fire should reduce impacts to soil erosion. Soil erosion from hydrophobic soil conditions or decreases in ground cover can significantly increase sediment load in streams in the short term, until vegetation becomes established. It is not expected that the proposed action or alternatives will have additional significant impacts on air quality or soil erosion issues resulting from prescribed burns or wildfires. Since the conception of this project, the Frye Fire burned a large portion of the Pinaleño Mountains in 2017 near the project area but not within.

Recreation impacts in the project area are primarily from vehicle use on un-surfaced roads. Presently, Off Highway Vehicle (OHV) use is not substantial in this area. However, since this outdoor recreation activity is growing in popularity, it may lead to the creation of new unauthorized roads within the project area. Vehicle and OHV use on un-surfaced roads generates dust, which negatively impacts air quality. Also, these roads can have marked soil

erosion issues, particularly on steeper sections of the road. Increased numbers of un-surfaced roads would result in increases in air quality and soil erosion issues. It is not expected that the proposed action or alternatives would have a significant impact on recreation or its impacts.

Invasive species management is ongoing in the entire Pinaleño EMA, however no specific management activity is planned for the project area. Lehmann lovegrass is a non-native in the project area, but its widespread nature throughout Southeast Arizona makes it an unlikely candidate for treatment. It should also be noted that Lehmann lovegrass may contribute positively to short-term watershed condition through accumulations of litter on the soil.

Water developments may be added to supplement existing livestock water sources. These water developments may include wells or the improvement of a spring. The conservative volume of water proposed to be drawn to satisfy the needs of the proposed stocking rates of livestock is less than two percent of the total volume of water which is annually recharged from precipitation and would not cause substantial impacts to the subsurface water table. New livestock water sources would possibly improve livestock distribution and benefit watershed conditions with increased ground cover through litter and plant establishment and may also improve soil condition over time in areas that are currently heavily grazed. Improved soil condition could result in improved rainwater infiltration and reduced runoff. Reduced runoff would mean less water in drainages during flood events and would reduce the potential for soil erosion. Improved soil condition and vegetative cover in areas that are currently more heavily grazed may also reduce wind erosion in these areas.

Vegetation Condition

Grazing by domestic livestock may impact vegetation by changing the mix of species in the plant community being grazed (vegetation composition); by changing the density and frequency of perennial forage plants (forage frequency); and by changing the vigor of the grazed plants. These three vegetation effects are combined into vegetation condition classes that reflect the relative effects of grazing on vegetation. The condition ratings are based on comparisons to an undisturbed plant community. Thus, ecological condition is an expression of the health of the vegetation and soil relative to their combined potential to produce a sound and stable biotic community[10]. Trend is an expression of the plant community's movement toward or away from the potential natural community and is based on a comparison of change over time.

Affected Environment

Rangeland ecological monitoring was conducted on the allotment every 3 – 5 years, since 2001, using protocols outlined in the Region 3 Rangeland Analysis and Management guide. Data collected over that time period includes long term vegetation condition and trend monitoring, forage utilization data, soil ground cover, soil condition and structural range improvement condition inspections. Vegetation condition is based on the similarity index of the site as defined in the appropriate Natural Resources Conservation Service's Ecological Site Description. Vegetation condition is displayed in three categories; low similarity, mid

[10] The Coronado National Forest has not completed a Terrestrial Ecosystem Survey to identify the potential natural community. Therefore, Natural Resource Conservation Service (NRCS) Land Resource Unit Descriptions are used to determine condition. Major units in the project area are 41-1AZ 12-16" precipitation zone.

similarity and high similarity. Both key areas indicate the allotment is meeting or moving towards forest plan standards (Table 1).

Environmental Consequences

Factors other than grazing also affect rangeland vegetation condition. In the Pinaleño Mountains, foremost among these is the widespread occurrence of Lehman lovegrass, a non-native species. Rangeland condition is estimated based on the composition of native grasses; the presence of non-native species will lower vegetation condition ratings because non-native species are not included in condition scores. While litter accumulation from Lehman lovegrass can contribute positively to actual rangeland condition, its presence will likely continue to suppress condition scores regardless of grazing management. Fluctuations in rainfall patterns also affect vegetation condition. In general, cool season moisture favors the establishment of shrubby vegetation, and summer monsoonal storms favors the establishment and growth of warm season grasses. Long term drought favors the persistence of deep rooted shrubs over shallow rooted bunchgrasses.

Alternative 1- No Action

Monitoring indicates that most sites within the project area are at or near their ecological potential or that conditions are affected by high amounts of Lehmann lovegrass. Under this alternative the presence of Lehmann lovegrass would likely continue to suppress conditions. Removal of livestock does not automatically cause a change in species composition. Most sites dominated by Lehmann lovegrass are stable sites and would need a significant event such as spraying, disking and reseeding to transition to another stable ecological condition dominated by more desirable species. Thus, most areas would remain in the similar ecological condition as they are presently.

Alternative 2 – Proposed Action

Grazing use would take place predominately during the winter dormant season, although some early green-up may occur in April before the summer dormant season in late May and June. Light to moderate use levels would continue (30-45%). The permittee would be authorized to use the allotment for the 6-month period, or until forage utilization levels have been reached, with the increased number of livestock (230 cow/calf pairs). There could be a slight difference in forage species selection depending on the timing of grazing. However, at the same prescribed use levels there would be no measurable difference between the current season of grazing and the proposed action with the extended season in regards to the vegetation component.

Light to moderate grazing intensities and regular growing season rest would be used to provide for grazed plant recovery, increased plant vigor and retention of sufficient herbaceous vegetation to protect soils and to provide herbaceous cover for wildlife. Existing structural range improvements would be maintained, and new improvements would be constructed to improve management of the allotment. Management alone may not be sufficient to result in significant changes in vegetation condition where the presence of Lehmann lovegrass exists, since a shift in species composition would be necessary.

Installing the proposed water facilities and drift fences would provide a more reliable, permanent source of water and increase desirable livestock grazing distribution. These

improvements would allow livestock to use the allotment on a consistent basis and aide in distributing grazing pressure across the allotment. This would aid in providing proper use in areas currently receiving little to no use and would reduce the likelihood of some localized areas being over utilized. Soil and plant disturbance along the pipelines would be minimal since the majority of it will be laid above ground. Where pipe would be ripped in soil, plant disturbance would be visible for a few years until the sites have had time to revegetate. Most buried pipelines are not visible or detectable after 3 or 4 years.

Extending the grazing season would allow greater flexibility in management across the ranch as a whole unit. Grazing would continue to occur inside the winter dormant season and allow vegetation 6 months of rest during the critical summer growing season.

Where riparian vegetation exists, annual growing season rest on the allotment would continue to promote riparian tree recruitment. Soils and herbaceous vegetation would continue to be affected especially later in the grazing season when cattle seek shade in riparian bottoms. Since current management is maintaining riparian condition, continued use is not expected to result in significant new effects. Proposed new waters are intended to pull cattle out of the bottoms and reduce use in these areas.

Cumulative Effects

The effects of past activities have impacted the vegetation resources within the project area by changing species compositions away from historic climax communities. However, monitoring data over the past 10-15 years has shown that most of the vegetation across the allotment is in a low to mid-similarity condition. This condition trend is static and has been for the duration of the monitoring period. The proposed action would continue the same dormant season livestock use with the benefit of added livestock water and drift fences for increased livestock distribution. The light to moderate use levels along with the yearly growing season rest should mitigate any effects of livestock grazing that would lead to cumulative effects.

Invasive species are a concern throughout the project area and all of Arizona. Lehmann lovegrass, one of the most prolific invasive bunchgrasses in this part of the state, is present in the project area. With or without grazing this plant will continue to spread and outcompete native species. There are no other known invasive species in the project area and if they were to be observed, the district would employ an early detection, rapid response tactic to eradicate the population. Roads and trails would continue to be vectors for invasive plant dispersal. However, this could occur with or without livestock grazing and early detection and rapid response to any infestation would be conducted. This early detection and rapid response, along with the best management practices mentioned in chapter 2, would mitigate any cumulative effects.

Wildfires will continue to be a common occurrence throughout the project area and the mountain range. The project area is comprised of fire adapted vegetation communities that need fire to maintain overall ecosystem health. When a fire does occur, a site specific analysis would be done to determine overall range readiness for the return of livestock

grazing to the area affected. Through the utilization of monitoring and adaptive management, livestock grazing should not contribute to the cumulative effects of wildfire.

Water Quantity and Quality

Affected Environment

The Veach Allotment is located within the Stockton Wash 5th Code Watershed, (HUC 1504000506). Most drainages in the project area only have surface water flowing periodically for short durations. The streams appear as blue lines on USGS topographic quadrangle maps. These streams are ephemeral and intermittent tributaries to more major streams and drainages and are commonly dominated by upland vegetation and less commonly by riparian vegetation. Larger drainages, such as Jacobson Creek and Stockton Pass Wash, commonly have longer duration and higher magnitude flows and may have more sections where groundwater is shallow. As such, they often have more flow for longer periods of time and have more riparian vegetation as compared to smaller, more ephemeral drainages.

Water quality is assessed by comparing existing conditions with desired conditions that are set by the states under the authority of the Clean Water Act. The Arizona Department of Environmental Quality (ADEQ) is the regulating authority for water quality in Arizona. No streams within the allotment project area, or immediately draining from the allotment, have been monitored by the ADEQ.

Environmental Consequences

Water Quality. Surface water quality is affected by erosion of the soil surface. Adequate vegetation groundcover is necessary to slow the movement of water and trap and filter sediments.

Alternative 1 - No Action

Adequate diversity and vegetation groundcover would contribute to maintaining a satisfactory hydrological function and runoff would continue to be satisfactory. In areas that receive heavier livestock use due to less than optimal livestock distribution, the potential increase of vegetative ground cover and elimination of livestock-caused soil compaction would contribute to a gradual improvement in soil hydrological function resulting in less runoff, better infiltration and an improvement in water quality due to less sediment and lower turbidity.

Under *Alternative 2 - Proposed Action*

Any heavily grazed areas would continue to contribute small amounts of sediment downstream and surface runoff would be expected to be slightly greater, relative to no grazing, due to poor vegetative ground cover in those areas. Under the proposed action, which promotes better livestock distribution, the heavily grazed areas may gradually develop an improved vegetative cover and soil condition, eventually resulting in less sediment introduced downstream and less runoff over time from these areas.

Water Quantity.

Alternative 1– No Action

There would be no livestock grazing. The resulting adequate vegetative groundcover would contribute to satisfactory hydrological function such that runoff would be within normal parameters. Water currently consumed by or diverted and stored for livestock would be returned to the system.

Alternative 2 - Proposed Action

Grazing distribution would be increased due to increased water throughout the project area which would lead to more uniform plant utilization. Better grazing distribution would promote light to moderate plant use which should provide sufficient residual plant material to protect uplands and drainages and contribute to soil stability over time. Sufficient residual plant material means that the size and volume of the residual plants provide adequate protection to the soil from rainfall as well as sufficient root volumes to hold soil in place. The size and amount of plant left behind by grazing animals has a direct effect on root volume. The bigger and more robust the plant is, the greater its root mass will be. By keeping grazing use light to moderate, sufficient plant volume would be left behind to both protect the soil from rainfall and hold the soil in place with root matter.

Existing water developments would divert and store some water that would otherwise percolate back into the ground and support sub-surface flow. No new wells are being proposed, however, the Veach Canyon water system would utilize stream pool water using a solar pump. This would be supplied mostly by seasonal rain events. Except for Veach Canyon improvement water system, which would utilize water from FS lands, new water developments would be supplied by off forest water sources and piped on to the allotment. Existing wells would continue to be maintained for use. The difference between the two alternatives, in relation to watershed effects from water quantity use, is not projected to be substantial. Therefore, there would be no direct, indirect or cumulative effects to water quality or quantity.

Special Management Areas

Affected Environment

The Pinaleño EMA contains the 130,851-acre Pinaleño Inventoried Roadless Area (IRA) which was designated in 2001. Approximately 10,556 acres of the Veach allotment is located within the Pinaleño IRA, which comprises approximately 8% of the IRA. The Pinaleño EMA also contains the 61,315-acre Mount Graham Wilderness Study Area (MGWSA) which was designated in 1984. These areas offer opportunities for back-country hiking and solitude. For the purpose of this proposed action and analysis, the MGWSA would be treated consistent with designated Wilderness and management would follow congressional guidelines of Grazing in National Forest Wilderness Areas (FSM2323.22 – Exhibit 01). The Wilderness Act of 1964 allows for grazing in wilderness areas as long as grazing was established prior to September 3, 1964. Neither alternative would result in the construction of new improvements inside the WSA to protect its presently existing wilderness character. Neither alternative would result in road construction or the sale, removal, or cutting of timber inside the inventoried roadless area in the Pinaleño EMA.

Environmental Consequences

Improvements within the Mount Graham WSA were put in place prior to its designation. Necessary improvements would remain in place and continue to be maintained. Occasional use of motorized equipment may be necessary to maintain improvements when practical alternatives are not available. Therefore, either alternative, as related to grazing, would have no effect on wilderness character.

Multiple structural range improvements are proposed within the IRA including two drift fences, poly pipe water distribution lines, up to 10 storage tanks, and up to 11 troughs. Descriptions of the locations for these range improvements are found in Chapter 2 under Alternative 2. Proposed Action. No improvements are proposed within the Wilderness Study Area. All proposed locations of improvements are estimated in Figures 2 and 3.

An evaluation of potential effects to roadless area characteristics is located in the project record. Neither alternative would result in road construction or the sale, removal, or cutting of timber inside any of the special management areas on the Pinaleño EMA. Therefore, there would be no adverse effects or cumulative effects on the Wilderness Study Area or the IRA.

Cultural Resources

Affected Environment

Cultural resources include archaeological and historical sites, and properties important to maintaining the traditional beliefs and lifeways of local social groups ("traditional cultural properties"). Under Section 106 of the National Historic Preservation Act, the Forest Service has the responsibility, in consultation with the State Historic Preservation Office, Tribes, and other interested parties, to identify historic properties within the area of potential effect and to determine the effects that the proposal could have on cultural resources.

The Forest Service prepared Cultural Resources Report No. 2019-05-046, reviewing previous cultural resources research in the allotment and the results of survey completed for proposed improvement. There are 14 known historical or archaeological sites within the allotment. Historical accounts and sites recorded in other parts of the Pinaleño Mountains indicate the possible presence of a wide range of cultural resources. Previous archeological investigations resulted in the identification of over 150 archeological and historical sites on National Forest System (NFS) lands in the Pinaleño Mountains, although the mountain range has not been extensively surveyed. The Pinaleño Mountains are considered eligible for listing on the National Register of Historic Places (NRHP) as a Western Apache Traditional Cultural Property, known as *Dził nchaa si'an*. The survey report was sent to the twelve tribes with whom the Forest Service regularly consults, inviting consultation on the proposed action. All responses received supported the recommendations in the report.

Due to the determination that no cultural or historic properties would be affected, consultation with the State Historic Preservation Office was not required.

Environmental Consequences

Alternative 1 – No Action

No direct or indirect effects from livestock grazing on cultural resources would occur following removal of cattle from the allotments.

Alternative 2 – Proposed Action

Although the potential exists, surveys conducted as part of this analysis did not identify ongoing impacts related to current grazing. Under this alternative, direct effects would be the same as the direct effects under the current grazing allotment permit guidelines; they would be temporary and consist of limited disturbance. However, since cultural resources are prevalent throughout the mountain range it is possible that cattle could congregate on an unknown site. When these locations are found, mitigations in Chapter 2 would be sufficient to minimize the effects to such resources.

Cumulative Effects

The cumulative effects boundary for cultural resources is limited to the area encompassed by the Safford Ranger District. All previous projects (within the last 10 years) have been completed with a reasonable and good-faith effort to comply with Section 106 of the National Historic Preservation Act and all future projects will also comply. Avoidance of adverse effects to cultural resources is expected for all present and foreseeable projects. Cumulative effects on cultural resources on the Safford Ranger District now and into the future may arise as a result of natural disasters and/or accidents, not from project level work.

CHAPTER 4 - CONSULTATION AND COORDINATION

The Forest Service consulted the following Federal, State, and local agencies and organizations during the development of this Environmental Assessment.

Several individuals not specifically identified below also participated in this process.

FEDERAL, STATE, AND LOCAL AGENCIES:

Arizona Game and Fish Department
Arizona Department of Agriculture
Arizona Department of Environmental Quality
Arizona Cooperative Extension Service
Arizona State Historic Preservation Office
Arizona State Land Department
Graham County, New Mexico
USDA Natural Resource Conservation Service
USDI Fish and Wildlife Service

Due to the determination that no cultural or historic properties would be affected, consultation with the State Historic Preservation Office was not required.

TRIBES:

Fort Sill Apache Tribe	Hopi Tribe
Mescalero Apache Tribe	Pueblo of Zuni
San Carlos Apache Tribe	Tohono O'odham Nation
White Mountain Apache Tribe	Yavapai Apache Nation
Ak-Chin Indian Community	Pascua Yaqui Tribe
Gila River Indian Community	Salt River Pima-Maricopa Indian Community

The CNF consulted with twelve tribes with ancestral ties to the lands now managed by the Coronado National Forest. Four tribes responded to the consultation.

OTHERS:

National Wild Turkey Federation	Sky Island Alliance
The Center for Biological Diversity	Arizona People for the USA
Forest Guardians	The Rewilding Institute
Arizona Cattlegrowers Association	Jeff Burgess