

Analysis 1979

**GRANVILLE ALLOTMENT
ALLOTMENT MANAGEMENT PLAN**

**Clifton Ranger District
Apache-Sitgreaves National Forests**

Date:

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I. Basic Description

A. Management Unit

The Granville Allotment is located on the Clifton Ranger District, Apache-Sitgreaves National Forests, in Greenlee County, Arizona. It is located approximately ten miles north of Clifton, Arizona, and consists of approximately 8,600 acres mostly east of US Highway 191 within portions of Townships 2S and 3S, Range 29E, G&SRM, Arizona. Access is mostly by foot or horseback on Forest trails or across country. Elevations range from 7,951 feet in the northwest on Mitchell Peak to 4,900 feet at Sardine Canyon in the southeastern corner of the allotment. The topography is rough and steep. Management emphasis as provided in the Apache-Sitgreaves National Forests Land and Resource Management Plan (Forest Plan) Management Areas within timber forest, woodland, riparian, and developed recreation sites. Granville Allotment is within Arizona Game and Fish Department Hunt Unit 27, where big game populations are managed on a herd unit basis. A portion of the Mitchell Peak Rare II roadless area is encompassed by the allotment boundaries.

The allotment lies within the Lower Blue River and Lower San Francisco River 5th Code Watersheds. HL Canyon and associated drainages flow into Pigeon Creek, a large tributary of the Lower Blue River, and comprise about 12% of the allotment acreage. The Lower Blue River watershed encompasses 92,589 acres. Of this acreage the Granville Allotment contributes 2,708 acres or 3% of the total Lower Blue River Watershed. Of these allotment acres 1,095 acres are considered to be within satisfactory watershed condition and 1,614 acres within unsatisfactory watershed condition. Cumulative watershed effect contributions for the Granville Allotment are low to watershed conditions of the Lower Blue River Watershed.

Sardine Canyon and associated drainages of Fry and Cave Creek flow into the Lower San Francisco River, and comprise about 86% of the allotment acreage. The Lower San Francisco River watershed encompasses 230,062 acres. Of this acreage the Granville Allotment contributes 5,817 acres or 3% of the total Lower San Francisco River Watershed. Of these allotment acres 4,360 acres are considered to be within satisfactory watershed condition and 1,458 acres within unsatisfactory watershed condition. Cumulative watershed effects contributions for the Granville Allotment are low to watershed conditions of the Lower San Francisco River Watershed.

Watershed condition for the allotment is generally considered satisfactory/untreatable. Identified areas under heavy forest/woodland tree canopy are of watershed concern, but will not improve significantly with the implementation of any grazing management alternative. Forest openings in unsatisfactory condition will benefit the most from implementation of a grazing management plan that balances use by livestock with available forage, and offers direct control of livestock within major riparian areas on the allotment.

B. Type of Operation

The Granville Allotment has been in livestock non-use status for resource protection, at the request of the permittee, since January 1996. The past Term Grazing Permit authorized the permittee to graze 70 head of cattle (cow/calf) yearlong, from March 1 through February 28 annually or 1,124 Animal Unit Months. Although the 1979 Range analysis and subsequent Allotment Management Plan established a 3 pasture deferred rotation grazing schedule, improvements were not constructed and the grazing program was not implemented.

Livestock management on the Granville Allotment has been under a modified one pasture yearlong use management strategy since the 1930's. Livestock are divided into several small herds of 10 to 15 head and grazed within different geographical locations of the allotment. The areas designated for each small herd include Cave Creek, Fry Canyon, Walnut Spring, Mud Springs, HL Canyon, TKH/Sardine, and the Prieto Plateau pasture. Prieto Plateau and two adjacent small traps are the only fenced areas on the allotment. Pasture movements and durations are documented in the Annual Operating Plan.

Water on the Granville Allotment consists of one horizontal well at HL Cabin, and developed springs at Mud Springs, Granville Spring, TKH, and Walnut Spring. Water from Mud Spring is also piped in to the Mud Springs trap and the Prieto Plateau pasture. Several other perennial and ephemeral springs provide water within canyon bottoms. One stock tank exists on Prieto Plateau within the Tank trap. There are no other developed water sources on the allotment. Corral facilities are located at HL Cabin, Prieto Plateau, Cave Creek, HL Saddle, Granville, and Walnut. An old homestead cabin is located in HL Canyon and is accessible by vehicle.

The proposed management is a one pasture dormant season use livestock operating plan. Prieto Plateau would be utilized for holding and working livestock. Livestock rotation or movement throughout the allotment during use will be accomplished through geographical barriers, salting and herding practices. All areas of the allotment will receive 6 months of summer rest annually and 6 months of livestock use. Prieto Plateau will receive use only for short periods during livestock gather, holding and working. This management scenario will require the reconstruction and expansion of the HL Cabin corral and livestock working facilities. Tracking the movement of cattle and documenting their travel patterns will be important for discovering the best way to manage cattle to meet resource and range objectives. To this end the use of ear tags will facilitate recording of where animals were first placed and gathered. Monitoring of cattle, utilization and herding will be essential in meeting resource and range objectives.

In the initial turn-on the majority of cattle numbers should be transported to HL Corral then moved to Prieto Plateau to settle and then distributed to the upper ends Fry Canyon, Cave Creek and TKH/Sardine. The remaining cattle can be transported to HL and moved into the HL/ Mud Springs area. The lower end of Fry Canyon (Walker Butte area) should be closed off and used mid to late in the season. In March, the cattle in HL/Mud Springs area can be gathered to HL Corral and shipped. The remain in cattle should be gathered to Prieto Plateau then moved to HL Corral and shipped.

Another option for the permittee is to work with the permittee of the Pigeon Allotment to purchase and/or sell yearlings. If yearlings are purchased from or sold to the Pigeon Allotment, cattle can be moved between the allotments through Prieto Plateau. A number of options can be approved Forest Service to accommodate such an arrangement.

C. Permitted Use and Season of Use

Livestock numbers and duration of use on Forest Service lands as follows: 200 head of cattle (yearling) from 10/1 to 3/31 annually or 854 Animal Units Months.

D. Range Limitations and Allowable Use

Allowable Use

Allowable uses level set in pastures available for grazing will be 45% utilization. Key areas will be used as an indicator of when allowable utilization within a pasture has reached 45%. Key areas will be areas where cattle will naturally have tend to drift or areas of specific concern. If the permittee effectively uses distribution aids such as herding, salt and waters when utilization is reached in key areas it will match utilization in the pasture.

E. Resource Problems and Conflicts

Threatened, Endangered or Sensitive Species - Effects on existing or potential TE&S species and corresponding habitat both confined and not confined within the Allotment area. Consultation with the U.S. Fish and Wildlife Service and compliance with the terms and conditions for each affected species, which implement the reasonable and prudent measure, will constitute compliance with the Endangered Species Act.

Riparian Condition - There is a concern that all riparian and wetland areas (springs and seeps) are not in satisfactory conditions. With current rest from livestock grazing and use, many wetlands and riparian zones have responded and recovery is in progress. Some acres are not recovering very quickly, or will remain at risk due to past management activities. Allowing wetland riparian areas time to recover will be affected directly by the amount and timing of ungulate use, and affected indirectly by returning satisfactory hydrologic and soil function to upland watershed areas through proper stocking and improved livestock management.

Capacity - The Forest Planning process directed determinations of capacity of land areas for domestic livestock grazing be completed within project level planning.

II. Management Goals and Objectives

For sustainable outputs to come from Granville Allotment, the area should be characterized by various land conditions.

A. Vegetation and Soils - Diversity within all vegetation associations is key to supporting diverse wildlife and plant populations. Soil productivity and stability must be improved and maintained over most of the unit to sustain diverse plant populations. Erosion must be reduced through plant and litter development and accumulation to maintain and improve fundamental watershed processes, and maintain biological diversity. Maintain and increase residual herbaceous vegetation and litter to protect soil resources, promote water

infiltration, and provide feeding and escape/hiding cover for both mobile species and those with limited home ranges.

Develop a well interspersed mosaic of vegetation structural stages which provide for suitable stand sizes and connecting linkages between key habitats such as wetland zones and old growth or dense forest types. Maintain or improve ephemeral and intermittent riparian conditions to stabilize conditions and support diverse populations of plants and animals.

B. Arizona cypress / Mexican pinyon

1. Increase structural stand diversity, managing for uneven aged stands.
2. Increase herbaceous vegetation and litter to provide ground cover that exceeds 80% to stabilize soils and promote water infiltration.
3. Manage for retention of old growth when identified and allocated for the allotment unit in the closed canopy stage (60%+).
4. Retain an overstory of large mature or over mature trees within areas designated for restoration of herbaceous production.
5. Maintain and improve snag densities.

C. Alligator juniper / oak

1. Increase cool season component to at least 25% of grass composition.
2. Increase herbaceous vegetation and litter to provide ground cover 80% to stabilize soils and promote water infiltration, and nesting habitat for mobile and non-mobile wildlife species.
3. Manage for a minimum of 20% of the acreage to be in old growth with emphasis on areas where alligator juniper is the dominant tree species.
4. Manage for about 50% of the association acreage to have 10-39% canopy closure.
5. Provide for the development of large, mature, mast-producing trees of Emery oak and alligator juniper.
6. Maintain or increase snag densities throughout all associations.

D. Ponderosa pine/Douglas fir/oak/juniper

1. Strive to increase cool season component to at least 25% of grass composition.
2. Increase herbaceous vegetation and litter to provide ground cover that exceeds 80% to stabilize soils and promote water infiltration, and nesting habitat for mobile and non-mobile wildlife species.
3. Increase regeneration of all forest type tree species, especially pine, fir, and Gambel oak, managing for uneven aged stands.
4. Manage for retention of old growth stands with canopies 40-60%.
5. Retain an overstory of large mature or over mature trees within designated areas for regeneration.
6. Maintain or increase snag densities throughout all associations.

E. Chaparral and browse

1. Improve vigor, regeneration, and composition in all browse and chaparral stands. Alter or maintain plant density to ensure herbaceous understory production consistent with site and soil potential.
2. Maintain majority of acreage in immature and mature age classes, generally represented by stands less than 40 years old.

3. Maintain moderate hedging classes to optimize productivity and provide for establishment and maintenance of herbaceous production.
4. Stabilize soils that lack effective ground cover and increase soil productivity on all slopes by increasing litter and perennial grass cover.

F. Mexican pinyon pine

1. Strive to increase cool season component to at least 50% of grass composition.
2. Increase herbaceous vegetation and litter to provide ground cover that exceeds 80% to stabilize soils and promote water infiltration.
3. Increase structural stand diversity, managing for uneven aged stands.
4. Manage for retention of old growth stands when identified and allocated for the allotment in the closed (60%+) canopy stage.
5. Retain an overstory of large mature or over mature trees within designated areas for restoration of herbaceous production.
6. Maintain or increase snag densities throughout all associations.

G. Riparian/wetlands

1. Retain and improve herbaceous cover on soils, particularly where bank stability and deposition of fines is necessary for seedling establishment.
2. Obtain diversity of all age classes throughout all areas of riparian, striving for multi-layered vegetation communities characterized by at least three age classes with a minimum of 10% being in regeneration.
3. Manage to diversify vegetation along drainage course, striving to achieve woody composition of at least three riparian tree species.
4. Manage to increase plant diversity, vigor, species composition, and seedling establishment to improve riparian ecosystem health.
5. Improve snag and down log density.

III. Management Strategy

A. Narrative.

The management strategy is for implementation of an Allotment Management Plan and modification of the existing Term Grazing Permit for livestock use of the forage resource on the Granville Allotment. It is based on estimated capacity calculations, considering herbaceous forage as a limiting factor, with maximum allowable use rates of 45% on available herbaceous forage, on full and potential capacity acres only, and on slopes less than 40%. This modification will change the number of animals permitted, the class of permitted livestock, the season of livestock use and the livestock management strategy.

The management strategy is to defer all pastures during the growing season, annually and to implement a yearling livestock operation during the dormant season. The pounds of herbaceous forage available for the allotment area are divided by the anticipated pounds of herbaceous forage required for a dry cow or one animal unit through the months of October to March. The dormant season, considering browse forage is not a limiting factor on the allotment, will constitute 65% of the overall livestock diet during these months.

Management of livestock will be accomplished with Best Management Practices and Resource objectives as a guide.

B. Grazing Schedule

See Appendix A

C. Best Management Practices (BMP's)

1. The location, timing and intensity of livestock grazing should be controlled with objectives of achieving soil cover to prevent accelerated erosion, to protect water quality and to improve range and watershed conditions.
2. Structural range improvements, such as fences, water developments, trails and corrals, should be planned, constructed and utilized in a manner to enhance or maintain water quality and prevent erosion.
3. Land treatments to manage vegetation or practices to reduce erosion should be planned, implemented and maintained to minimize adverse impacts on water quality.
4. Livestock management practices such as parasite control, supplementing and salting should be done in a manner to protect water quality and in accordance with Forest policies.
5. Implementation of a monitoring plan to insure consistency of application and effectiveness of grazing program.
6. Careful and prudent use of distribution aids to achieve even and distributed use of allowable forage.

IV. Distribution Aids to be employed.

A. Water.

Water is generally the effective distribution tool on an allotment. Water on the Dark Canyon Allotment is supplied by many creeks, springs and wet weather seeps scattered throughout the allotment. Water is perennial in Dark Canyon, Whitewater Canyon, and Eagle Creek. Potholes and small springs provide water in Spur Cross Canyon, Knight Canyon, Woods Canyon and Cottonwood Canyon. Two other developed water systems exist on the allotment, Hughes Spring pipeline and trough, and Painted Bluffs pipeline and trough. There are no other developed water sources on the allotment. One earthen stock tank is proposed for future construction pending severance and transfer of water rights. Fencing of waters if determine to be needed will be employed to reduce concentrations or over use.

B. Salting.

Salting and supplement will be used as a distribution tool. Salt and mineral blocks will be placed in lightly used area until the desired level of forage use is achieved. Blocks will not be placed within $\frac{1}{4}$ mile of water and ideally no closer than $\frac{1}{2}$ mile. Blocks will not be placed in over-used areas, meadows, and bottoms, along roads, along trails or in heavily used recreation areas. Block locations will vary from year to year and will not be place on sites susceptible to erosion.

C. Herding.

Movement of livestock to relocate them away from concentration areas and into areas of light use can be very effective. This is a time-consuming process particularly in the initial stages because of the repeated

moves needed to break livestock away from habitual feeding areas and retrain them to remain in the areas where they are relocated. The success of the practice varies with the skill and diligence of the livestock operator. When livestock are within a pasture regular check should be made to insure utilization objectives are being met.

V. Range Improvements

Fences are in good condition to maintain pasture integrity. Well-distributed permanent water sources are available at least one for every 2,000 acres to meet the needs of livestock and wildlife (Forest Plan, pg. 73). Fences and other range developments are constructed to complement management needs and accomplish vegetative goals. The line camp in HL canyon is maintained and expanded (includes adequate road access, stock handling facilities, and water availability) to reduce overhead costs and enhance livestock management. Trails within riparian zones are rerouted where feasible and practical.

The permittee should make regular inspections of all range improvements and annually report during annual validation the condition of allotment improvements. All range improvements will be maintained to meet Forest Service standards. All appropriate surveys and documentation will be completed before implementation of new range improvement projects.

A. Structural Improvements

Meet with the permittee to discuss the condition and need of range improvements.

Reconstruction and expansion of the HL Cabin corral and livestock working facilities.
Fence and develop springs for spring protection and to enhance water quality for livestock.

B. Non-structural Improvements

No non-structural improvements are planned for this allotment.

C. Maintenance of Improvements

Schedule for maintaining current range improvements.

Meet with the permittee discuss the condition of range improvements and develop a schedule.

VII. Monitoring

A. Implementation Monitoring

To improve future management a record will be maintained of changes in the planned annual livestock operation, numbers of livestock stocked annually, duration of use per grazing pasture, general observations of utilization levels of available forage, forage use patterns for livestock, overall riparian condition, regeneration of riparian species, livestock use levels and patterns within riparian areas, any observations on wildlife, soil movement, or changes in the land area. Point photographs will be used to document changes or observations. Periodic range inspections to will document observations and will be conducted when appropriate.

At annual validation, the permittee will provide a written actual use record detailing dates of pasture or area moves, numbers in pastures area and condition of key area(s).

Production/utilization surveys will be conducted where necessary after livestock use patterns have been identified within the allotment. These surveys will be conducted annually during the first three years following implementation of the livestock management operation and on a periodic basis thereafter to verify estimated capacity, allowable forage use levels, and use patterns.

B. Effectiveness Monitoring

A vegetation response to management, as implemented, constitutes effectiveness monitoring. Indications of movements from existing resource conditions toward desired resource conditions as identified through resource objectives will validate the effectiveness of the management program. Increases in ground cover through perennial herbaceous species establishment, improved vigor, increases in litter, increases in cool season components, and improved herbaceous species composition, will be used as monitoring indicators of movement toward desired upland conditions. Increases in herbaceous understory, and regeneration of woody riparian dependent vegetation will be used as monitoring indicators of movement toward proper functioning riparian conditions.

The general life of allotment management plans is ten (10) years. Five (5) years after implementation of the allotment management plan an assessment will be completed to determine the effectiveness of the grazing program at progressing towards resource goals and objectives set forth in the environment assessment, subsequent NEPA documents, the allotment management plan and Forest guidelines and policies. This assessment will be conducted at a meeting between the permittee and the Forest Service and will use the information gathered during implementation monitoring plus any additional appropriate data. The outcome of this assessment will be written report detailing the assessment and a prudent course for the subsequent life of the allotment management plan. After ten (10) years another assessment will be conducted using the same format outlined for the five (5) year assessment.

C. Key Areas

Key areas related to livestock grazing are areas of special emphasis or concern such as riparian areas or threatened, endangered, or sensitive species habitat. Key areas may also be areas where livestock tend to concentrate under a particular livestock management program. Key areas will be established as a tool to indicate if annual and long-term management objectives are being met.

Utilization in key areas that aid in determining when livestock will be moved to another area or pasture will be used to gauge utilization within a pasture, trap or area. To this end, key areas will be selected so that when the appropriate utilization is reached in the key area it will reflect the utilization of the pasture or area. If this occurs in an area where livestock tend to concentrate then it is important that the permittee employ distribution aids (Section IV) to achieve even utilization in the pasture or area. Key areas will be located approximately .5 miles from livestock watering whenever possible.

List of Key Areas

Utilization

- 1 in each grazing area.

Riparian

- Photo points will be established at key areas to check riparian improvement and insure no unauthorized use is occurring. A permanent photo point will be established in Sardine Canyon, Cave Creek, Fry Canyon and HL Canyon.

VIII. Map(s).