

FINAL ENVIRONMENTAL ASSESSMENT

ARI-PINE 1 ANALYSIS AREA

CLAY SPRINGS ALLOTMENT MANAGEMENT PLAN AND RELATED ACTIVITIES

Apache-Sitgreaves National Forests  
Heber Ranger District  
Navajo County, Arizona

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## I. PROJECT SCOPE

### A. Introduction

The Clay Springs Allotment is within the Ari-Pine Resource Area, for which a Desired Future Conditions document was prepared in December 1993. It is the second allotment within the Ari-Pine area, for which site specific management is being analyzed since publication the document.

The Proposed Action addresses implementation of multiple resource actions resulting in direct ground disturbance that will have changes in vegetation across the landscape. There will also be management actions implemented that are intended to change the vegetation on the landscape through natural processes.

The area affected in this analysis contains 27,978 gross acres, comprised of 7504 acres of Pinyon-Juniper (P-J) vegetation, 10,097 acres of Pine, 630 acres of Riparian, 5208 acres of Open and Savannah Woodland (VSS1), and 4539 acres of Private Land. The allotment also contains approximately 90% of the Cottonwood Wash Analysis Area.

Clay Springs allotment (re: APPENDIX A) has been managed in the recent past under a 4 pasture deferred-rotation system, with the three P-J pastures (Town, Powerline, Cross IL) grazed in the winter and the Pine pasture (Summer), south of Hwy. 260, grazed during the summer months. The 1984 AMP called for a 5 pasture rest-rotation system but was not implemented. An analysis conducted in the early 80's indicated that the allotment was overstocked but no action was taken. In 1994, the old analysis was field checked and some data was collected, concluding that much of the 1982 analysis data was still valid, resulting in a proposed action.

An environmental assessment was completed for the Clay Springs Allotment in 1982. The following sections of that EA are adopted for this analysis and environmental assessment: Purpose of and Need for Action; Affected Environment; Alternatives, Including the Preferred Alternative; Appendix B, Capacity Determined from the 1980 Clay Springs Production-Utilization Study. A copy of this information may be found in the project record.

An environmental assessment was completed in 1995 for the Cottonwood Wash Timber Sale, and related activities. The analysis area for this assessment includes that portion of the Clay Springs Allotment, south of Highway 260. The Ari-Pine Resource Area Desired Future Conditions were used as goals for the actions proposed for this area. The Cottonwood Wash Timber Sale EA and Decision Notice, and watershed analysis are adopted for this analysis and environmental assessment.

### B. Purpose and Need

The purpose for this action is to restore the health of various ecosystems within the analysis area while providing goods and services to the public. This action was undertaken as part of an organized effort to evaluate grazing activities on various allotments within the Ari-Pine Resource Area.

This area was defined by a coalition group comprised of federal and state agencies, private individuals, and civic organizations interested in natural resource management. This action is part of an implementation schedule that has been established by the Heber Ranger District to analyze grazing activities as well as other resource concerns within the Ari-Pine Resource Area.

There is a need to implement this action at the present time for the following reasons:

- 1) The time is right to initiate the project since Desired Future Conditions (re: APPENDIX B, incorporated by reference) for the Ari-Pine Resource Area have been established through consensus with input from a diverse group, and the schedule fits in with Heber District work priorities. The agreed upon DFC's meets Forest Plan direction, whereas current resource conditions do not.
- 2) On the full capacity range, 83% of it is in Poor condition, 15% is in Very Poor, and 2% is in Fair condition. Range condition has not improved, and has somewhat decreased in some areas, in the last 13 years. If action is not taken now, the continued deterioration of the range will increase soil loss and sedimentation of downstream water resources.
- 3) Action needs to be taken now to balance stocking rate (permitted use 2244 aum's) with capacity (1183 aum's) which is 47% overstocked at present time. Grazing use levels need to be also controlled, otherwise, capacity and range condition will continue in a steady downward trend.
- 4) The riparian areas are also in unsatisfactory condition in portions of the analysis area. Plant diversity and density are low and not improving. Soil and watershed conditions (8 out of 11 transects indicated Poor or Very Poor soil conditions). Ground cover in the P/J averages 50% bare soil, therefore much of the area is susceptible to erosion. There is active sheet and gully erosion occurring. Action is needed now to restore these conditions before degradation results in irretrievable resource conditions.
- 5) Wildlife winter forage and protective cover is limited for antelope in the northern portion of the allotment. Browse densities and vigor are low in much of the P-J zone. Riparian conditions are unsatisfactory due to low density, composition, or vigor of riparian species. Corrective measures need to be taken to improve habitats for various species of wildlife.
- 6) It has been 15 years since the allotment was last analyzed and no significant resource improvement is evident. Action needs to be taken to change the existing trend in resource condition and initiate an active monitoring program to detect changes in resource conditions and recommend management changes when needed. The 58% reduction in permitted numbers that was recommended in a 1982 environmental assessment was not implemented.
- 7) Where consistent with other multiple use goals and objectives, there is Congressional intent to allow grazing on suitable lands. (Multiple Use Sustained Yield Act of 1960, Wilderness Act of 1964, Forest and Rangeland Renewable Resources Planning Act of 1974, Federal Land Policy and Management Act of 1976, National Forest Management Act of 1976).

8) The Clay Springs Allotment contains lands identified as suitable for domestic livestock grazing in the Apache/Sitgreaves Forest Plan and continued domestic livestock grazing is consistent with the goals, objectives, standards, and guidelines of the Forest Plan (pp. 13-17,44-168).

9) It is Forest Service policy to continue contributions to the economic and social well being of people by providing opportunities for economic diversity and by promoting stability for communities that depend on range resources for their livelihood (FSM 2202.1)

10) By regulation, forage producing lands will be managed for livestock grazing where consistent with land management plans {36 CFR 222.2(c)}.

- II. Proposed Action -- The Proposed Action is the initial management action proposed to resolve the existing resource conditions. It has been used to generate Issues and Alternatives from the public and other interested parties.

"RANGE RESOURCE"

Stocking & Grazing Schedule (re: APPENDIX C)

A. The allotment will be stocked at 100% of estimated capacity with a November to February grazing season (4 months). The capacity was originally estimated to be 1000 aum's based on a consumption rate of 35 lbs. for beef cattle (consistent with 1982 analysis). The consumption rate has been revised to 30 lbs/cow/day due to information provided by University of Arizona livestock nutritionist.

In addition to revising the consumption rate, fall forage clippings were conducted and actual use monitoring was completed through 94-95 grazing season. The capacity has been revised to 1183 aum's for the allotment. Capacity was determined by a suitable acre/aum method, based on a standard forage consumption rate for rangeland beef cattle and prorated according to range condition classification. The stocking rate is shown in APPENDIX D.

B. The stocking rate for livestock is based on an allocation in accordance with the Ari-Pine Resource Coalition DFC document which is 70% livestock and 30% wildlife. The original allocation was 700 aum's for livestock and 300 aum's for wildlife.

C. Issue new 10 year term permits with the following numbers and season: Grazing season will be 11/1 to 2/28, annually, stocked at 175 head. This is 94% of current permitted numbers. Grazing permits will be issued as follows: Flake 132 cattle; Smith 38 cattle; Jackson 5 cattle. The season of use will be reduced by 8 months equalling 1544 aum (69%) reduction in livestock use, from current permitted amount of 2244 aum's. Standards and guidelines for each permit are shown in APPENDIX E.

D. The grazing system proposed is a 4 pasture deferred system with all pastures being grazed in the same year. The initial pasture capacities are as follows: +IL is 135 aum's for 23 days use; Powerline is 236 aum's for 40 days use; Summer is 115 aum's, 20 days use; and Town is 208 aum's for 37 days. Summer unit may not be grazed during middle of winter and may be

grazed either in October or early November, or also late March or early April. The revised and current pasture capacities are shown in APPENDIX C.

Range Improvements (re: APPENDIX F)

A. Construct one earthen stock tank in Town Pasture, W1/2W1/2 Section 15, estimated cost of \$3000. Permittees and FS cost share 50/50.

B. Build new waterlots around stock tanks to regulate livestock use in associated areas at Northwest tank, Winter Tank, Sandy Tank, and Dalton tank, estimated cost is \$750/tank (materials only) for total of \$3000. Permittee install fences.

C. Rebuild Clay Springs-Willow Wash AB fence to Lewis Ranch, approximately 6 miles, estimated cost per mile for materials is \$2000/mile for a total of \$12,000. Estimated cost for contracting is \$12,000. Administrative cost associated with project estimated at \$9000. Total project cost \$33,000.

D. Rebuild east Boundary fence south of 260 highway, approximately 6 miles. Cost estimated at \$33,000. Project to be administered by adjoining district.

The above improvements along with others identified in APPENDIX F are to be implemented with any Alternative selected.

"TIMBER AND FUELWOOD"

Timber

Commercial timber actions have been addressed in the Cottonwood Analysis which are expected to have a beneficial effect on the range, riparian, watershed, and wildlife resource. Those activities will not be addressed in this action although the activities will be part of the cumulative effects analysis.

Fuelwood (re: APPENDIX G)

A. Fuelwood areas that are proposed for treatment will occur both north and south of Highway 260. Both commercial and personal fuelwood use are the primary methods to be used to achieve VSS class distribution. Individual tree pushing maybe used in fuelwood blocks that are not accessible or desired by fuelwooders. Slash treatment will be lopped, crushed, and seeded.

Follow-up prescribed burning may be done to help in nutrient cycling and control P/J seedlings. It may be necessary to not graze the area that is scheduled for burning one year in advance to build up fuels to carry a fire.

B. Fuelwood treatments will be conducted to achieve the DFC established in the Ari-Pine Resource Area DFC document. There will also be areas in the P-J allowed to progress to higher density of P-J. The following actions are planned: 498 acres of VSS1 allowed to progress naturally to VSS2A (Town Pasture); 637 acres (Powerline) of VSS1 allowed to progress to VSS2B; A total of 1598 acres of VSS5C to be treated north of Highway 260 (fuelwood

sales) to result in 131 acres VSS3A, 314 ac. 3B, 138 ac. 4A, and 1015 ac. 5A. South of Highway 260, 597 acres to be treated, 106 ac. of 4B to become VSS3A, 238 acres of VSS4C to become 5A, 135 ac. 4C to be 3A, 64 ac. 5C to be 5A. Current projections indicate that VSS1B will be in excess by 1805 acres, while VSS3A, 4A, and 4C are significantly deficit. VSS1(A) is not considered part of the remaining VSS class distribution. Ecologically, the savannah is not expected to have a very dense stand of P/J. At climax, canopy density is expected not to exceed 10% (from scattered Juniper trees) with grass species dominating the stands. This determination is based on soil characteristics and site productivity verified with Forest and Regional soil specialists. The soil mapping units associated with a savannah woodland are #43, #44, #58. The remaining soil mapping units are classed as VSS1(B) Open Woodland, currently existing as a grassland but having potential to become a dense woodland. (APPENDIX H)

#### "WATERSHED"

Watershed structures planned for the allotment are located in eroded drainages as follows: 1) NENE Section 26; 2) NESW Section 22; 3) SENW Section 12; 4) SWNE Section 34 all located in T12N, R19E. The structures entail installing drainage plugs with a bypass flow tube intended to capture silt and elevate the drainage bottom allowing vegetation to establish. Landscaping and installing gabions or other rip-rap can also accomplish the previously mentioned objective. Shallow bank cuts may be blasted and allowed to re-vegetate naturally or seeded with minimal cost. Blasting may also require mulch netting to aid in establishment of ground cover. Exclosure fencing or pasture deferment may be needed to help in the vegetation establishment.

Watershed structures planned in the Cottonwood Wash will be located in north and south of a center point established as Nick's Camp corral, Section 33 T11N, R19E. The structures are intended to be small, not in excess of 3 feet high to slow down water flow to allow silt to filter out and begin to elevate the stream channel. This is expected to provide seed bed for cottonwoods and willows to establish and aid in restoration of the Cottonwood drainage. These structures are not expected to withstand high flows, however, at the head of the drainage system flood damage is expected to be manageable.

Actions proposed for managing Browse, Riparian, Transportation and Fire resources are self-explanatory in APPENDIX I.

Ground cover data collected in 1994 indicates that the full capacity range has between 30 to 40 percent total ground cover, with vegetation (all) comprising less than 30% cover. Blue grama made up the majority of the plant cover. The P-J stands sampled were 4A, 4B, 5A, and 5C. The total average ground cover ranged from 36% in the 4A to 94% in 5A, most of this cover is based on high rock content as well as litter. Plant cover in these stands ranged from 5% in 5C to 25% in 5A, with 4B having a substantial amount of Lichens contributing to the cover. P-J stands, especially when they reach the B and C density, are not considered likely to ever produce significant ground vegetation to provide both soil protection and forage. These areas are potential capacity range and not considered in the stocking capacity. The 3B, 3C, 4A and 5A are considered marginal for grazing. Grazing of these stands needs to be managed to maintain soil stability.

Use may be allowed but only in light amounts depending on the trends indicated by vegetation and soils. The Grassland, VSS1, VSS 2A-C, and 3A comprise the bulk of the full capacity range. Aggressive competition for sunlight and space by 2C P-J stands can significantly reduce herbaceous cover. But, it can also be easily returned to more open stands and forage production.

### III. DECISION TO BE MADE

The decisions to be made from this analysis are: 1) Determine if livestock will be allowed to graze; 2) What is the best method (Grazing Management System) to use for grazing livestock; 3) What kind of grazing permit to issue and for how long a time period; 4) How much of the associated improvements should be implemented, such as, vegetation treatments, watershed structures, range and riparian improvements, and road density. The decisions will consider the resource issues in relation to the direction provided in the Forest Plan, laws, regulations, and goals established in the Ari-Pine DFC document. Opportunities exist to correct resource problems in a manner that best meets the collective needs of natural resources and people.

### IV. ISSUES TO PROPOSED ACTION

A public meeting held on May 24, 1995 was held to identify issues relating to the proposed action and develop alternatives to the proposed action. The collective input from those in attendance and written comments are contained in APPENDIX J. The issues were clarified and consolidated by the ID Team on June 1-2, 1995. The following is a consolidated version of the issues determined by the ID TEAM to be within the scope of this analysis.

A. Issues Summary -- Prepared by Subirge and Gonzalez and reviewed with IDTeam members and District Ranger Klein.

#### Category #1 - WILDLIFE

- a. Improve Antelope Habitat, as related to foraging and hiding cover for fawns. Unit of measure is amount of land diversity comprised of desirable forage species and height of vegetation left ungrazed.
- b. Northern Goshawk & Bald Eagle Habitat.
  - \*\* There are three Goshawk nests located south of Hwy 260. Manage habitat to meet Goshawk Guidelines and avoid driving the species toward listing as T&E. Unit of measure is percent of habitat in compliance with Guidelines.
  - \*\* Bald Eagle winter habitat. Improve hiding cover for alternate prey species. Unit of measure is percent of vegetation left ungrazed.
- c. Maintain Wildlife access to water. Unit of measure is total number of waters accessible to wildlife.



Category #2 - LAND RESOURCES

- a. Soil & Watershed Conditions.
  - \*\* Significant area within the Allotment containing Pinyon/Juniper over-story has unsatisfactory Soil & Watershed conditions. Unit of measure is percent of area having satisfactory conditions.
  - \*\* Several unnecessary roads exist, contributing to erosion and lacking vegetation to prevent runoff. Consider road closures and road maintenance to improve drainage and reduce erosion hazard. Unit of measure is miles of road that are in stable condition and do not exceed Forest Plan standard of 2 miles per section road density.
- b. Re-introduce Fire into Ecosystem.
  - \*\* Reduce fuel loading (pine type) and wildfire hazard especially at the urban interface. This issue is addressed in the Cottonwood Wash Timber Sale EA.
  - \*\* Use fire to assist in nutrient cycling to result in improved browse & forage vigor & density. This issue is addressed in the Cottonwood Wash Timber Sale EA.

Category #3 - VEGETATION

- a. Range Condition
  - \*\* Conditions are not improving. The objective is to improve the conditions to meet DFC goals and Forest Plan standards. Unit of measure is amount of grazable acres in Fair or better condition.
  - \*\* Conditions are mostly POOR in P/J, which is related to historical grazing use such as excessive use during critical growth periods. Pine type POOR CONDITION is related to over-story density restricting plant growth. Use levels exceed the levels that promote healthy growing plants; the duration and timing of use is not consistent with plant health requirements. Unit of measure is amount of growing season rest provided following a single grazing event.
  - \*\* Low species diversity. Strive to improve density and composition of desirable plant species. Unit of measure is density of decreaser and increaser species present.
- b. Browse Condition is low and existing below capability as a result of the following factors.
  - \*\* Heavy use on Browse species (Four-Wing Saltbush, Winter-fat, Riparian Spp.) occurring above acceptable levels. Unit of measure is percent use on browse species within acceptable levels.
  - \*\* Low Browse regeneration. Increase density of "A and B" species (examples mentioned above). Unit of measure is amount of browse seedlings produced that survive.
- c. Riparian Condition is unsatisfactory in specific areas where either livestock are causing adverse impacts or competition with conifers is limiting growth potential.

- \*\* Heavy use on Riparian Spp. (Cottonwood, Willow) occurring above acceptable levels. Unit of measure is percent use on riparian species within acceptable levels.
- \*\* Low riparian regeneration due to concentrated heavy grazing use of young plants. Unit of measure is amount of surviving riparian regeneration.
- d. Permitted numbers are greater than capacity, need to balance permitted numbers with capacity. Unit of measure is aum's permitted equalling capacity.
- e. Woodland Health. Vegetative Structural Stage (VSS) distribution in the Pinyon/Juniper quantity is not consistent with Aripine DFC's. There is an excess amount of VSS5C (Closed canopy old growth Juniper) and VSS1(B). High density of P/J leads to additional surface runoff and detrimental effects to soil and watershed conditions. Unit of measure is acres of VSS classes meeting DFC standards.

Category 4 -- SOCIO-ECONOMIC

- a. Impact of Alternative implementation on socio-economic future of livestock permittees. Unit of measure is number of jobs lost or retained by Alternative.
- b. Alternative impact on County-wide economic base. Unit of measure is amount of revenue returned to the county.

V. ALTERNATIVES TO PROPOSED ACTION

A. ALTERNATIVES CONSIDERED

The original Proposed Action was not discussed at the public meeting but it's affects have been analyzed within the context of this Environmental Assessment.

A public meeting held on May 24, 1995, developed the following Alternatives:

ALTERNATIVE 1 -- Issue Permit for current numbers & season, Flake 140 hd., Smith 40 hd., Jackson 7 hd., (187 head total) with a season of use of 3/1-2/28 year-round. This Alternative would contain new permit clauses and allow for vegetation treatments, as well as other structural improvements (Watershed and Range).

ALTERNATIVE 2 -- The NO ACTION Alternative considers vacating the allotment and not issuing any permits. NEPA requires that we analyze a NO ACTION alternative to be used as a baseline for assessing the effects of other action alternatives.

ALTERNATIVE 3 -- This Alternative involves implementing a "Non-Use Agreement" between the Forest Service and the allotment permittees to not graze the allotment for a mandatory period of 2 consecutive years.

The non-use could extend an additional 3 years on an annual basis not to exceed 5 total years of non-use. Extension of the non-use for an additional 3 years is dependent upon not receiving initially 2 successive years of cool & warm (grasses) seed production years.

If vegetative response is not adequate, non-use would then be extended for another year. After non-use is completed, Alternative #4 would be the new management system to be implemented.

ALTERNATIVE #4 -- Manage the allotment under a summer and winter grazing system. Estimated capacity for the entire allotment is set at 1183 aums. Winter pastures (+IL, Town, Powerline) would have a season of Nov. 1 to Feb. 28. All 3 permittees would run together under an established grazing sequence which changes every year. Estimated capacity for winter pastures combined is 992 aums (including Holding Pasture). Stocking rate will be: Flake-208 hd.(832 aums); Smith-31 hd.(124 aums); Jackson-6 hd.(24 aums). Winter pastures would be deferred from grazing during the period of March 1 to May 31. Summer pasture would be grazed from June 1 to September 30, with an estimated capacity of 191 aums. The pasture would be stocked at 40 hd-Smith (126 aums) and 7 hd-Jackson (24 aums). The Summer pasture would be deferred for the month of October. Changes to stocking rate from original proposal are due to balancing permitted use with pasture capacities. Permit clauses will be added to regulate livestock management. The Summer pasture would require the construction of one division fence to provide seasonal deferment. Additional riparian fencing may be needed to exclude grazing in Cottonwood Wash, if grazing is becoming destructive to riparian species. Vegetation treatments (P/J) and other improvements described in the Proposed Action will also be implemented with this Alternative.

ALTERNATIVE #5 -- This alternative would permit all permittees to run stock from November 1 through February 28. Mr. Smith and Mr. Jackson would also be permitted to run livestock for the remainder of the year (APPENDIX C). Stocking would be as follows for November 1 - February 28: Mr. Flake, 208 head; Mr. Smith, 18 head; Mr. Jackson, 4 head. For the period of March 1 - May 31, stocking would be: Mr. Smith, 18 head; Mr. Jackson, 4 head. For the period of June 1 - October 31, stocking would be Mr. Smith, 32 head; Mr. Jackson, 6 head.

An adjustment in stocking rates from those presented at public meetings has been made in order balance permitted use with pasture capacities (winter pastures). Permit clauses and management guidelines (APPENDIX E) will be used to regulate and direct livestock management on the allotment. Vegetation treatments (P/J) and other improvements described in the Proposed Action will also be implemented with this Alternative.

ALTERNATIVE #6 -- This Alternative is the same as the original Proposed Action, except that permitted numbers have been adjusted to reflect the current capacity estimate of 1183 ADMS. Of this 70% is allocated to livestock and 30% to wildlife.

Term grazing permits (10 years) with a 4 month grazing season (11/1-2/28), for a total of 207 head of cattle, would be issued. All four pastures will be grazed in one grazing season.

## B. ALTERNATIVES CONSIDERED AND DROPPED

One Alternative had been considered that would have issued a grazing permit with current livestock numbers and season of use. The permit would not contain any new permit clauses and no new improvements would be constructed. This Alternative would not be in compliance with Forest Plan or the Ari-Pine DFC's. It would have allowed more grazing use than available capacity and not provide any management standards to regulate use for improving resource conditions.

Another Alternative considered and dropped from further analysis was intended to manage the allotment under a summer grazing plan for all pastures. Season of use would have been 5/15 to 11/15, stocked at 1183 aums, for a total permitted number of 192 head. Permit Clauses would be added to the permit to regulate livestock use and management. Riparian fencing, vegetation treatments, and other miscellaneous improvements would have been constructed. This Alternative was not expected to meet Forest Plan goals and Ari-Pine DFC's for riparian resources, even with fencing.

## VI. PREFERRED ALTERNATIVE

The Preferred Alternative is Alternative #5, along with the range improvements, fuelwood and watershed projects discussed on pages 3, 4, & 5

## VII. AFFECTED ENVIRONMENT AND CONSEQUENCES BY ALTERNATIVES

### A. DIRECT AND INDIRECT EFFECTS

#### 1. Effects Analysis

This Chapter shows the present condition (i.e. affected environment) within the project area and the changes that can be expected from implementing an action alternative or taking no action at this time. The action alternative sets the environmental baseline for comparing effects of the action alternatives.

The major issues (see Chapter IV) define the scope of environmental concern for this project. An issue regarding socio-economic effect has been identified due to the potentially significant effect to permittees and the local economy. The environmental effects that are described in this chapter reflect the major issues. Cumulative effects of each alternative as they affect the major issues have been analyzed.

The IDTEAM analyzed the alternatives and projected that the alternative selected will have a duration period of 10 Years, at the end of which time another analysis may be initiated.

The following activities are proposed to occur with all alternatives and their effects are generally the same, except for grazing which varies with the Alternative selected: Pinyon/Juniper tree removal; watershed structural improvement; timber harvest; rebuilding existing range improvements; implementing prescribed fire; and closure/renovation of existing roads.

## 2. Vegetation

The affected environment is a grazing allotment containing 27,962 gross acres. It is comprised of 4 primary vegetative types, Savannah and Open Woodland 4670 ac.; P/J 8026 ac., Riparian 630 ac., and Ponderosa Pine forest 10,097 acres. There is also 4539 acres of Private land within the allotment boundary.

Current and historical analysis of the allotment identifies that approximately 5% of the Savannah/Open Woodland is in Fair condition with 95% in Poor or Very Poor condition. All of the riparian acreage is in Very Poor condition. P/J full capacity range has 100% of the area in Poor range condition. The P/J, riparian, and Savannah/Open Woodland conditions are a result of improper livestock management, lack of fire, high tree densities, and over-utilization of forage species.

The Pine forest is 100% in Poor condition, much of it is not grazable due to dense timber stands and low productivity. Range conditions in this area are primarily due to pine over-story shading out understory species. Past heavy and extensive grazing use within the grazable portion of the pine stands has contributed to the Very Poor Range condition along Cottonwood Wash drainage.

### a) Direct/Indirect Effects of Alternative #1

Alternative #1 will not meet the issue "Balancing permitted use with capacity (Issue - "Category 3d") in Chapter IV of this document. This Alternative essentially allows more animals to graze on the allotment than the land can sustain resulting in failure to meet other resource needs. The revised estimated capacity is 1183 aum's, based on a different consumption rate, grass forage clippings, and 94-95 grazing season monitoring. The wildlife use appears to be at an acceptable level therefore, wildlife forage capacity is estimated to be in addition to the 1183 aum's. This alternative would allow 2244 aum's of livestock use, which is almost twice as much use than the forage is available.

Over-use of the most desirable forage species does not provide for plant health and reproduction. If plants are continuously grazed at high use levels, the effect is that root reserves are depleted and plants are weakened with low potential for seed production in any given year. If the higher quality species do not produce seed then the potential for recovery decreases and inevitably range conditions will continue in a deteriorating trend.

Implementation of Alternative #1 will result in a conflict between achieving permitted use and implementing Permit Clauses. If the livestock are allowed to remain the full time on the allotment and at maximum numbers as the permit indicates, then excessive use will occur. If utilization standards are applied, the livestock will not remain on the allotment the entire season resulting in less use than permitted. A shortened grazing season is expected to occur on an annual basis, indicating that the allotment cannot sustain the numbers authorized by the permit, warranting a reduction.

Implementation of prescribed fire in association with timber harvest has been addressed in the Cottonwood Wash analysis. Those activities are expected to reduce shading effect of trees on herbaceous vegetation and improve plant growth, eventually increasing seedling and forage production (including browse). The opportunity to increase vegetative diversity and density will not be realized with Alternative #1 due to the expectant heavy use that will occur on young forage species.

Extensive monitoring will be needed with Alternative #1 to ensure that use levels are within acceptable limits and improper livestock distribution is not occurring. Fluctuations in annual budgets can disrupt planned actions such as monitoring. The likelihood of monitoring being carried out year after year to the same intensity is not expected to occur. The consequence is that in any given year use levels will be exceeded and may go undetected resulting in detriments to the resources, therefore, permitted use will continue to far exceed carrying capacity. The lack of monitoring that can occur will adversely effect the range, soil, watershed, and even the wildlife resources within the allotment. Over use that goes uncontrolled results in plant community changes as previously stated and indirectly affects soil and watershed conditions as well. Consequently, this Alternative does not meet issues referring to range, browse, and riparian condition (Issues - "Category 3" a, b, and c).

This Alternative meets issues regarding re-introduction of fire into the ecosystem ("Category 2b") and providing for woodland health ("Category 3e") in which case both activities would be carried out under this Alternative.

Reconstruction of existing range improvements is not expected to have any significant effect on the vegetation in the immediate area, or beyond what was originally disturbed. Removal of vegetation is expected but is a short-lived effect. Improving range fences helps in better management of livestock and insures that rested pastures are truly rested. But, improving water sources in areas that already are in distress from past grazing practices will further encourage more use perpetuating the poor range conditions unless stocking capacity is adjusted or duration of use is closely regulated.

b) Direct/Indirect Effects of Alternative #2

Alternative #2 addresses all vegetation issues ("Category 3"). Range plant health is expected to improve through improved vigor and seed maturity being obtained. This Alternative will achieve Ari-Pine DFC's referring to vegetative conditions. Portions of the allotment that are not grazed for extended period of time or lack disturbance such as fire, may reach a point of stagnation and decadence, with possibility of conditions regressing slightly.

c) Direct/Indirect Effects of Alternative #3

Alternative #3 addresses all issues, similar to Alternative #2. The Ari-Pine DFC's will be met, but at a slower rate than Alternative #2 (No Action). Vegetation treatments are intended to occur during the initial non-use period (2 years) and may require additional years

non-use to allow for a period of recovery and vegetation establishment. The Non-Use is also expected to allow cool season species to reach seed maturity. The abundance of seed expected by two full years of growing season rest, then changing the use patterns, intensity, and duration of grazing during the growing season is expected to result in higher density of seedling establishment. The amount of non-use depends on the precipitation pattern and may need to be extended beyond the initial two years if both years have been below average precipitation. After non-use, implement Alternative #4 (winter & summer use, stocked at capacity 1183 aum's). Permit clauses will be adhered to and monitoring for DFC trends will determine if further adjustments in management (such as additional non-use periods) are needed.

d) Direct/Indirect Effects of Alternative #4

Alternative #4 meets the range, browse, and riparian condition issues ("Category 3 a,b,c") but improvement is expected to be at a slower rate than Alternatives #2 and #3. The allotment will be expected to improve from current degraded conditions strictly on the basis of changing management, which includes deferment during critical growth periods and reducing the intensity of use on key (late seral) species.

The effects of historical use is expected to continue for quite sometime. Alternative #4 would not have the benefit of extended rest (from non-use) that can provide plants a period of recovery from past grazing practices. However, stocking rates would be reduced and no grazing would occur from March 1 - May 31, and from October 1 -31, the time periods of most cool season grass growth.

Rest would allow for seedlings to establish, and seedlings can establish with Alternative #4 after several years under a different management system. Grazing with this Alternative will still occur during the fall and possibly the early part of the spring growth period but is not expected to adversely effect cool season species recovery. It allows grazing during much of the growing season in the Summer Unit, except for partial deferment resulting from a proposed division fence. The amount of deferment in the spring and with complete winter use only, is expected to increase the density and composition of key species. In turn, improvement would be expected in the range, soil, and watershed conditions.

Close monitoring is needed in P/J pastures to insure vegetation treatments do not result in failure due to heavy grazing on key species seedlings. Monitoring is also needed in the riparian zones, especially in the Summer Unit to insure use levels are not exceeded within the drainage and in upland areas. Permit clauses will be attached to insure that standards for acceptable livestock management and use levels are being met.

Vegetation treatments will occur with Alternative #4. The effects on the resources would be similar to Alternative #3 except that without the non-use, resource conditions would have to improve from current levels. Within 10 years, it is estimated that 10% of the Poor range condition in the P/J (962 acres) will improve to Fair condition range.

If grazing intensity, duration, and distribution is regulated sufficiently a portion of the Very Poor range along Cottonwood Wash (Pine area) may improve to Poor (<5%). Slight improvement in riparian species vigor and density as well as watershed condition may be realized by not exceeding allowable use levels, leaving a substantial amount of ungrazed herbaceous cover. Fencing the riparian area pine treatment with associated watershed structures could accelerate the spread and growth of the riparian species.

e) Direct/Indirect Effects of Alternative 5 (Preferred Alternative)

Effects of P-A without monitoring are that heavy use of key areas and key species is likely to continue and perpetuate the existing degraded conditions. Even under lighter stocking proposed, livestock will be attracted to the most desirable vegetation (cool season species) and may graze it repeatedly. Therefore, without adequate monitoring this Alternative would not resolve issues concerning range, browse, and riparian conditions ("Category 3 a,b,c").

If Category 3 issues are not resolved, there will be an indirect effect on soil and watershed conditions ("Category 2a"). The decrease in vegetation density increases exposure of bare soil and the susceptibility to erosion. Improvements in vegetation composition and density will be at best, at a slower rate than Alternative #4, if not continuing in a downward trend. The downward trend would be a result of continued over-use of cool season species at the critical growth periods (spring and fall).

Effects of P-A with adequate monitoring and implementing Permit Clauses (utilization standards), is that resources are likely to improve at a similar rate as Alternative #4. Monitoring should direct livestock management in such a fashion that grazing intensity and duration is responsive to the plant physiological needs, promoting plant vigor and seedling establishment. The success of this Alternative is dependent upon adherence to the utilization standards and removal of livestock when resource conditions indicate, without delays.

P-A meets the socio-economic needs of all permittees since it does not require them to feed the livestock for a portion of the year on private land, which would increase their operating cost.

f) Direct/Indirect Effects of Alternative #6

The direct and indirect effects of Alternative #6 will be biologically similar to Alternative #4, although the fall and spring use of the Summer pasture would result in beneficial effects similar to Alternative #2. This would allow full growing season rest to all pastures with regulated grazing use during any grazing period. Permit clauses and utilization standards would apply. Vegetation treatments could occur with full opportunity for vegetation to establish with minimal impact from grazing.



### 3. Soils

Soil conditions on the allotment are in Fair to Poor condition. Much of the full capacity range has low ground cover, at levels below what is needed to prevent soil movement from surface runoff. Ground cover from data collected ranges from 94 to 6%. The high percentage of ground cover is due to high density of rock where the samples were taken. Several gullies are actively eroding. Many undeveloped roads in the P/J zone are also eroding. Use on the allotment has historically been yearlong, grazing pastures for long periods of time. Many of the cool season and bunchgrass species that helped protect the soil are not prevalent. Remnant stands of these species are found in isolated areas in low density.

Undesirable species (snakeweed, red-three awn, ring muhly) along with blue grama dominate the plant community, resulting in less ground cover and higher runoff. The dense P/J stands contain little ground cover between the interspaces, presenting a high erosion hazard.

#### a) Direct/Indirect Effects of Alternative #1

Under Alternative #1 range conditions are not expected to improve which will result in fewer plant species that are effective in preventing soil loss. In this case, soil loss is expected to continue. The vegetative treatments (fuelwooding, crushing, timber harvest, prescribed fire) may allow opportunities for desirable plants to grow, but the high use levels expected will eventually negate any measurable improvement.

#### b) Direct/Indirect Effects of Alternative #2

Alternative #2 is expected to improve soil conditions by applying vegetation treatments and allowing plants to establish without any livestock grazing pressure. With improvements in plant health and increased seed production, desirable plant species will increase resulting in an increase in ground cover and improved soil and watershed conditions.

#### c) Direct/Indirect Effects of Alternative #3, #4, #5

Compared to no grazing, these alternatives would be slower to achieve the desired soil condition improvements. Conditions due to the duration and season of livestock use. As mentioned in "Vegetation" section of the effects analysis, the amount of rest from grazing is important to the success of vegetation treatments changing the plant community to a better condition. The effects are quite similar for Alternatives 3 and 4, though the former allows time for seedling establishment in the absence of livestock grazing resulting in new ground cover before cattle are allowed to graze again. Alternative #5 may have the same effects as Alternative #4 if properly monitored, otherwise if not monitored properly the effect will be similar to Alternative #1 but primarily affecting all of the key areas.

d) Direct/Indirect Effects of Alternative #6

Alternative #6 effects on soil are similar to that of Alternative #2 because grazing use will not occur during the peak plant growth periods. Grazing intensity still needs to be regulated to insure that sufficient vegetation remains to become mulch and ground cover (litter) each year.

Indirect effects of fuelwood treatments are described as follows:

1) Fuelwooding also reduces canopy cover of the P/J but has more direct impact on soils due to ground disturbance. If properly managed, this method can place organic matter at or near ground level which adds structure to soil surface impeding runoff, allowing infiltration to occur, and provides organic matter to the seedbed. Associated ground disturbance is roller-crushing which further incorporates organic matter into the soil and prepares seedbed. This activity can disturb archeological sites if encountered within the top six inches of soil surface. However, cultural resource surveys are done before ground disturbing activities occur and sites are protected.

2) Tree pushing with bulldozers has greater effect to not only the soil surface but also the sub-surface. This activity excavates the tree roots in addition to the large scale surface disturbance by the dozer. Once trees are knocked down, fuelwooding could occur afterwards, with eventual roller-crushing or pile burning to cycle nutrients back into the soil. Pile burning can sterilize the soil if the pile is large and soil moisture is low.

Road closures will affect the immediate area where it is closed but the indirect effects are that it will allow eroded areas in the road to recuperate. Eroding roads create gullies where none had existed. They contribute to downstream sedimentation as well as accelerating runoff that eventually lead to scouring of drainages. Road closures will only occur on low use roads or severely deteriorated roads. Road repair will occur on prominently used roads and is intended to reduce the soil erosion and sedimentation caused by the road.

4. Water

The allotment contains three water wells, 27 earthen dams, and two springs. Water rights for these improvements are vested with the US.

Watershed conditions on the allotment are unsatisfactory. Dense P/J and pine stands prevent establishment of herbaceous vegetation, consequently runoff potential is high. Cottonwood Wash is prone to flash flooding due in part to dense tree canopy and needle cast in the upper watershed. Cottonwood Wash has varying amounts of riparian vegetation (Narrow-leaf and Fremont Cottonwood, and Willows), with the upper reaches dominated by Ponderosa pine. Herbaceous vegetation density (annual and perennial) is insufficient to protect the drainages and upland watersheds from eroding. Riparian vegetation is in low density or health due to grazing impacts (cattle and elk) and competition with conifers.

a) Direct/Indirect Effects of Alternative #1

Alternative #1 will not promote herbaceous plant establishment since it is the management method that has resulted in current conditions. Soils are expected to become more exposed to erosion, this will result in continued downstream sedimentation, further reducing water quality. The erosive nature of flash flooding is expected to continue, eroding drainage banks and scouring vegetation from the drainage, further degrading the watershed.

b) Direct/Indirect Effects of Alternative #2 and #6

Alternatives #2 and #6 effects on the watershed would be similar. Herbaceous vegetation would have optimum opportunity to establish and grow, resulting in increased ground cover which would slow down runoff and eventually reduce sedimentation and improve water quality. Riparian areas are expected to improve dramatically except where elk grazing may be concentrated. The vegetation treatments and prescribed burning planned in the Cottonwood Wash Analysis Area is expected to disperse elk use, although if necessary, exclosure fencing could help remedy the problem along with an adjustment in elk population for a few years during the treatment phase.

c) Direct/Indirect Effects of Alternative #3 and #4

Alternative #3 and #4 would favorably affect the watersheds but improvement is expected to be slower in the Summer unit than Alternative #2. Both alternatives propose building a division fence, therefore, a portion of the unit would be grazed during the cool season growth period while the other part completes growth. Cottonwood Wash would receive the bulk of the grazing use and recovery of the watershed would be dependent on the duration and period of use. Some individual plants may get heavily utilized even though the average use is within tolerable limits, consequently, rehabilitation will occur slowly.

d) Direct/Indirect Effects of Alternative 5 (Preferred)

Improvement of watershed conditions would be slower under this alternative, than under alternatives 2, 3 or 6, and would be similar to alternative 4, with accomplishment of required monitoring. One out of three pastures in the winter can be grazed the entire spring growing period, at the time when cool season and deciduous riparian species initiate growth, with 22 head of livestock. Grazing at this time can deplete root reserves or at least hinder seed production if soil moisture is inadequate for regrowth. With intensive monitoring, this alternative can have similar favorable effects as Alternative #4. Monitoring can detect resource problems and initiate corrective action to prevent or remedy adverse effects of grazing on vegetation and soils.

The vegetative treatments and prescribed fire planned in the Cottonwood Wash EA is expected to disperse elk use, although if necessary, exclosure fencing could help remedy the problem along with an adjustment in elk population for a few years during the treatment phase. The prescribed burning should also help to disperse livestock.

Riparian fencing is planned for all pastures if utilization becomes to excessive. The effect of regulating and managing use in the riparian pastures with regard for watershed and vegetative health may result in improved watershed condition.

Watershed structural improvements (rock/wire gabions, earthen plugs with or without flow bypass, landscaping, or check-dams) will occur under all alternatives. The success of these improvements depends on the Alternative selected. Alternative #1 is likely to eliminate the beneficial effects of the improvements due to continued resource deterioration. Alternatives 2, 3, 4, and 6 would compliment the recovery effort of implementing watershed structures. The Preferred Alternative may compliment the recovery of the watershed depending on the intensity of monitoring.

## 5. Wildlife

Existing hiding cover and browse density for antelope are limited. Historical and current use levels have altered the plant community resulting in little hiding cover for antelope fawns. Winter and spring use on browse is excessive, limiting the availability of antelope forage. Extensive use of browse reduces vigor affecting forage production.

Three Goshawk territories and one Bald eagle winter roost exist in the Summer Unit. Foraging habitat for the Goshawk includes pine stringers, interspersed with dense pinyon/juniper stands. Eagle foraging occurs primarily on carrion, migratory waterfowl, and small mammals in the proximity of the allotment, and may extend several miles away from the roost. Timber harvest effects have been identified in the Cottonwood Wash analysis.

### a) Direct/Indirect Effects of Alternative #1

Alternative 1 meets the issue regarding wildlife access to stock tanks ("Category 1c"). This Alternative does not resolve the issue to improve habitat for antelope or Bald Eagle ("Category 1a, b"). Heavy use of browse and herbaceous vegetation will not meet antelope habitat requirements or habitat needs for Bald Eagle prey species. Goshawk habitat is not expected to be affected by this Alternative due to limited forage availability and surrounding dense timber. Heavy grazing use during critical plant growth periods at high levels leads to key species die-off and replacement by less desirable, lower successional species.

Eventually the effect is that native species disappear from the plant community changing the habitat conditions that can exclude some native wildlife species. The change in habitat occurs when plants species that cannot tolerate heavy grazing are replaced with plants of less forage value or that are noxious.

### b) Direct/Indirect Effects of Alternative #2

Alternative 2 resolves all wildlife ("Category 1") issues. Increasing ground cover and plant vigor, coupled with P/J control will improve antelope habitat and habitat for ground nesting species. This Alternative will not have any effect on the Goshawk or Bald Eagle.

Vegetation treatments and burning can be scheduled to occur outside of the nesting or roosting period. Nest or roost stands have been identified, and monitoring will be done prior to any activity to avoid disturbance.

c) Direct/Indirect Effects of Alternatives #3,#4, and #6

Alternatives 3, 4, and 6 will also resolve wildlife issues ("Category 1") although at a slower rate than Alternative #2. Length of grazing periods and livestock numbers is expected to be within appropriate limits to avoid overuse of browse species. Use levels on herbaceous species are also expected to be within appropriate levels to allow sufficient residual cover (over time) to shelter antelope fawns in the spring. These alternatives are not expected to affect Goshawk or Bald Eagle species or their habitat. The Goshawk management territory has limited forage that is not readily utilized by cattle. The Goshawk management guidelines are part of the permit terms and conditions, and will be one of the resource conditions monitored for. The expectant improvement in range conditions will result in improved habitat for Bald Eagle prey species (such as small mammals).

d) Direct/Indirect Effects of Alternative 5 (Preferred)

This alternative may have similar effects on wildlife habitat as Alternative #4, if monitored intensively. If not monitored, then the effects are expected to be similar to Alternative #1, at a smaller scale such as only in key areas. Heavy use of herbaceous and browse species are could occur in these key areas, due to the grazing of 22 head of livestock in the spring, and 38 in the summer.

6. Air

Air quality is not a significant issue in this analysis. An air quality analysis has not been done on the allotment, although any fireplace smoke that originates from the nearby community (Clay Springs) dissipates rather quickly with the prevailing winds. Prescribed fire effect on air quality has been addressed in the Cottonwood Wash analysis.

7. Socio-Economic

The allotment is situated in a rural area of the state with limited industry available. Several small communities are located within an hour's drive of the allotment. Clay Springs is a residential rural community whose economy is based on forestry or related industrial processing of forest products.

A small agricultural economy exists, along with other businesses. Two of the permittees live in this small community and the third in Snowflake. The overall economic base for the area is diversified and includes tourism, retail sales, public services, as well as forestry and agriculture.

Navajo County has adopted a Land Use and Resource Policy Plan to "guide local, state and federal decision makers in protecting, evaluating, and enhancing the county's customs, culture, social stability, economy, tax base

and overall public lands ecosystem health. The policy statements which apply to Clay Springs Allotment are: economic, environmental, planning and management of public lands, and ranching.

This analysis is consistent with the County Plan, with the following exceptions. The plan calls for a public meeting input process as coordinated with the County. Public meetings were held during the Clay Springs analysis, and the county was invited to attend, however the meetings were not coordinated with the County. A County Supervisor attended one of the public meetings.

a) Direct/Indirect Effects of Alternative #1

Alternative #1 is expected to retain slightly 2+ jobs in the short-term. In the long-term, as resource conditions continue to deteriorate, the result may eventually lead to closure of the allotment or more drastic reductions. Ultimately, the worse case would be that the 2+ jobs sustained in the short-term would be lost, long-term. Revenue to the county would be sustained, short-term, with a gross reduction of \$898.

b) Direct/Indirect Effects of Alternative #2

Alternative #2 would result in the loss of jobs tied to management of the Clay Springs Allotment. This is estimated at 2 jobs.

c) Direct/Indirect Effects of Alternative #3

Alternative #3 will have same effect as Alternative #2 in the short-term, but long-term, almost 3 jobs could be sustained, with county revenue decreased by \$424.

d) Direct/Indirect Effects of Alternative #4 and #6

Alternative #4 and #6 will have same effect as Alternative #3 in the long-term.

e) Direct/Indirect Effects of Preferred Alternative (P-A)

P-A, if managed in compliance with the Permit Clauses, will have same results as Alternative #4. If not managed properly, the results can be similar to Alternative #2, in the long-term.

## 8. NFMA Findings

All action alternatives, except Alternative 1, are consistent with NFMA and Forest Plan for the resource management areas within the allotment.

The allotment contains Woodland (5-2), Forested Land (5-1), and Riparian (5-3) management areas according to the Forest Plan. Grazing is an approved use, that was analyzed in the Forest Plan EIS, for all of these management areas. Commercial timber harvest has been addressed in the Cottonwood Wash analysis. Approximately 2231 acres of fuelwood treatment is proposed for the allotment within the Woodland management area. Approximately 1016 acres

of VSS 1 have been determined to be a natural, savannah woodland and likely to retain that characteristic, even at late seral (<10% canopy closure). Soil mapping units "40" series and "58" are considered to be savannah. The remaining 4213 acres of VSS1 are considered open woodlands. Fuelwood treatments within the allotment will retain the woodland character, which are in compliance with Forest Plan direction for Management Area 5-2. Conducting vegetative and watershed treatments within Management Area 5-3 (Riparian Areas), including grazing, are in compliance with Forest Plan direction.

## B. CUMULATIVE EFFECTS

Past activities on the allotment have been primarily grazing, logging, construction of range improvements, vehicle travel, chaining or pushing pinyon/juniper trees, fuelwood harvest, and burning slash. Present activities have been limited to all of the above except chaining or pushing, burning, and logging. All of the above activities, except chaining, can be implemented depending on Alternative selected.

### a) Cumulative Effects, Alternative #1

The cumulative effects of Alternative #1 will result in continued degradation of the rangeland, soil, watershed, and wildlife resources. Past and present land use practices (timber, range, watershed, fire, transportation) have contributed to current conditions. Alternative #1 will continue the current level of use, management, and season. Despite changes in other land use practices, such as increasing fuelwood and timber harvest to increase forage, the plant communities would not improve and vegetation, soils, watershed conditions would further deteriorate.

The Cottonwood Timber Sale proposed for this allotment is expected to occur simultaneously with this Alternative. The long term effect of the treatments under the Cottonwood Wash EA, are expected to be beneficial for the watershed. (Ref. Cottonwood Wash EA and watershed analysis.) It is expected that satisfactory watershed conditions would be reached over 80% of the area in 20 years. This assumes that livestock grazing would remain at current levels in the ponderosa pine forest type (Summer Pasture).

The lack of herbaceous vegetation to protect the soil will result in substantial soil movement and a negative effect on major drainages. Watershed improvement structures may not be able to withstand runoff and possibly fail allowing sediment to continue downstream. Air quality will be affected by burning, which has been addressed in Cottonwood Wash analysis and is inherent to all alternatives.

Infrequent monitoring will not detect immediately adverse effects of continued overstocking which will further lead to resource degradation. With 80% of the full capacity range in Poor condition, with less than 60% ground cover, under this Alternative, the Poor range is expected to progress to Very Poor and ground cover would decrease even further, ultimately accelerating watershed and soil deterioration. This circumstance will be readily seen in existing

problem areas and ultimately lead to reduction in stocking or more likely closure of the allotment to grazing in the next 10 to 20 years.

This will have an adverse effect on the permittees' and local economy (re: APPENDIX K). If this action is taken, then future recovery using other alternatives may require more time to see favorable results.

b) Cumulative Effects, Alternative #2

Alternative #2 cumulative effects are expected to result in improved range, soil, watershed, riparian, and wildlife conditions above current levels and those levels expected from Alternative #1. Without stocking, the opportunity to implement resource treatments would be easier, and improvements would be expected to occur much faster since grazing would not impede recovery. Herbaceous plants would be allowed full opportunity to establish and reproduce which would contribute to improvement of range, soil, watershed, and riparian conditions.

Prescribed fire could be utilized on a more frequent bases without livestock grazing pressure on new plant growth. Restoration of deteriorated conditions are more likely to succeed due to elimination of grazing during the initial treatment and vegetation establishment phase. But, this Alternative could lead to eventual stagnation of herbaceous plants due to the lack of disturbance. Regulated grazing at light to moderate rates or other disturbance can deter stagnation. If disturbance does not occur, then stagnation will persist. Projected result is approximately 20% of the Poor range condition (2165 acres) in the P/J zone to reach low Fair condition in the next 10 years if all treatments can be implemented and climatic conditions are at least average for the locality. Currently, 269 acres of Fair condition exist. In addition, approximately 10% of the Fair Range (27 acres) condition may reach Good in the next 10 years, due to occasional burning and natural reseeding potential of existing decreaser plants. Adverse effects may exist from high elk use in preferred areas despite the multitude of treatments that should distribute use. Exclosure fencing and restraining elk population growth may be needed until habitat improvements are completed and desired conditions or trend is realized. This alternative has more favorable effects on the resources than Alternative #1.

c) Cumulative Effects, Alternative #3

Alternative #3 will implement a different management system from past methods combining much needed rest, vegetation treatments, monitoring standards, and proper stocking which will cumulatively rehabilitate the degraded resource (range, soil, watershed, riparian, and wildlife) conditions. Improvement though is expected to be slow due to long-term effects of improper management and erratic climate. No significant change in range conditions is expected with 2 years of non-use. Extended non-use with pine and P/J tree harvesting, as well as other vegetation treatments, will provide seedbeds for decreaser or increaser seedling species. Short-term non-use allows for decreaser and increaser seedlings to establish in preparation for a new management system to be implemented.



P/J and pine treatments could be initiated, if not completed in some areas, allowing herbaceous cover to establish. This would create a new point from which resources can improve.

Within 10 years, it is estimated that 10-15% of the Poor range (1684 acres) will improve to Fair and 5-10% (27 acres) of the Fair condition range to improve to Good. These are areas more distant from water, containing remnant decreaser or increaser species, or soils having better water holding capability. Alternative #3 would provide for increasing cool season species, riparian species, ground cover, browse condition, and habitat diversity, at a rate slower than Alternative 2 but faster and more reliable than Alternative #5.

d) Cumulative Effects, Alternative #4

Alternative #4 cumulative effects with continued grazing under a different management system, resource conditions are expected to improve but at a slower rate than Alternative 2. Timber harvesting approved through the Cottonwood Wash Analysis EA is expected to open dense tree stands and produce additional herbaceous vegetation. Even though timber and fuelwood harvest may expose soil to erosion for a short period of time, the remaining slash will be adequate to protect soils and not result in creating any continuous runoff pattern. The bare ground and associated litter will be seedbeds for new vegetation to establish. With improved management (dividing Summer Unit), shorter grazing periods, and applying utilization standards at reduced stocking, it is expected that new vegetation will achieve optimum growth and soil stability can be maintained. Prescribed fire, tree pushing, slash crushing, fencing, and fuelwooding are expected to improve range, soil, watershed, and riparian conditions but it is imperative that grazing use is constrained to levels consistent with plant's physiological requirements. The resources can recover in the long term with grazing but it requires a major change in grazing periods, intensity of use, and stocking rate.

Cumulative effects for fire and air quality are similar to Alternative #1. Alternative #4 will ultimately move resource conditions toward meeting Forest Plan standards, Ari-Pine goals, and rehabilitated rangeland and riparian areas.

e) Cumulative Effects of Alternative 5 (Preferred)

The cumulative effect of this alternative without adequate monitoring can result in minimal improvement in range, soil, watershed, and wildlife resources. The Alternative provides for the bulk of the grazing to occur during winter, but allows a remaining herd of 22 to 32 head to graze through the entire cool and warm season growing periods. This will result in selective feeding, primarily on decreaser and increaser species when most vulnerable to the effects of grazing. Deferral provided to two pastures and the light stocking could be inadequate if cattle regularly exceed utilization standards.

With intensive monitoring and adherence to the utilization standards, this alternative can improve the resource conditions. It is possible that monitoring will result in early livestock removals in the spring and fall. The early removals would be due to grazing use on cool season species occurring in excess of allowable standards. The repetition of early removals would essentially mimic the shorter grazing season described in Alternative #4. Monitoring can also help in improving livestock management and distribution which may eventually achieve the balance between capacity and actual use in key areas (meeting utilization standards). Cumulative effects for fire and air quality are similar to Alternative #1.

The effects discussed as part of the Cottonwood Wash Timber Sale EA apply to alternative 5, as well as the other alternatives in this EA.

f) Cumulative Effects, Alternative #6

Cumulative effects of this Alternative would be similar to that of Alternative #2.

VIII. LIST OF PREPARERS

The ID Team members participated in the preparation of this environmental analysis.

Jerry Beddow -- Heber RD, A/SNF, Fuels Management Specialist  
Dave Maurer -- " " " , " , Forester  
Kendell Hughes -- " " " , " , Range Conservationist  
Tom Subirge -- A/S NF , Riparian Specialist  
Noe Gonzalez -- Heber RD, A/SNF, ID Team Leader,

Cheryl Carrothers (Wildlife Biologist) provided specialist input in preparation of the Biological Evaluation and Assessment.

IX. CONSULTATION WITH OTHERS

Throughout the planning process, several public meetings, field tours, and personal communication have taken place. Input has been received from State and Federal agencies, private individuals, and public organizations. The project record (incorporated by reference) contains a list of all contacts and meeting attendance record.

X. MITIGATIONS

ALTERNATIVE 1

"Mitigation A": Monitoring for wildlife effects, shall be done on a weekly basis, estimated to be 52 days of work, at \$7592/year. Establish monitoring sites for antelope browse use, mark plants to be monitored on regular basis. Ascertain use before cattle enter pasture and during grazing period. Goshawk monitoring, establish key areas within the nest stands, post-fledgling family areas, and foraging areas. Permit clause standards in accordance with Forest Plan utilization standards, as amended, shall be used to determine compliance. Bald Eagle monitoring shall be done during winter

survey period and attempt to determine foraging areas. Monitor range conditions on the allotment to determine if decreasing condition is reducing frequency of foraging sightings on the allotment.

Contingency: If use levels are met in key areas and no means exist to eliminate further use within same pasture, then livestock shall be removed from the allotment. Livestock will not be allowed to re-enter a pasture that has been grazed in the same grazing season, unless decreaser and increaser species have completed its growth cycle (reached seed maturity and seeds dropped).

If all pastures have been grazed and have met the utilization standards in key areas prior to the end of the grazing season, livestock are to be removed from the allotment, resulting in a shorter grazing season for that year. The following grazing season, livestock will enter the scheduled pasture if it's determined the range is ready to be grazed.

"Mitigation B": To balance permitted use with capacity, if a trend of repeated early removals occur, then permitted season and/or numbers will be adjusted equal to the average of all removals documented. Three consecutive years of early removals will be required to establish a trend.

As example: If the average removal date is 2 months prior to end on the grazing season, the permit is changed to reflect a shorter grazing season; If use levels exceed allowable, then the grazing season is shortened or numbers are reduced to an estimated amount that is expected to reach acceptable level.

"Mitigation C": After burning treatment, avoid grazing affected area during growing season until new grasses become established. Re-seed hot-spots heavily after burning to promote vegetation growth. Construct temporary electric fences to exclude grazing or defer use during growing season to allow forage plants to re-grow to seed stage and for seedlings to establish. Avoid slash-pile burning, utilize broadcast burning, chipping, or crushing to reduce standing slash. Chipping shall not exceed 1" depth, otherwise mechanical treatment or concentrated livestock trampling for one or two days maybe needed to incorporate chipping material into soil.

"Mitigation D": Archeological sites shall be located and flagged before any ground disturbance occurs.

"Mitigation E": Use Best Management Practices to implement any soil or watershed restoration project.

## ALTERNATIVE 2

There is no mitigation for direct effects to local economy or ranchers livelihood. The possibility exist that when resource improvements have become significant, new grazing permits may be granted to future permittees. Descendants of current permittees may qualify at that time to hold a permit. Mitigations C, D, E stated for Alternative 1 apply to this Alternative.

### ALTERNATIVE 3

There is no mitigation to offset the economic impacts to permittees by the Non-use portion of this Alternative. Grazing will occur after nonuse indicates resource improvement, with Alternative #4 as the management system to be implemented.

Mitigation for high use in key areas is similar to Alternative 1 (Mitigations A and B). Due to stocking being balanced with capacity, monitoring for utilization compliance could be reduced to 1 inspection biweekly, amounting to 16 days (\$2336) monitoring during grazing season.

### ALTERNATIVE 4

The socio-economic impact of extra grazing time needed on private land is not mitigable. Livestock will be on the allotment during growing season, this allows permittees to grow part of the supplemental feed on private land when livestock are not on the allotment.

Mitigation for utilization is similar to Alternative 1 (A). Work-force needed to monitor will be same as in Alternative 3. Monitoring for other resource activities is similar to Alternative 1.

### ALTERNATIVE 5

There is no mitigation to resolve the impact of less permitted numbers. Mitigation for utilization is similar to Alternative 1, Mitigation A and B, through the incorporated Permit Clauses. Monitoring effort needs to increase during spring and summer use periods due to the potential negative impacts of heavy use during growing season. This alternative requires 34 days (\$4964) of monitoring.

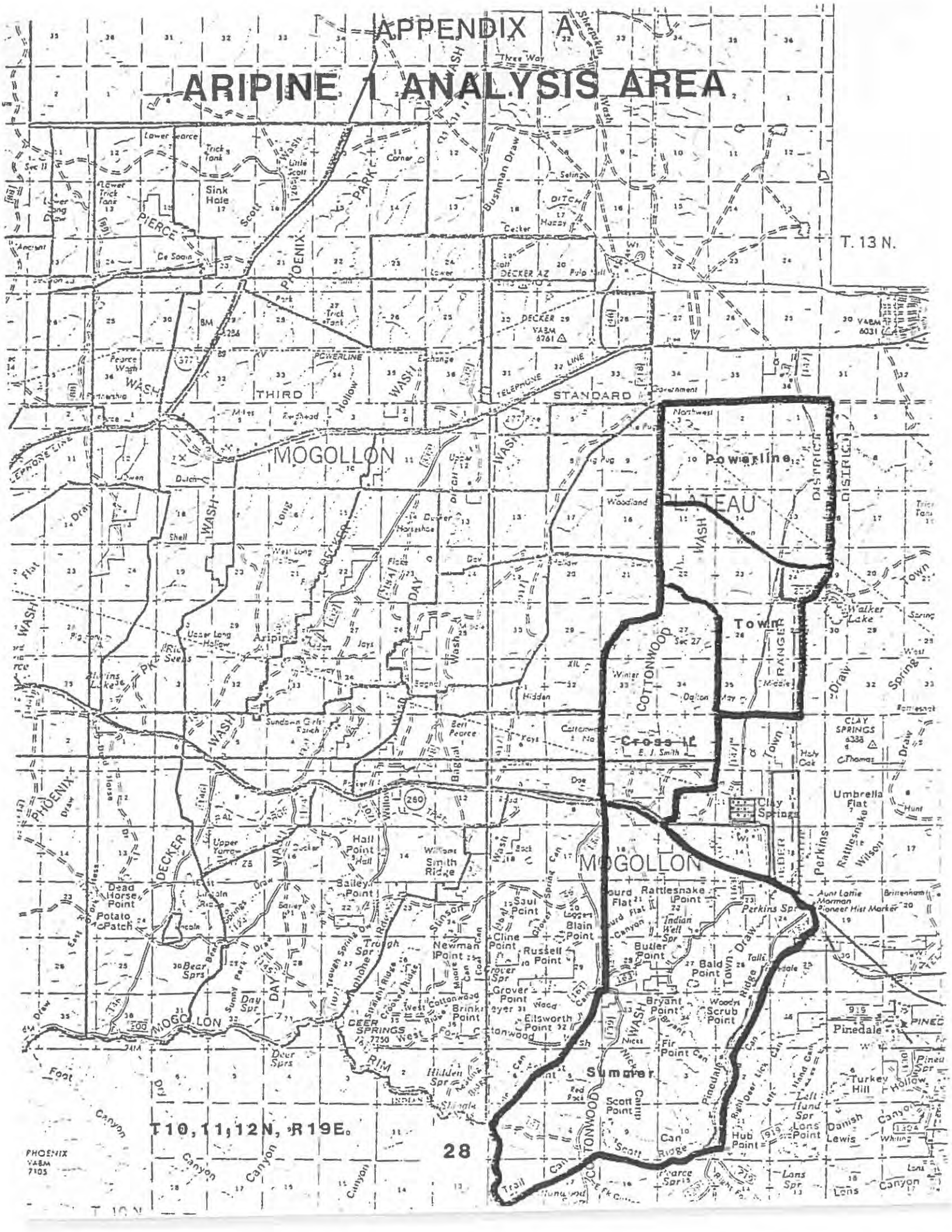
Contingency: If the monitoring has required early removals due to overuse or impacts to other resources and a trend has developed that spring use cannot be sustained in compliance with standards, then the allotment management would automatically change to the Alternative 4 management method. Three years of early removals would be required to establish a trend. Numbers and season would be adjusted if needed to fit Alternative 4 management system. Utilization would be closely monitored for three consecutive years to insure that stocking and season are appropriate and no additional adjustments are needed.

A detailed Monitoring Plan will be prepared for the Alternative selected contained in the Allotment Management Plan describing how, where, when, and who will do the monitoring.

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# ARIPINE ANALYSIS AREA



T. 13 N.

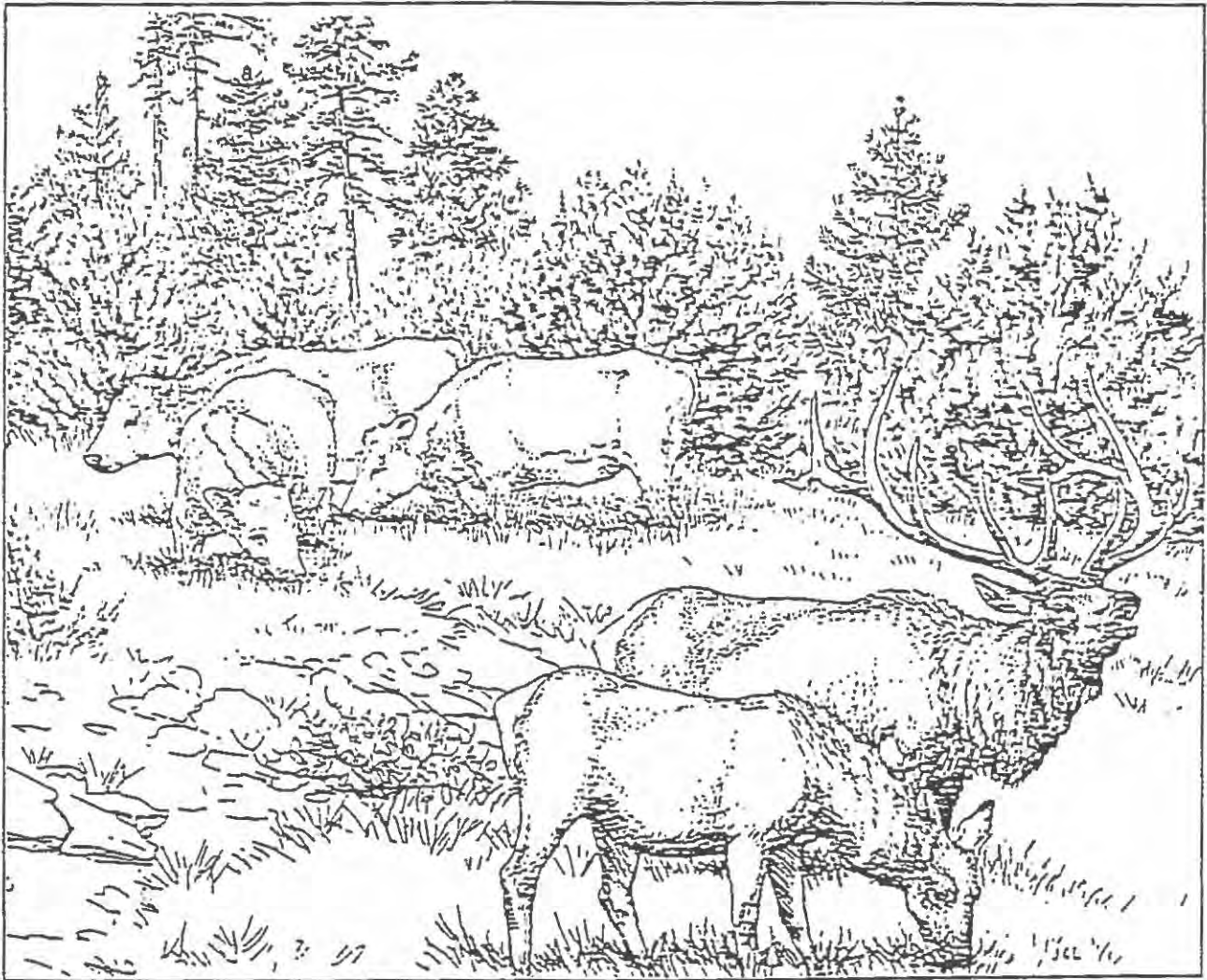
T10, 11, 12 N, R19 E.

PHOENIX  
V&B  
7105

APPENDIX B

Desired Future Conditions

Ari-Pine Resource Area



December, 1993

Apache-Sitgreaves National Forests  
Heber and Lakeside Ranger Districts

APPENDIX C

PROPOSED GRAZING SCHEDULES

ALTERNATIVE #4

PREFERRED ALTERNATIVE

ALTERNATIVE #6



APPENDIX C

USDA-FOREST SERVICE

GRAZING SYSTEM  
MANAGEMENT UNIT ALLOCATIONS

REGION

03

FOREST

Apache/Sitgreaves

DISTRICT

Heber

DATE PREPARED

1995

ALLOTMENT

Clay Springs

Alternative #4

PERMITTEE

Flake - 208 Hd.  
Jackson - 6 Hd.  
Smith - 31 Hd.

Total Permitted  
245 Hd.  
cow/calf.

LEGEND:  GRAZE  
 Deferred

MANAGEMENT UNIT	MONTH												NOTES	
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.		
First Year - 19 95														
Cross IL														31 Days 1/29 - 2/24
Town														47 Days 11/1 - 12/17
Powerline														40 Days 12/18 - 1/26
Summer North														38 Days 6/1 - 7/8
Summer South														84 Days 7/9 - 9/30
Holding Pasture														4 Days 2/25 - 2/28
Second Year - 19 96														
Cross IL														31 Days 12/11 - 1/10
Town														47 Days 1/11 - 2/26
Powerline														40 Days 11/1 - 12/10
Summer North														38 Days 8/24 - 9/30
Summer South														84 Days 6/1 - 8/23
Holding Pasture														2 Days 2/27 - 2/28
Third Year - 19 97														
Cross IL														31 Days 11/1 - 12/1
Town														47 Days 12/2 - 1/17
Powerline														40 Days 1/18 - 2/28
Summer North														38 Days 6/1 - 7/8
Summer South														84 Days 7/9 - 9/30
Holding Pasture														2 Days 2/27 - 2/28
Fourth Year - 19 98														
Grazing System Begins Again														
Fifth Year - 19 99														

REMARKS: Estimated Pasture Capacities: Town - 383 Aum's  
Powerline - 325 "  
Cross IL - 252 "  
Summer N. - 60 "  
Summer S. - 131 "  
Holding Past. - 32 "  
1183 "

⊛ Pastures Deferred during March - May + October.

Summer Use: Stocking Rate set at 47 Head c/c.  
Jackson - 7 Head  
Smith - 40 Head  
Winter Use: Jackson 6 Hd.  
Smith 31 Hd.

GRAZING SYSTEM  
MANAGEMENT UNIT ALLOCATIONS

REGION

03

FOREST

Apache/Sitgreaves

DISTRICT

Heber

DATE PREPARED

1995

ALLOTMENT

Clay Springs (Alternative #5)  
Preferred Alternative

PERMITTEE

Flake, Smith, Jackson

LEGEND:

- CRAZE
- Deferred
- Smith & Jackson (Spring Use)

Summer Use

MANAGEMENT UNIT	MONTH												NOTES	
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.		
First Year - 19 <u>95</u>	96												95	
CROSS IL			X	X	X	X	X	X	X	X	X	X	24 DAYS 2/1 - 2/24	⊗
TOWN													50 DAYS 11/1 - 12/20	⊗
Powerline													42 DAYS 12/21 - 1/31	⊗
Summer North													47 DAYS 6/1 - 7/17	
Summer South													103 DAYS 7/18 - 10/31	
Holding Pasture													4 DAYS 2/25 - 2/28	⊗
Second Year - 19 <u>96</u>	97												96	Flake only
CROSS IL			X	X	X	X	X	X	X	X	X	X	33 DAYS 12/13 - 1/14	⊗
TOWN													41 DAYS 1/14 - 2/23	⊗
Powerline													42 DAYS 11/1 - 12/12	⊗
Summer North													47 DAYS 9/12 - 10/31	
Summer South													103 DAYS 6/1 - 9/11	
Holding Pasture													5 DAYS 2/24 - 2/28	⊗
Third Year - 19 <u>97</u>	98												97	Flake only
CROSS IL													33 DAYS 11/1 - 12/3	⊗
TOWN													50 DAYS 12/4 - 1/22	⊗
Powerline													34 DAYS 1/23 - 2/25	⊗
Summer North													47 DAYS 6/1 - 7/17	
Summer South													103 DAYS 7/18 - 10/31	
Holding Pasture													3 DAYS 2/26 - 2/28	⊗
Fourth Year - 19 <u>98</u>													Flake only	
GRAZING SYSTEM Begins Again														
Fifth Year - 19 <u>    </u>														

REMARKS:

Estimated Pasture CAPACITY  
 Town - 383 Aum's  
 Powerline - 325 "  
 CROSS IL - 252 "  
 Summer North - 60 "  
 Summer South - 131 "  
 Holding Pasture - 32 "

⊗ Winter Use Stocking  
 Flake - 208 Head c/c  
 Smith - 18 " "  
 Jackson - 4 " "  
 Total 230 " "

Summer Use Stocking  
 Smith - 32 Hd c/c.  
 Jackson - 6 " "  
 Total 38 " "

Spring Use  
 SHALL not exceed 67 Aum's, for 22 Head, 92 DAYS.  
 Flake Needs to move to Holding Pasture by 2/24 each year to not exceed Aum's.

Note: These are estimated dates of use, they may be shorten or lengthen pending Actual use monitoring of key areas & species. Supplemental feeding may be necessary in Holding Pasture to not exceed Allowable use.

GRAZING SYSTEM  
MANAGEMENT UNIT ALLOCATIONS

REGION

03

FOREST

A/S

DISTRICT

05

DATE PREPARED

8/15/74

ALLOTMENT

Clay Springs  
Alternative #6

PERMITTEE FLAKE, Smith, JACKSON

LEGEND:

- Grazed
- Deferred
- Summer Unit Grazing Period  
*Outside Winter Season*

MANAGEMENT UNIT

MONTH

NOTES

MANAGEMENT UNIT	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	NOTES
First Year - 19	1996					1995							
+IL													135 Summer Cows = 23 Days
Powerline													236 " " = 40 "
Summer													118 " " = 20 "
TOWN													208 " " = 37 "
Second Year - 19	1997					1996							
+IL													23 Days
Powerline													40 "
Summer													20 "
TOWN													37 "
Third Year - 19	1998					1997							
+IL													23 Days
Powerline													40 "
Summer													20 "
TOWN													37 "
Fourth Year - 19	1999					1998							
+IL													23 Days
Powerline													40 "
Summer													20 "
TOWN													37 "
Fifth Year - 19	2000					1999							
+IL													
Powerline													
Summer													
TOWN													

REMARKS:

Nov - Feb season. The Summer Unit under the proposed action may not be grazed during the winter in sequence with other pastures due to winter storms. Grazing periods set at 45% use level, may require lighter use for plant health, overuse of key areas (riparians), or soil protection.

+IL = Cross IL

APPENDIX D

STOCKING GUIDELINE FOR DETERMINING GRAZING CAPACITY

Assumption: Cow w/ calf, low forage value, winter use, low lactating, calf not weaned, moderate activity & winter use requiring dry matter to maintain body heat. Estimated capacity based on 30 lbs./day/cow w/ calf. This assumption may change with summer grazing, calf becoming weaned & forage may transition from growth period to cured or semi-drought period.

	Range Condition	AC/AUM	AC/AUM	Average AC/AUM
45% Use = 900 lbs/cow/mo.	Very Poor (VP)	40	11.43	25.72
@ 45% total production needed	Poor (P)	11.4	6.67	9.04
is 2000 lbs/month/cow-calf	Fair (F)	6.64	3.33	4.99
	Good (G)	3.33	2.22	2.78
	Excellent (E)	2.22	1.67	1.95

F = 269 AC *	4.99 =	54 AUM'S
P = 9624 AC *	9.04 =	1065 "
VP = 1647 AC *	25.72 =	64 "
TOTAL CAP.		1183 "

\* = DIVISION SYMBOL

# CLAY SPRINGS ALLOTMENT AREA

## CAPACITY ACREAGE BY PASTURE AND CONDITION CLASS

### FULL CAPACITY

PASTURES	EXCELLENT	GOOD	FAIR	POOR	VERY POOR	TOTAL
CORRAL*	0	0	0	274	0	274
CROSSIL	0	0	156	1574	492	2222
POWERLINE	0	0	0	3389	433	3822
SUMMER	0	0	0	1499	639	2138
TOWN	0	0	113	2888	83	3084
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>269</b>	<b>9624</b>	<b>1647</b>	<b>11540</b>

\* = HOLDING PASTURE

### PARTIAL CAPACITY

PASTURES	EXCELLENT	GOOD	FAIR	POOR	VERY POOR	TOTAL
CORRAL*	0	0	0	0	0	0
CROSSIL	0	0	0	1411	31	1442
POWERLINE	0	0	0	714	0	714
SUMMER	0	0	0	7835	910	8745
TOWN	0	0	0	811	0	811
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10771</b>	<b>941</b>	<b>11712</b>

\* = HOLDING PASTURE

### NO CAPACITY

PASTURES	EXCELLENT	GOOD	FAIR	POOR	VERY POOR	TOTAL
CORRAL*	0	0	0	0	0	0
CROSSIL	0	0	0	13	0	13
POWERLINE	0	0	0	0	0	0
SUMMER	0	0	0	0	203	203
TOWN	0	0	0	0	0	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>203</b>	<b>216</b>
<b>COND. TOTAL</b>			<b>269</b>	<b>20408</b>	<b>2791</b>	<b>23468</b>

\* = HOLDING PASTURE

+ PRIVATE = 4512  
**GRAND TOTAL 27980**

A:\CS.PAS  
 LKELLY  
 4/25/95

APPENDIX E

PERMIT CLAUSES - CLAY SPRINGS ALLOTMENT

The following permit clauses will be made part of the permit. These clauses are intended to regulate use within acceptable limits to improve the range and soil resources. These clauses may be amended along with the Allotment Management Plan as resource conditions indicate and as recommended by District Range Specialist:

A. Livestock will be managed to not exceed 25% use on forage species within riparian areas. No use is allowed on riparian species by domestic livestock.

B. Livestock grazing will be monitored to 30% use on forage species in upland habitat. The pasture will be evaluated to determine if additional use is allowable, if not, then livestock must be moved to another pasture or off the allotment if all pastures have been grazed. Use of ungrazed or under-grazed areas may not be allowed if the use is likely to exceed the allowable use levels of already grazed areas within the same grazing season.

C. Regulate livestock grazing in pastures by herding and salting in areas away from water sources and typical concentration areas.

D. Install waterlots around water sources to help regulate use with fences that allow wildlife passage.

The following are additional permit clauses which are standard for administration of the grazing permit and related resources:

A) Range Improvement Maintenance Standards. All assigned range improvements will be maintained by the permittee. When the annual grazing application is approved, in whole or in part, livestock will not be placed on an allotment or moved into pastures if permit requirements concerning range improvement maintenance are not met. Proper maintenance of the range improvements will insure that the condition of the improvements is adequate to hold livestock in a pasture and will extend the useful life of the improvements. Forest Officers periodically will inspect assigned improvements for compliance with maintenance standards prior to livestock entry or movement dates.

Failure to properly maintain range improvements will be cause for the following action to be taken:

a. For first offense cases, the Term Grazing Permit may be cancelled or suspended by ten percent (10%).

b. For a second offense within a three year period, the Term Grazing Permit will be cancelled or suspended by an additional ten percent (10%).

c. For a third offense within a five year period, the Term Grazing Permit will be cancelled by twenty percent (20%).

d. For four or more offenses during a ten year period, the Term Grazing Permit may be cancelled in whole or in part.

A permit modification will be prepared for approved projects each year. Permittees will sign a permit modification form for the project and will sign for materials furnished by the Forest. Range improvements not specifically listed in the improvement program schedule and all ground disturbing activities will not be initiated by the permittee until proper clearances have been approved. Normal maintenance of improvements does not require approval.

1. Fences Many existing fences are very old and in need of major reconstruction. The permittee will identify these fences for the District Ranger. Fences in need of reconstruction will be inventoried and prioritized by the District for reconstruction. The following will be implemented:

a) All allotment boundary fences are to be maintained prior to livestock entering National Forest lands. Livestock will not be permitted to enter the Forest until fences have been properly maintained to keep livestock where they are placed.

b) Each permittee is responsible for the maintenance of all or a portion of an allotment boundary fence. A permittee will not be allowed to place livestock on the allotment if the neighboring permittee does not maintain their assigned allotment boundary fence.

c) Pasture fences will be maintained before moving livestock to a new pasture.

d) Old wire and steel fence posts will be removed from the Forest.

e) Broken wire will be spliced with good quality double strand, 12-1/2 gauge barbed or smooth wire.

f) Wire spacing will be similar to original spacing. The top wire height will not exceed 42". The bottom wire will be smooth wire and will be at least 16" from the ground.

g) Wire will not be over tightened and will be stretched to remove slack.

h) Broken posts or rotten wood posts will be replaced with a steel post or a juniper or treated wood post greater than 5" diameter.

i) Brace posts will be maintained in tight and serviceable condition.

j) Steel posts which have settled may need to be jacked up and possibly moved. Leaning steel posts will be straightened.

k) Gates will be maintained so they can be opened easily. Gate sticks will be 2-3" diameter. Smooth wire will be used for gate loops.

l) At least 90% of fence stays will be sound. Replacement stays will be of good quality wood 1-1/2" by 3" diameter. The bottom of each stay will rest on the ground. Galvanized stay wire will be used for tying stays.

m) Missing staples and fence clips will be replaced.

n) All trees which have fallen across the fence line will be cut and removed from the fence right-of-way.

2. Water. The permittee has certain improvements assigned for maintenance in this permit. These improvements are on National Forest System lands within the allotment(s). The improvements include both stock tanks and springs. Issuance of this grazing permit and the permittee's acceptance of the permit does not convey ownership of a water right to the permittee(s) but allows the use of a portion of it within the terms of the appropriation. The Forest has filed for water rights on these waters with the State of Arizona. Grazing domestic livestock may not be possible without these water rights. The Forest will retain ownership of the water rights for current and future grazing permittees as well as for wildlife and recreation consumptive needs. Ownership of the water rights will assure that the use of the water will be appurtenant to the land and will be available for both current and future grazing permittees.

Stock water is important for proper livestock distribution. Water must be used to demonstrate beneficial use in order to maintain water rights. If natural water is not available, the permittee may haul water to obtain proper livestock distribution. The following will be done:

#### Springs

a) Fences to protect springs will be maintained to standard.

b) Collection boxes and inlet pipes will be clean of sediment and debris.

c) Broken pipe will be repaired or replaced. Material not usable will be removed from the Forest.

d) Troughs that leak will be repaired. Troughs should be level. Overflow pipes should be placed to avoid creating a boggy area at the trough.



- e) Float valves will be cleaned and set to prevent overflow.

#### Stock Tanks

- a) Check stock tanks for seepage.
- b) Spillways will be flat and will have a minimum height of three feet and width of ten feet. They will be free of debris and obstructions. Eroded portions will be repaired.
- c) Tanks will be cleaned to their original capacity. Special care will be taken during cleaning to prevent future water loss. The work will be coordinated with the District Ranger, prior to initiating repairs.

B. Range Readiness. Livestock will not be permitted to graze until vegetation and soil conditions are satisfactory. Readiness checks will be made in advance of the scheduled entry date. They will be conducted on designated key forage species in key areas, being done with the permittee whenever possible. A range is considered ready for grazing forage species are headed out (cool season species) and soil surface conditions are dry enough to prevent hummocking.

C. Allowable Use. Allowable use is based on the amount and kind of forage on the allotment, plant needs, and range condition and trend. Duration, frequency, and timing may be manipulated within the grazing schedule. The following are maximum allowable use standards for Good to Excellent range conditions by vegetation type as determined by Forest Service range analysis procedures. Resource conditions that are less than Good or Excellent will be assigned lower allowable use standards.

Riparian Areas - Satisfactory Condition 0 - 55%; Unsatisfactory 0 - 45%.  
Grasslands and Dry meadow Areas - 45% with upward trends.  
Goshawk Areas - 20% average but not to exceed 40% in any one area.  
Forested areas (Suitable for grazing) - 35% Fair or Better Condition.  
Browse - 50%+ composition 45% use; 25-49% composition 0-25%; <25%, 0% use.

As a management guide for grassland/dry meadows, utilization standards will be scaled as follows by condition class and may vary for other vegetation types: Maximum utilization is 45% for Good or better condition range; 35% use for Fair Condition range; 25% use for Poor range, and 0-15% use for Very Poor range.

Allowable use will be monitored in key areas on key species. These areas may change annually but generally are considered to be riparian areas, meadows/grasslands, and ridges within 1/2 mile of water that are readily accessible to livestock. When utilization meets or exceeds the standard set, and livestock cannot be redistributed without increasing use on key areas, livestock will be removed from the pasture. Rested pastures or

pastures that have already been grazed are not available for grazing, and if no other pastures are available for grazing, livestock shall be removed from the allotment.

Allowable use standards are set to not only meet the plant health needs but to promote viable wildlife populations including suitable habitat for management indicator species listed in the Forest Plan and designated TES species. These standards shall also provide for soil and watershed stability and plant diversity.

D. Management Practices. The Allotment Management Plan (AMP) for the allotments is scheduled to be completed by December 31, 1995. The AMP will incorporate the provisions of the Environmental Assessment Alternative selected and may be revised at any time in the future to comply with resource or Forest Plan changes.

Management practices, such as pasture use and placement of salt, will be in the Annual Operating Plan (AOP) and will be followed. If changes to the AOP become necessary, the permittee will discuss them first with the District Ranger. If emergency conditions require making a change immediately, the permittee will notify the District Ranger afterwards.

Failure to implement adequate management practices will be cause for the following action to be taken:

1. For first offense cases, the Term Grazing Permit may be cancelled or suspended by ten percent (10%).
2. For a second offense within a three year period, the Term Grazing Permit will be cancelled or suspended by an additional ten percent (10%).
3. For a third offense within a five year period, the Term Grazing Permit will be cancelled by twenty percent (20%).
4. For four or more offenses during a ten year period, the Term Grazing Permit may be cancelled in whole or in part.

If a permittee desires a change from cattle to yearlings, an application for yearlings will be approved on a one-to-one basis (one yearling for one cow) until it is determined that range improvements and forage are adequate.

A request for an extension of the grazing season must be received in writing at least 14 days before the end of the season, which shall state the reason for extension. Excess forage is not automatic grounds for approving extensions. Approval will be determined on resource needs (soil protection, seed crop for next year) and not based on permittee convenience. Approval applies to only current year and previous years approval does not constitute automatic approval for succeeding years. Any extensions will be paid for at the current grazing fee rate.

A request for non-use must be received in writing at least 45 days prior to the grazing season. Paid grazing fees will be forfeited if the written request is received after the 45 day period. The permittee is allowed 3 consecutive years maximum of personal convenience nonuse, and required to stock the allotment the 4th year the permit will be reduced to the extent of nonuse.

Livestock must be moved within 3 days of the planned rotation dates or when allowable forage use has been met. At least 90% of the permitted livestock must be moved by the date. The permittee must notify the District Ranger if there is a need to deviate from planned rotation dates.

Livestock allowed to remain in pastures beyond the specified rotation date, allowed to drift between pastures, or allowed in a rested pasture may be considered a violation of the Term Grazing Permit. Animals on the allotment after the "off" date will be billed for at the commercial rate.

Management emphasis will be to have riparian areas in satisfactory condition. Livestock will not be moved between pastures or allotments along the length of riparian areas except on approved routes specified in the AOP. Approval will be granted only where it is determined that there is no alternative route and it can be shown that riparian areas will not be damaged.

In areas of unsatisfactory riparian condition where livestock grazing has been determined to be a significant factor, revised AMPs will 1.) implement intensive management systems which limit grazing and provide adequate rest for riparian areas; 2.) reduce stocking to a level that will allow degraded areas to recover; and/or 3.) use site specific exclusion fencing.

Livestock will be distributed evenly throughout the pasture. A full time rider may be necessary to break up livestock concentrations and obtain uniform distribution. Herding livestock into lightly used areas will reduce the grazing impacts on riparian areas and meadows. Efforts will be made to avoid conflicts with other Forest uses while trailing livestock.

Salt and mineral blocks will be placed in lightly used areas until the desired level of forage use is achieved. Blocks should be placed in a pasture prior to livestock entry and will be removed when forage use objectives are met. Blocks will not be placed in areas designated on the accompanying map or within a quarter mile of water and ideally no closer than one-half mile. Blocks will not be placed in over used areas, meadow bottoms, along roads, along trails, or in heavily used recreation areas. Every time blocks are put out, they will be placed on a different site. Blocks will be placed on sites not susceptible to erosion.

Permittees are encouraged to have off-Forest range to use in the event drought and/or excess forage utilization necessitates early livestock removal. When these conditions occur, the District Ranger, with input from the permittee, will make the determination if livestock removal is required

for resource protection. Drought situations may alter grazing sequence or length of grazing period. The season will be adjusted in direct proportion to the amount of moisture that has been received to date. As an example, if moisture is 15% below normal, the grazing period may be adjusted to run for 15% less time or numbers.

The option to return to a pasture that has adequate plant re-growth will be considered if all resource objectives can be met. All resource objectives will be considered before affecting a change in the Term Grazing Permit.

The number of livestock or season of use may be adjusted if the forage use standards or other management objectives are not being met. Livestock will be moved to the next pasture in the grazing schedule or off the Forest when utilization standards are exceeded.

A change in the permitted livestock number or season of use may be affected when for three consecutive years:

- A. The livestock are removed from the allotment early because allowable forage use is reached before the specified exit date and/or a utilization study reveals allowable use was exceeded by more than ten percent at the end of the grazing season; OR
- B. An extension in the grazing season was granted because allowable forage use was not reached by the specified exit date and/or a utilization study reveals that actual use is at least ten percent below the allowable use at the end of the grazing season.

Seasonal closures for road access or construction activities may occur if such activities may adversely affect wildlife critical breeding or nesting periods and unusually wet periods may cause soil damage from vehicle use.

E. Northern Goshawk Guidelines. The northern goshawk foraging areas exist on the allotment. Management requirements for the species require that forage and habitat be maintained in a healthy condition for goshawk prey species which are small mammals and birds. Such habitat conditions are generally met if forage utilization in forested areas and small meadows does not exceed 40% and averages 20%.

The permittee will take action to insure proper livestock distribution occurs and that forage use levels are not exceeded. If forage use continues above the desired use level, adjustments in the Term Grazing Permit, AMP, or other management actions may become necessary.

F. Short-age Calf Policy A/S NF.

For seasonal permits, the following provision applies: All animals 6 months of age or older at the time of entering the National Forest System, those which will become 12 months of age during the grazing season, and all weaned animals regardless of age are counters for which fees must be paid. They will also be counted as to numbers permitted.

MANAGEMENT GUIDELINES

The following guidelines are resource standards that will be monitored and made part of a comprehensive monitoring plan when the Allotment Management Plan (AMP) is implemented. These guidelines, in addition to any permit clauses will be implemented with any Alternative selected.

A. Monitor grazing use at 30% use level to determine if proper use has been met in key areas on key species. If 30% use appears to be excessive and livestock cannot be re-distributed without increasing use on the currently grazed areas, then livestock will be moved to next pasture. This situation may result in all pastures being grazed ahead of schedule. If that occurs, then an early removal may be required that year. If the use is not creating soil, plant, or other resource damage, higher use levels may be allowed not to exceed 45% total use. If successive years grazing regularly results in early removals and as reflected by monitoring, then the permitted use will be adjusted to fit the proper utilization level. The adjustment may be in permitted numbers or season of use, which will result in a permit change. If use is below allowable use levels, the permitted numbers may be adjusted upward if all other resource needs are met.

B. Drought situations may alter grazing sequence or length of grazing period. The season will be adjusted in direct proportion to the amount of moisture that has been received to date. As an example, if moisture is 15% below normal, the grazing period may be adjusted to run for 15% less time or numbers. If excess forage is available, it will be determined if such forage should be used or allowed to remain for soil protection or other resource needs.

C. Forage utilization monitoring will entail establishing three key areas per pasture. Mobile utilization cages or permanent exclosures will be used to monitor use levels. Use will be monitored after livestock are removed from a pasture (late spring) and before cattle enter the allotment to determine the extent of wildlife use. Maximum utilization allowed is 45% use for Good or better condition range, 35% use allowed for Fair Condition range, 25% use allowed for Poor range, and not to exceed 15% use allowed for Very Poor range.

These use levels are guides and may be adjusted according to resource concerns as determined by the Forest Service. There may be instances that key species such as cool season grasses may be grazed in excess of 45% use while the average use for both cool season and warm season species may be less. In cases where key species receive greater use as indicated by monitoring, acceptable use levels may be adjusted downward for average use or use levels will be monitored on the key species alone.

D. Browse utilization is not allocated to livestock, although use may occur, especially during the winter. Maximum allowable use on browse species shall not exceed 45% use by both livestock and wildlife. Browse species to be monitored are shrubby buckwheat, Four-wing saltbush,

cliffrose, and winterfat. In antelope habitat, 2 browse cages per pasture with a marked survey transect will be established.

The transects will be read before and after the cattle grazing period, then at least once during the summer to determine the extent of wildlife use. Determine by transect which browse species to monitor. Establish same quantity of browse transects in elk habitat by pasture. Initially high use may be evident and may change from year to year. If heavy browse use occurs from livestock, it may be necessary to move cattle earlier or improve distribution.

This management system is anticipated to improve browse conditions due to spring deferment of pastures at the onset of current year's growth. It may also be necessary to implement an alternating summer or fall grazing management system with a short duration grazing period. If heavy use results from wildlife, then look at other habitat improvements to distribute use, and if that is not successful, reducing wildlife populations must be considered. Any grazing system that allows for grazing in the growing season will require close monitoring of riparian zones to avoid use on riparian species or construction of riparian fences to exclude grazing during growing season.

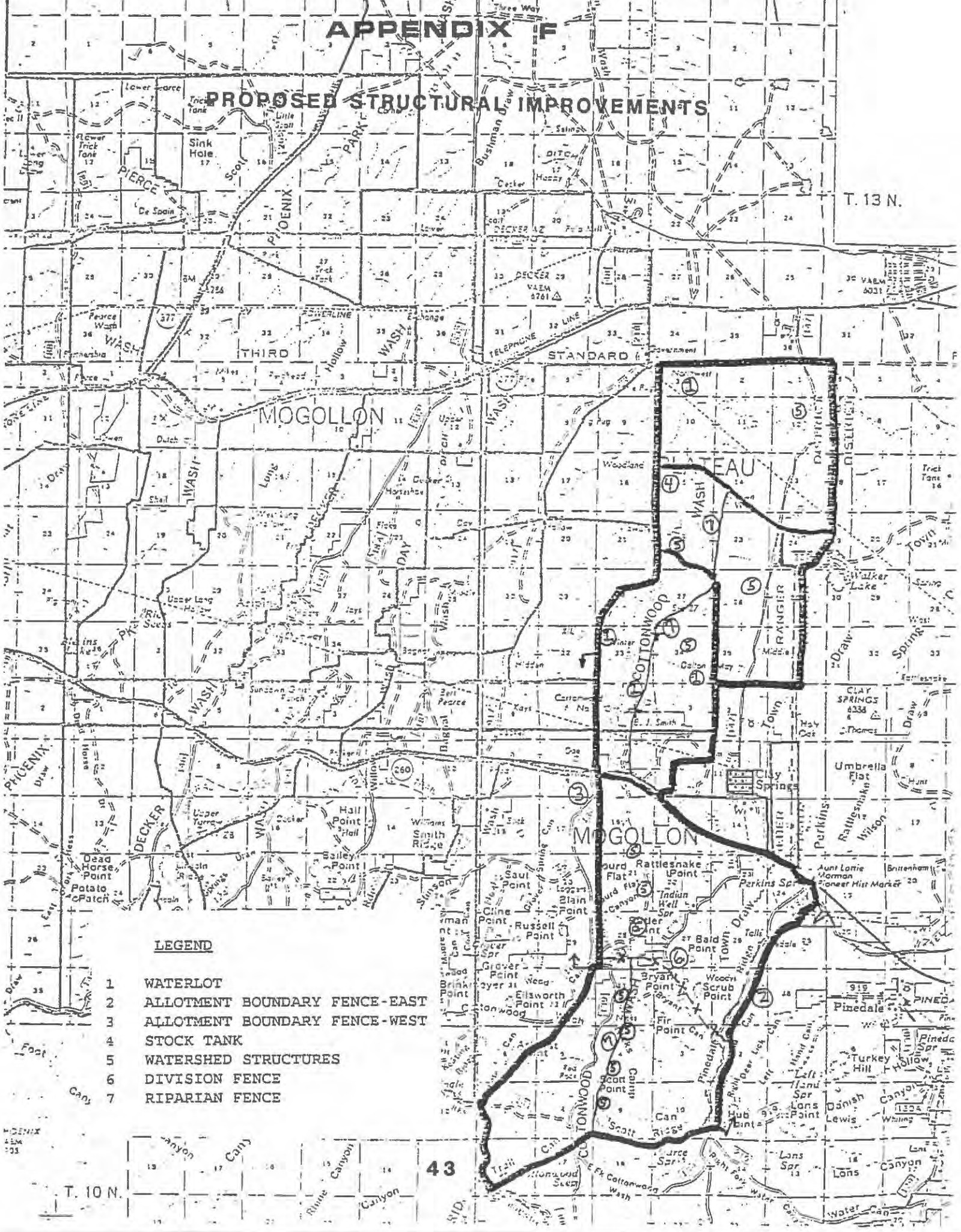
E. Range condition and trend will be monitored by reading either paced transects or cluster transects every three to five years during the life of this management system to determine if plant composition is changing. Annual monitoring can be done through evaluating randomly selected or designated micro-plots in typically grazed areas.

Objective for micro-plots (3'x3' measured and photographed) is to detect changes in species composition, such as seedling production, occurrence of invader species, or indicators of soil movement. Quantity of micro-plots to be determined to meet statistical needs. Browse transects shall also be established to determine current and future composition and density, seedling occurrence, and browse condition rating. Five 100th acre plots per transect shall be used and located at each browse utilization monitoring station.

F. Riparian areas will be monitored as key areas. Utilization will be monitored on cottonwood and willow species. Other species may be designated as the need arises. Utilization may not be high during winter months on these species with short duration grazing, but, physical damage may occur. Use on riparian species shall not exceed 25% use, and grass species not exceeding 30% use. Heavy use may require re-distribution of livestock, change in management system, shorter season or numbers, or enclosure fencing. Riparian monitoring transects will be located where the drainage is easily accessible to livestock, with 3 plots transect per pasture (100th acre plot). Riparian transects can collect data on species composition and density, as well as age structure of riparian species. Use on riparian species and forage species will be determined at the same study plot.

# APPENDIX F

## PROPOSED STRUCTURAL IMPROVEMENTS



### LEGEND

- 1 WATERLOT
- 2 ALLOTMENT BOUNDARY FENCE-EAST
- 3 ALLOTMENT BOUNDARY FENCE-WEST
- 4 STOCK TANK
- 5 WATERSHED STRUCTURES
- 6 DIVISION FENCE
- 7 RIPARIAN FENCE

ESTIMATED COST FOR PROJECTS

Project Type	Quantity	Cost	Permittee Cost Share	FS Cost Share
Stock Tank	1 ea.	\$3000	50%	50%
Waterlots	4 ea.	\$3000	Labor	Materials
Fence-East ABF	6 mi.	*\$33,000	Labor	Materials
Fence-West ABF	6 mi.	*\$33,000	Labor	Materials
Watershed Structures	4 ea.	\$12,000	None	Contract
Division Fence	2 mi.	**\$11,000	Labor	Materials
Riparian Fences ***	8 mi.	\$54,000	None	Contract

\* Includes Administrative cost not directly associated with the cost of construction.

\*\* Includes 1 cattleguard to be installed.

\*\*\* Includes administrative cost and installation of elk fences if needed. Elk fences can be recycled to reduce expenditures if the urgency does not require all fences constructed in one year.



APPENDIX G
















VSS Distribution for Pinyon-Juniper

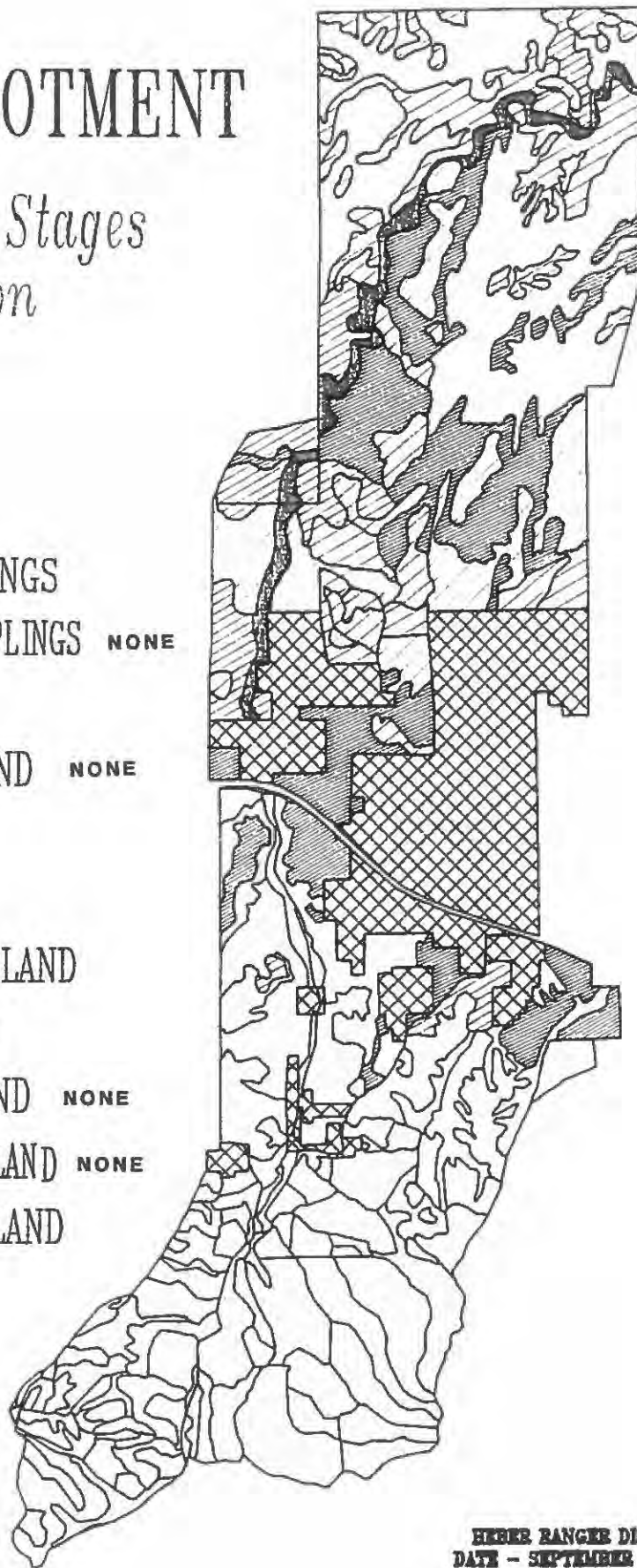
VSS Class	Existing Condition		DFC		After Treatment	
	Acres	Percent	Acres	Percent	Acres	Percent
1 (A)	1016	8	1016	8	1016	8
1 (B)	4213	33	1273	10	3078	24
2A	775	6	1273	10	1273	10
2B	0	0	637	5	637	5
3A	60	0.5	1273	10	432	3
3B	0	0	637	5	314	2
3C	1	0.01	0	0	1	0.01
4A	1791	14	2547	20	1929	15
4B	1413	11.1	1273	10	1307	10
4C	500	3.9	1273	10	127	1
5A	0	0	1273	10	1317	10
5C	2964	23	1273	10	1302	10
TOTAL	12733	99.51	12732	100	12733	98

# CLAY SPRINGS ALLOTMENT

*Vegetative Structural Stages  
Existing Condition*

## LEGEND

-  1 GRASSLAND
-  2A OPEN SEEDLINGS AND SAPLINGS
-  2B MOD. CLOSED SEEDLINGS AND SAPLINGS NONE
-  3A OPEN POLE WOODLAND
-  3B MOD. CLOSED POLE WOODLAND NONE
-  3C CLOSED POLE WOODLAND
-  4A OPEN MATURE WOODLAND
-  4B MOD. CLOSED MATURE WOODLAND
-  4C CLOSED MATURE WOODLAND
-  5A OPEN OLD GROWTH WOODLAND NONE
-  5B MOD. CLOSED OLD GROWTH WOODLAND NONE
-  5C CLOSED OLD GROWTH WOODLAND
-  PRIVATE LAND
-  RIPARIAN
-  PONDEROSA PINE



SCALE 1:100000



















HEBER RANGER DISTRICT  
DATE - SEPTEMBER 20, 1966

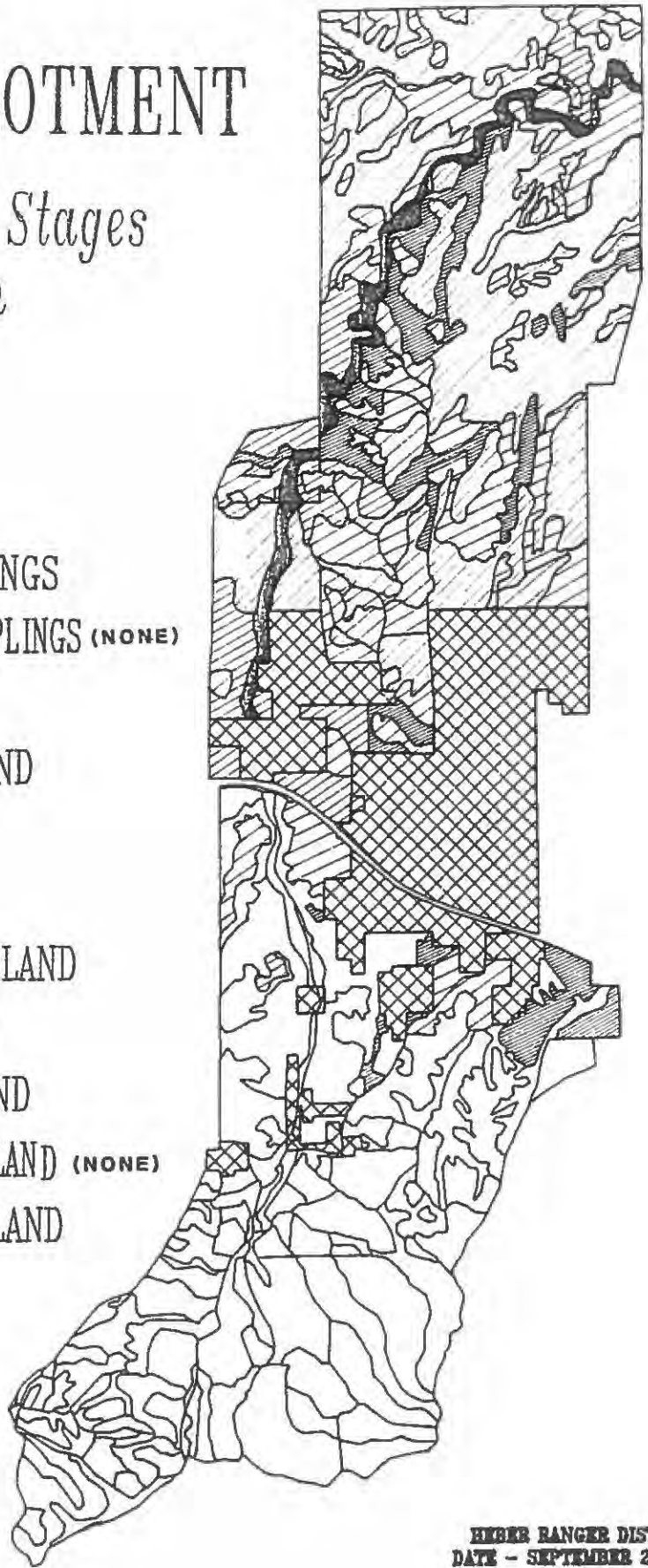
# CLAY SPRINGS ALLOTMENT

*Vegetative Structural Stages*

*Proposed Action*

## LEGEND

-  1A SAVANNAH WOODLAND
-  1B OPEN WOODLAND
-  2A OPEN SEEDLINGS AND SAPLINGS
-  2B MOD. CLOSED SEEDLINGS AND SAPLINGS (NONE)
-  3A OPEN POLE WOODLAND
-  3B MOD. CLOSED POLE WOODLAND
-  3C CLOSED POLE WOODLAND
-  4A OPEN MATURE WOODLAND
-  4B MOD. CLOSED MATURE WOODLAND
-  4C CLOSED MATURE WOODLAND
-  5A OPEN OLD GROWTH WOODLAND
-  5B MOD. CLOSED OLD GROWTH WOODLAND (NONE)
-  5C CLOSED OLD GROWTH WOODLAND
-  PRIVATE LAND
-  RIPARIAN
-  PONDEROSA PINE



SCALE 1:100000



HEBER RANGER DISTRICT  
DATE - SEPTEMBER 20, 1960

APPENDIX I

Summary of NFMA Analysis

CLAY SPRINGS ALLOTMENT - ARIPIPE 1 ANALYSIS PLANNING AREA

<u>Existing Condition</u>	<u>DFC</u>	<u>Opportunities</u>	<u>Possible Management Practices</u>	<u>Proposed Action</u>
"RANGE"				
Range clusters 1,2, & 6 in Poor Cond. Cluster 4 Fair. Cluster 5 Very Poor. 4 Paced Transects, Poor/Static Trend. 1 Paced Transect, Poor/Downward Trend. 1 Paced Transect, Fair/Static Trend.	Increase C/S species vigor, density, composition.  Improve Brouse vigor, regeneration, density, & composition.	Conduct P/J treatments to reduce competition and allow herbaceous plants to increase, which will improve ground cover and range condition.  Change grazing system to provide deferment at critical time of year, resulting in lower use levels, improved plant vigor, & seedling growth.	Use Commercial or Pvt. Fuelwooding. Mechanically push trees. Implement a short duration grazing system. Winter use only. Summer use with reduced stocking. Ruseed with decrease native species.	Shorten grazing season from 12 months to 4. Shorten grazing period in Fall & Spring to favor Cool season.
Full Capacity Range (40% of total acres 2% Fair, 83% Poor, 14% Very Poor.	Manage to fair to Good with upward trend in P/J, and Good to Exc. in Pine type.			Grazing intensity regulated at 30% use per pasture monitor to meet plant health requirements.
Permitted use, 2244 aum's. Season of use 3/1-2/28 yearlong. High use in pastures, exceeds proper use for plant health. Rest-rotation system.	Balance permitted use w/ capacity.	Stock allotment to capacity. Improve livestock distribution to reduce over use of preferred areas.  Create grassland habitat for diversity & to increase forage capacity, out of P/J areas.	Create more pastures, to control grazing use within capacity limits. Stock allotment and pastures within capacity estimates.  Intensify herding and salting practices to distribute use better and not exceed allowable use level, and capacity.  Construct more waters or haul water to portable tanks to reduce heavy grazing in key areas around a few water sources.	Stock at capacity 700 aum's Lvstk., 300 aum's W.D.F. Balance pasture use with pasture capacity.  Grazing use meet 30% proper use.  Brouse capacity not allocated to livestock. Check brouse habitat to determine proper use compliance. Maximum 45% use allowed.

**"RIPARIAN"**Existing Condition

Portions of Cottonwood Wash in #1L, Powerline, & Summer Units are in Unsatisfactory health. These areas have been heavily grazed in the past and present. Remnant mature Cottonwood trees exist, few seedlings are being produced. Saplings are deformed (shrub form) due to heavy grazing (Wldf/ Cattle).

Stream structure has changed resulting in an elevated floodplain w/ the drainage becoming a gully. This results in less area for seedlings to establish.

South of Hiway 260, Willows and Ctuds. are also suppressed by Pine overstory competing for space and subsurface water.

DFC

Improve riparians to satisfactory Condition.

Improve ground cover, canopy cover, age classes, species composition, & regeneration of Riparian species

Adjust Mgt. practices to allow riparian recovery.

Determine riparian habitat potential.

Monitor riparian recovery.

Strive for riparian age & structure as follows:  
Mature 20-30%,  
Sapling/pole 40-50%,  
Seedling 20-40%.

Ground cover goal is 50-80% comprised of vegetation, litter, rock.

Opportunities

Local need for timber can result in reducing Pine/Hardwood competition.

Improve riparians using natural regeneration instead of planting.

Redistribute grazing use out of the riparian zone

Possible Management Practices

Implement pulp or commercial timber sale.

Do spot thinning of pine seedling and sapling trees.

Change grazing mgt. to avoid grazing during growing season.

Build enclosure fences to exclude grazing in riparians.

Plant cottonwood suckers in drainage with fencing for protection.

Implement new grazing system.

Create riparian pastures & change grazing period.

Conduct burning in harvested and non-harvested uplands with water developments to encourage use away from riparians.

Proposed Action

Riparians managed by changing grazing period and duration.

Allow riparians south of Hiway to improve with alternate grazing periods, Fall & Winter.

Cottonwood timber sale to treat pine invasion in riparian.

Implement an aggressive burning program to rejuvenate native forage species, reduce competition with undesirable species, also reseed with native species.

## "BROWSE"

Existing Condition

Composition is low, with very few areas showing moderate. '82 analysis, full capacity range has 20% low composition (riparians), 88% low grassland/P-J areas, 100% low shrubtype, rabbitbrush stand. Potential capacity has 27% low composition (pinetype, & 100% low in P-J.

Riparian areas have 60% moderate composition dominated by riparian species (full capacity range). Po-capacity range, pine type, 67% moderate composition.

'82 analysis shows browse density is low on most of the allotment, ratings are 57-100%. Plant vigor is low on most of allotment, except riparian areas, at moderate vigor. Low vigor ratings at 20-56%, 20% in riparians. A 100% moderate rating in rabbitbrush area. Availability rating addresses how much of the can be eaten. Moderate availability in Pine and riparians, with high availability on browse elsewhere.

DFC

Strive for a browse composition of 30% Low, 40% Moderate, 30% High on P-J & grassland FC range. Target improvement in such species as Winterfat & 4-wing salt-bush. Riparians browse rating improve to 10% Low, 30% Moderate, & 60% High, and increase diversity of species within drainage and floodplain.

Strive to achieve density levels in FC range at 30% Low, 50% Moderate, 20% High. Variations will occur from this level in P-J, Pine, & grasslands, but for higher levels in open areas.

Improve vigor for all habitats to 50% Moderate, 40% High, and 10% Low.

Opportunities

Utilize existing species as seed source to improve composition through natural regeneration.

Change composition with improved mgt. system before species are lost due to grazing pressure.

Manage utilization level to acceptable limits to restore browse health.

Improve density, vigor, and availability of browse species with proper grazing mgt. considering the difference in plant species.

Possible Management Practices

Plant browse seedlings.

Fence browse areas.

Reduce elk herd, encourage more hunting in P-J zone.

Intensify grazing mgt. to limit length of time in pastures to reduce effects of grazing on browse.

Establish browse monitoring sites to use for determining pasture moves when allowable browse use is reached, <45%.

Implement vegetative treatments with burning to reduce competition and invigorate

Proposed Action

Manage browse use not to exceed 45% combined use level for livestock and wildlife for any grazing period

Reduce tree canopy through timber harvest or thinning and introduce periodic burning to stimulate browse resprouting.

Implement a winter use only grazing system with shorter grazing periods to prevent use on browse. Monitor use to help determine pasture move dates. If use levels exceed 45% and mgt. system and treatments not effective in reducing heavy use, change grazing mgt. system to alternating summer use with possible changes in stocking and elk numbers for a period of years.

Monitor spring use to detect if high use is occurring on new growth. Fencing may be needed to shorten grazing period, or intensified mgt. practices such as herding, water, salt placement away from browse areas can be employed. If use levels remain high, then early pasture move will be made.

"BROWSE" ContinuedExisting Condition

Grazing intensity has been heavy on winterfat & 4-wing saltbush. Use has been more moderate on cliffrose. Past use also shows decadence on 4-wing. Extended grazing periods leads to high use on browse, use appears to have exceeded 45% in key areas. Elk and antelope winter on the allotment, this places added pressure on browse, along with cattle use.

DFC

Reduce availability to 70% Low, 20% Mod., and 10% High in riparians. Reduce availability in other areas to 30% Low, 50% Mod., and 20% High.

Manage grazing intensity to not exceed 45% use on key browse species during any grazing period for both cattle and wildlife.

OpportunitiesPossible Management PracticesProposed Action"WATERSHED"

In the pine type watershed condition is stable due to high litter cover. Major drainages such as Cottonwood Wash lack cover and consequently have raw banks and vertical cuts. Flows are intermittent and low flows are wide and shallow. P-J zone lacks ground cover and active sheet and gully erosion occurring. Both the pine and P-J zones are in unsatisfactory condition.

Improve watershed condition to satisfactory.

Improve ground cover, 80% (rock litter, plants) in the grassland and open P-J stands, 1, 2A, 3A, 4A VSS, vegetation being 50-60% of the cover. In pine, strive for increase to 60% herbaceous cover.

Opportunity exist to revegetate the drainages through a new management system that allows more rest and lighter use during early part of growing season.

Increase vegetation in P-J and Pine through treatments of trees and reduce competition and eventually increase ground cover.

Use fire to reduce litter cover and invigorate herbaceous growth and seedling production.

Seedling survival is

Defer grazing during growing season for cool season grasses and riparian species.

Monitor grazing use to not exceed physical requirements of plants.

Conduct fuelwood & timber harvest to reduce canopy, leave slash on ground for nutrient cycling, seedbed protection.

Conduct spring burning to reduce litter layer and pro-nutrients for cool season growth.

Install watershed structures in at least four drainages having at least 4 foot cuts.

Grazing system planned will provide most rest to herbaceous plants and riparian vegetation. No grazing of watersheds during critical growing period, 3/15-6/15 cool season species, 6/1-10/31 for riparian species.

Monitor grazing use of cool season species to a 30% use level, at which time it may be necessary to move to next pasture.



"WATERSHED" Continued

Existing Condition

DFC

Opportunities

Seedling survival is higher with improved mgt due to less grazing stress during growth periods.

Opportunity exist to rehab active gullies that are not badly incised, with natural or mechanical means.

Improve water yield and duration with improved drainage cover and structural features that capture silt which provides a seedbed for riparian vegetation.

Possible Management Practices

Install small headwalls (2-3 foot high) in Cottonwood Wash using timbers, permeable and non-permeable cloth, and rock from stream channel. Headwall built in cascading fashion, in order not to impeding high flows. Rehab initiated at headwaters of drainage first.

Proposed Action

Conduct P-J treatments 595 acres to reduce density and place slash on the ground for nutrient cycling to improve soils for herbaceous growth.

Install watershed structures to repair eroding drainages to allow young plants to establish and protect the soil.

Install watershed structures in Cottonwood Wash reduce the cutting effect of runoff, and restore small pools to allow riparian vegetation to establish. Increase in riparian vegetation can improve the water table and yield.

54

"FIRE"

There is high density of fuels in Pine, both from blow-down & old thinning slash. Fire has long since been lacking in the pine areas.

## "FIRE" Continued

Existing Condition

The potential exist for a catastrophic fire in the Pine.

Fire hazard does not exist in P-J. Use of fire in the P-J would be incidental to other activities such as a means to remove thinning slash. P-J burning can be done by creating fuels to carry fire.

## "TIMBER"

Commercial timber activities addressed in Cottonwood Analysis.

P-J density is high in many stands on the allotment. VSS 5C dominates landscape, with less amounts of 2,3,4 VSS classes. VSS 1 has highest amount of acres, but part of this category is truly a grassland.

## "TRANSPORTATION"

Roads north of Highway 260 are at 2.07 miles per section density. Roads south of 260 have been addressed in

DFC

Introduce fire into Pine area as part of this planning effort or Cottonwood Wash.

Conduct burning in P-J when possible after treatment, favor broadcast burn over pile burn to avoid soil sterilization.

Commercial timber not addressed in this analysis.

Aripine DFC for P-J is 10% VSS1, 10% VSS 2A, 5% VSS 2B, 10% VSS 3A, 5% VSS 3B, 0% VSS 3C, 20% VSS 4A, 10% VSS 4B, 10% VSS 4C, 10% VSS 5A, 10% VSS 5C.

CONTINUED NEXT PAGE

Opportunities

Increase soil nutrients and improve plant vigor.

Improve browse growth.

Improve soil & watershed condition, P-J & Pine, with increase ground cover from grass and forbs. Improve wildlife habitat by increasing ground cover for small animals & big game.

Opportunity to meet DFC and provide diverse habitat for wildlife, and increase ground cover to improve soil and watershed conditions.

Possible Management Practices

Conduct burning as part of fuels mgt. or incorporate into KV Plans.

Conduct burning in P-J after treatment, (P-J Push, fuelwood harvest)

Treat P-J by mechanical means (Bulldozer), commercial fuelwood sales, or spot thinning.

Proposed Action

Prescribed fire has been incorporated into Cottonwood Wash Analysis for the Pine.

Fire will be considered as an after treatment in P-J on case by case basis.

Treat P-J to achieve DFC as follows: VSS1 32%, VSS2A 10%, VSS2B 5%, VSS3A 3%, VSS 3B 0%, VSS3C 0%, VSS4A 16%, VSS4B 11%, VSS4C 4%, VSS5A 0%, VSS5C 19%. Additional treatments could be made in 5C to reach 5A. Need to determine amount of VSS1 that is grassland, and allow part of VSS 1 to move toward VSS 3A & 3B.

## "TRANSPORTATION" Continued

Existing Condition

the Cottonwood Analysis. Several roads in P-J are in unsatisfactory condition, they are contributing to erosion on and off the road, & in some cases they are forming gullies and require major improvement. Several roads are system roads but currently classed Level 1 maintenance, other roads are not part of the transportation system.

DFC

Achieve Forest Plan objective 2 miles/section road density. Retain or place roads FS system with proper maintenance level for the use that occurs.

Reduce erosion hazard on level 1 roads using structures to avoid future erosion.

Close roads that are unnecessary, and result in substantial erosion, & maintenance cannot prevent erosion.

Opportunities

Establish a road system adequate for public needs.

Maintain a road system that does not contribute to soil and watershed degradation.

Rehabilitate degraded roads to acceptable standards, and eliminate those that continuously erode, due to slope, location, or soils.

Possible Management Practices

Use FS engineering to improve roads to Level 2 standard.

Contract or use FS personnel to close roads with waterbars and tank traps, slash, signs, or closure gates. Reseed closed roads.

Use other funding sources to repair and maintain non-system roads retained for administrative or recreational purposes.

Proposed Action

Upgrade the following roads to Level 2: 9888N; 9888B; 9888L 1mi; 9888K 1mi; 9888J 1mi; 9888G 1.25mi Add 1.1 mi. of existing road to 9888B, northward to Willow Wash boundary fence. The remaining portions of 9888 G,J,K,L roads re-as Level 1 roads.

Level 1 roads are to be treated to reduce erosion using multiple funding sources.

Roads scheduled for closure are: Cottonwood Wash from Pulpmill Rd, NE corner Powerline pasture, roads south to 260 Hwy from Smith ranch, old roads into P-J pushes from Section 27 tank.

Non-system roads will be maintained as needed.

APPENDIX J

ISSUES TO PROPOSED ACTION

ISSUE CLARIFICATION AND TRACKING (BY: Subirge & Gonzalez, 6/2/95)

Input received by the various publics are clarified and identified as either an action covered by Existing Authority that the Agency is already required to do, is an Administrative action within authority of a permit, or is truly an issue. The following guideline was developed to ascertain which statements are Issues to be analyzed through the Aripine 1 Analysis.

I. EXISTING AUTHORITIES - A. Forest Plan  
B. Laws  
C. Regulations  
D. Directives  
E. Agreements

- A. - FLMP - TE&S species management.
- E. - Ari-Pine DFC's: P/J composition, maximum allowable browse use
- D. - Range handbook procedures for browse utilization measures.
- A. - FLMP standards for riparian and browse use.
- D. - Range handbook defines "suitability".
- C.1- CFR 222.3 Permit Issuance for Grazing.
- C.2- CFR 222.2 Management of Allotments (AMP).
- B. - NEPA (Cottonwood Wash T/S).
- D. - BE&A
- B. - ARPA - Archeological Resource Protection Act.
- D. - Goshawk Guidelines, Regional Directive.

II. PROBLEMS (ADMINISTRATIVE):

- Salt at waters.
- Use levels excessive; concentration areas exist.
- Grazing plans not followed; permit noncompliance.
- Road maintenance.
- Tank maintenance.
- Elk jumps.

ISSUE TRACKINGI. RICK ERMAN (AWF) Issue Statements:

1. Existing Authority 1E
2. Issue 1a. - Does not cover prairie dogs
3. Existing Authority 1E (Park Day Analysis)
4. Existing Authority 1D
5. Existing Authority 1D, 1A
6. Existing Authority 1A, 1D - Reviewed 1982 data, collected '94 & '95
7. Existing Authority 1D
8. Existing Authority 1E, 1D, 1C.2
9. Existing Authority 1D, 1E
10. Existing Authority 1E
11. Existing Authority 1B
12. Existing Authority 1B, 1C.2
13. Existing Authority 1C.2, 1B, 1A
14. Existing Authority 1A, 1D, 1B
15. Existing Authority 1E
16. Issue #3d
17. Existing Authority 1B
18. Existing Authority 1D (Prairie Dogs & Black-Footed Ferret)
19. Outside scope of Analysis - Refer to AZ G.&F.
20. Issue Category #3
21. Issue 3a
22. Existing Authority 1E, 1B, Issue Category 3
23. Issue 1a

II. ARIZONA GAME & FISH - Issue Statements:

1. Issue 1a, 3a, 3c, 3e
2. Issue 3a
3. Issue 3a
4. Depends on Alternative selected, Ex. Authority 1B
5. Existing Authority 1A, 1E
6. Existing Authority 1B, 1D
7. Existing Authority 1A, 1B; Issue 1a, 1c
8. Existing Authority 1D, 1E
9. Issue 3c
10. Existing Authority 1D
11. Issue 3a, 2b

III. FOREST SERVICE - Issue Statements:

1. Issue 3d
2. Issue 3a
3. Issue 3a; Administrative Problem.
4. Issue 3b, 3c
5. Issue 2a
6. Issue 3a
7. Issue 2a, 3e; Existing Authority 1B (Ctwd.Wash Analysis)
8. Issue 2a, 3e
9. Issue 3a, 3e; Existing Authority 1B (Ctwd.Wash Analysis)
10. Issue 3a, 3e; Existing Authority 1B (Ctwd.Wash Analysis)
11. Issue 2b; Existing Authority 1B, (Ctwd. Wash Analysis)
12. Issue 1b, 3b, 1a
13. Issue 3a
14. Administrative Problem.
15. Administrative Problem, Existing Authority 1B
16. Issue 3e

IV. FLAKE - Issue Statements:

1. Existing Authority 1B - Alternative Development
2. Existing Authority 1B
3. Existing Authority 1B; Issues 3a, 3b, 3c
4. Administrative
5. Editorial comment, deals with Administration of Permit
6. Issue 1c; Administrative action for water maintenance
7. Administrative problem.
8. Editorial Comment
9. Editorial Comment

V. CARLISLE - Issue Statements:

1. Existing Authority 1B
2. Editorial Comment
3. Existing Authority 1D; Issue 3d
4. Issue 1E
5. Administrative Problem
6. Editorial Comment; Issue 3d
7. Editorial Comment - Clipped weight, to dry weight
8. Issue 3e

VI. SMITH - Issue Statements:

1. Issue 3e; Existing Authority 1E
2. Existing Authority 1B
3. Existing Authority 1B
4. Issue 2a
5. Issue 2a
6. Existing Authority 1c.2; Administrative problem; 1B
7. Existing Authority 1B; Evaluate by Alternatives.
8. Editorial Comments
9. Issue 3e; Existing Authority 1B
10. Administration problems.
11. Existing Authority 1B
12. Issue 3b

VII. SOUTHWEST BIO-DIVERSITY - Issue Statements:

1. Existing Authority 1D, 1C.1
2. Existing Authority 1C.1, 1B
3. Existing Authority 1D, 1B, 1A
4. Existing Authority 1B, 1D
5. Issue 3a, 3c; Existing Authority 1D
6. Issue 3a, 3d; Existing Authority 1D, 1A; Determined by Alternatives
7. Existing Authority 1D; Determined by Alternatives
8. Existing Authority 1D; Issue 2a, 3c; Determined by Alternatives
9. Existing Authority 1E; Issue 3a
10. Existing Authority 1D
11. Existing Authority 1B
12. Existing Authority 1B
13. Existing Authority 1D, 1B
14. Existing Authority 1E; Issues 3a, 3c, 3b
15. Existing Authority 1B, 1D
16. Existing Authority 1A, 1B, 1D; Issue 3a, 3b, 3c; Administrative Action
17. Issue 2a
18. Existing Authority 1B
19. Existing Authority 1B
20. Issue 2a
21. Issue 2a, 3a
22. Issue 3a, 3e
23. Issue 2b
24. Issue 2a

APPENDIX K

ECONOMIC EFFECTS ANALYSIS FOR ALL ALTERNATIVES

	<u>Alt. 1</u>		<u>Alt.2</u>	<u>Alt. 3</u>		<u>Alt. 4</u>	<u>Alt. 5</u>		<u>P-A</u>
	S	L		S	L		S	L	
Direct/Indirect	(+)	(-)	(-)	(-)	(+)		(+)	(+)	(+)
Jobs (No.# Jobs)	2.1	2.13	2.13	2.13	2.95	+2.95	2.85	2.85	2.96
(1.14/100 head)	*							to	
Basis is 187 hd								(-)	
								2.13	
Paid to Cty. \$\$									
w/o PILT Offset									
(\$0.40/aum)	**							(-)	
Basis is 2244		(-)	(-)	(-)	(-)	(-)	(-)	424	(-)
aum's.	0	898	898	898	424	424	424	to	424
								(-)	
								898	

S = short-term effect

L = Long-term effect

P-A = Proposed Action

\* The minus figure is a decrease in jobs or positive figure is an increase.

\*\* The minus figure is a decrease in revenue to the county, in whole dollars.

As a comparison of the Socio-Economic effect, in 1994 gross National Forest receipts for grazing that occurred in Navajo County was \$40,000. Of that, (25%) \$10,000 is returned to Navajo County. At worst case, a 9% reduction in Grazing receipts paid to the County would occur. At best, only a 4% reduction in Grazing receipts paid to the County may occur. It's considered that National Forest grazing receipts are a very minor portion of the Navajo County budget and any reductions would not be significant.



APPENDIX L

COMPARISON OF ALTERNATIVES

Results	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	PA
Aum's	S-T 0	2244	S-T 2244	1061	1061	1061
Reduced	L-T 1244		L-T 1061			
# Lvstk.	S-T 0	187	S-T 187	88	88	88
	L-T 187		L-T 88			
Miles of fence Built	0	0	3	3	9	0
Acres P/J Treatment	1222	1222	1222	1222	1222	1222
Miles of Road ** Closed	55.4	55.4	55.4	55.4	55.4	55.4
Miles of Riparian Improved	0	15.9	15.9	15.9	9.2	15.9
% Allotm. Fair +	2	19	15	8	8 *	19
# Jobs Affected	S-T +2.13 L-T -2.13	-2.13	S-T -2.13 L-T +2.95	+2.95	S-T +2.85 L-T +2.95 to -2.13	+2.95
County Revenue Affected	S-T 0 L-T -\$898	-\$898	S-T -\$898 L-T -\$424	-424	-424	-424
% Acres Browse*** Improved	0	10	7	4	4 *	10
% Antelope Habitat Improved	0	19	15	8	8 *	19
% TES Habitat Improved	0	19	15	8	8 *	19
% Acres of Watershed Improved	0	33	29	22	22 *	33

S-T = Shortterm; L-T = Longterm

\* This projection is based on adequate monitoring.

\*\* Includes 37 miles of road closures from the Cottonwood Analysis.

\*\*\* Estimated to be half of Range Condition due to slower browse growth rate.

APPENDIX M

ISSUES RELATED TO ALTERNATIVES

ALTERNATIVE #1 - Issue Grazing Permit For Current Numbers And Season.

Permit 187 head of cattle with a 3/1 to 2/28 season; New permit clauses would be attached to permit, fuelwood treatment would occur along with crushing and slash burning.

This alternative meets issues Category 1C, Category 2C, Category 3E. Does not meet issue Category 3D permitted use would be 2244 aum's which exceeds the 1183 aum estimated capacity. Other issues not met will be Category 3A,B,C and Category 1A and B. This Alternative creates conflict between achieving permitted use and implementing Forest Plan standards and guidelines.

ALTERNATIVE #2 - NO ACTION Alternative.

This Alternative results in vacating allotment and no livestock use would occur. All issues are addressed by this Alternative. This Alternative should be implemented if irreversible and irretrievable effects on the environment are occurring, which is not the case at the present time. Fuelwood treatments, watershed improvements, and burning are a few of the activities that could still occur with this Alternative.

The preliminary issues addressed by this Alternative are 1 through 11. Not all of the Ari-Pine DFC's will be achieved by the end of the first 10 year period. The recovery process will be slow for range condition.

ALTERNATIVE #3 - Non-use Agreement Alternative With Future Change In Management, Implement Alternative #4.

This Alternative addresses all issues. Ari-Pine DFC's will be achieved but at a slower rate than Alternative #2 (No Action). Preliminary issues addressed by this Alternative are 1,4,6,8,9,10. A shorter non-use period would not achieve any significant improvement in resource conditions, except altering ground cover by fuelwood and crushing treatments.

ALTERNATIVE #4 - Issue Grazing Permits And Change Management Of Allotment To Winter And Summer Use Periods.

Stock allotment at estimated capacity of 1183 aum's. This Alternative is similar to Alternative #3 except non-use is not required for first two years. Fuelwood and crushing treatments, burning, rebuilding range improvements, constructing new water sources, division fencing in Summer unit, possible riparian enclosure fencing, and watershed structures could be completed with this Alternative.

This alternative would not meet issues Category 3A,B,C within the first 10 year period due to the rate of progress being slow. It is expected though that these issues will be resolved over a longer period of time, and fully meet the Forest Plan standards and Ari-Pine DFC's beyond the first 10 years. The other issues, Category 1A-C, Category 2A-B, and Category 3D-E are expected to be met within first 10 years. This is expected to be even slower for the Summer unit because it has historically been grazed during the summer which led it to present conditions. Proposed deferment can help in changing the trend but adherence to utilization standards is essential for resource conditions to trend toward improvement. Close monitoring needed in P/J pastures to insure vegetation treatments are not subjected to excessive grazing use.

ALTERNATIVE #5 - Issue Permits and Manage Allotment According to Current Annual Operating Plans.

Flake use P/J pasture during winter only, 11/1-2/28. Smith and Jackson will graze allotment yearlong, 3/1-2/28. Stocking would be 1183 aum's. Permit clauses will be attached to permit to regulate use. Similar treatments will occur in this Alternative as in Alternative #4, except all pastures will require riparian division fences and may also need some enclosure fencing.

Issues not resolved by this Alternative are Category 3A,B,C if monitoring is not carried out and the permit clauses fail to be enforced. If Category 3 is not achieved, this will adversely affect accomplishing Category 2A, therefore slowing down rate of improvement. If monitoring is accomplished and permit clauses applied, management will replicate Alternative #4. Extended grazing periods even with low numbers, can result in excessive use of riparian and cool season species.

Preliminary issues relating to this Alternative are described as follows:

- Issue #1 - Road closures/repair to be done.
- Issue #3 - Is addressed but results in management conflict. Cannot achieve DFC's if livestock remain on allotment with above acceptable browse use levels or require early removal to result in less than year-long grazing.
- Issue #4 - Incorporated into Alternative.
- Issue #5 - Yes, creates more VSS1.
- Issue #11- Relates to Issue #3.
- Issue #8 - Can monitor for TES species & Riparians, but this Alternative will not improve resource conditions.

Heavy grazing use is expected to continue and may affect habitat quality for TES species prey (Bald Eagle/Northern Goshawk). Riparians expected to continue deteriorating in localized areas.

APPENDIX N

Transportation Plan - Aripine 1 Analysis

Roads Open And Maintained	Roads Closed Or Obliterated	Roads Open And Not Maintained for Public Travel
9888 L 5.0 mi.	9888 N 0.7 mi	POWERLINE ROADS 1.8 mi
9888 N 4.2 "		9888 O 0.1 "
9888 H 0.9 "	Sec.10 roads,T11N,	9888 M 0.5 "
9888 P 1.0 "	R19E --2.5 mi	9888 K 0.4 "
220 0.5 "	9888 M 2.1 "	S.25/36 1.2 "
		S.34 Dalton Tk. 0.1 "
9888 B 3.9 "	9888 J 1.1 "	New Tk. Rd. 0.2 "
	9888 G 1.0 "	S.23 1.6 "
9888 K 0.9 "	NO NAME ROADS:	S.15 1.8 "
9888 J 0.7 "	S.35-36 0.4 mi	S.14 Powerline 0.5 "
	S.36 0.4 "	S.13 0.6 "
	S.35 0.4 "	S.12 0.3 "
	S.2 0.2 "	S.2 NFB WEST 1.3 "
9888 G 3.1 "	S.3(2 RDS) 0.4 mi	S.1/2 0.6 "
9888 M 0.5 "	S.34 0.2 "	S.1/12 1.6 "
	S.27 1.2 "	S.1 NFB EAST 0.5 "
PULPMILL	S.26 1.3 "	
HWY. 5.8 mi.	S.23 2.0 "	
	S.14 1.0 "	
	S.13 0.5 "	
	S.12/13 0.3 "	
	S.1/12 0.8 "	
	S.12 0.6 "	
	S.12 0.1 "	
Total 25 miles	S.10 1.1 "	
	S.2/10 0.2 "	
	Total 18.4 miles	Total 13.1 miles

North of Highway 260, 56.5 miles of road currently exist, which at 20 sections of land results in a road density of 2.78 miles/section, which exceeds Forest Plan density. After closure of roads, 38.1 miles will remain totalling 1.9 miles/section will be open to public, which meets Forest Plan standards.

Reference attached map for closed and open roads.

Open and Not Maintained Roads may be maintained using soil or watershed funds to repair resource damage, but no Transportation System funds maybe used for maintenance.

## APPENDIX O

### Response to Comments Draft Environmental Assessment Clay Springs Allotment Management Plan and Related Activities

Comment: We believe the permitting process has far-ranging economic and financial impacts that are not being considered in the existing grazing permit issuance proposals.

Response: Though this is a concern, the statement is not valid when the economics of grazing on national forest is viewed for the entire Navajo County. Average revenue from grazing receipts (25%) for the County has averaged about \$10,000 dollars annually, which includes both Lakeside and Heber Ranger Districts. This revenue is allocated to the school districts which in their total budget is less than 1% of the funds to run the school districts. Payment in lieu of taxes to the county has also averaged less than 5% of the gross budget. Therefore, the economic effect of changing permitted use has an insignificant effect on the economy on a County-wide basis.

Comment: What is the site specific economic impact on local economies, ranchers and businesses?

Response: Reference Economic Analysis included in the Environmental Assessment (EA), Appendix I and Page 22 of the text in the EA (Socio-Economic). Much of the effect is dependent on the permittees ability success manage livestock in relation to other resources. The better manager one is, the greater the compatibility with other resources, then the greater the beneficial effect to the permittee. If a manager is not good, the more adverse economic effect to the permittee.

Comment: What are the site specific and cumulative economic impacts upon the repayment capacity of the public lands ranchers on a county by county basis?

Response: This statement is not within the scope of the Analysis. There are far more factors affecting a ranchers solvency beyond what a grazing permit entails which cannot be analyzed as part of this process.

Comment: What are the economic impacts to the collateral values of livestock, public land leasehold interests, and deeded lands contiguous to public lands?

Response: The grazing permit is not a property right and conveys no interest in public land. Collateral value is dependent on the market value of livestock between the time they are purchased and sold, irrespective of any permit action.

Comment: What is the impact of the proposed rules on the lien position of secured creditors? What are the impacts to lenders holding perfected security interests in public land grazing leases in light of the proposed issuance of permits?

Response: Reductions in permitted numbers may affect creditors' ability to collect payments due from the affected permittees.

Comment: What are the specific economic impacts on ranch operating costs on a per animal unit basis in view of the proposed permitting and compliance with Federal and State environmental laws?

Response: In general terms for yearlong permits, operating costs are generally fixed. Reductions in permitted use are likely to result in an increase in per unit operating cost, although this can sometimes be offset by adjusting or minimizing fixed cost. Regardless, there are also many external factors that influence per unit cost that are beyond the permit action and cannot be controlled by this analysis, and are therefore beyond the scope of this analysis.

Comment: What compensation will be given to ranchers for the taking of grazing rights that existed prior to the development of the permit system? If no compensation, Why?

Response: Grazing on national forest land is a privilege, not a right. The Forest Service does not recognize a monetary value or property right for grazing permits. Regulation of grazing on national forest land is authorized by law, and is not a taking; therefore, no compensation is due when numbers are reduced.

Should compensation to permittees for reductions in grazing preferences be consistent with Internal Revenue Service tax values? If not, why?

Response: No. The permit has no value, and grazing on national forest land is a privilege not a right.

Comment: What is the economic basis, rationale, and source of data for proposed grazing cuts?

Response: Proposed reductions in livestock animal unit months (AUMs) are based on the estimated livestock capacity. For the Clay Springs Allotment, capacity was determined using production data collected in 1994, monitoring results from the 1994-95 winter grazing season, a production utilization study conducted in the early 1980s, and the suitable acres per AUM methodology for calculating capacity. The economic basis for stocking levels would be that if the range is stocked above capacity, the use is not sustainable.

Comment: Do the proposed permits discriminate against small, young, or beginning ranchers who may require ten years to pay for the cost of cattle in view of the maximum ten-year permit for new leases? If not, why?

Response: The Granger-Thye Act of 1950 authorizes the issuance of permits for livestock grazing, not to exceed ten years. Ability to change the maximum permit length is beyond the authority of the Forest Service.

Comment: "We believe that no term permits should be re-issued until you conduct a thorough analysis of the area's suitability for grazing as defined in your regulations."

Response: Suitability for grazing is a programmatic decision and has already been addressed in the Forest Plan for the Apache/Sitgreaves NF. Management areas identified in the Forest Plan and found within the allotment are: Forested Land, Woodlands, and Riparian areas which have been classified as suitable for grazing. The issue at hand is determining how much use should be made of these lands, therefore, determining suitability is not within the scope of this analysis, but allocation of grazing capacity and use levels is. The EA will clarify the difference between suitability and capacity allocation. Any questions regarding suitability need to be addressed at the time of the Forest Plan revision.

Comment: "This analysis must take into account the impacts on federally listed and Forest Service sensitive species, water quality, recreation and other public values that will undoubtedly be impacted if you decide to re-issue term grazing permits for this area." "We are concerned about the following general impacts of livestock grazing as outlined in the recent book, Saving Nature's Legacy (Impacts described are condensed as follows, selective grazing, excessive use, riparian grazing, trampling, disturbance of natural waters, vegetation manipulation)."

Response: A biological evaluation has been completed and indicates that no significant effect will occur from issuance of grazing permit, and that it will not cause a trend toward listing of sensitive species. Many of the concerns expressed have been addressed by one or more of the issues developed during this analysis, reference EA, pages 6-8, Appendices I,J,M.

Comment: "The permit re-issuance fails to implement procedural and substantive measures to meet requirements of the Clean Water Act and Endangered Species Act."

Response: A Biological Evaluation has been completed and the conclusions are consistent with the Programmatic BA&Es for Sensitive and T&E species. According to these programmatic documents which USFWS has concurred with, no consultation is necessary if a No Effect or May Effect, Not Likely To Adversely Effect determination has been made. ADEQ has prepared a draft Best Management Practices (BMP) direction for managing rangelands. Much of the intent and planned actions in the Preferred Alternative are consistent with those BMPs which will meet the intent of the Clean Water Act and Non-Point Source Pollution Program.



Comment: Reducing livestock numbers, combined with other actions, is the only way to ensure recovery of degraded riparian habitats.

Response: The preferred alternative in the draft environmental assessment calls for reducing livestock numbers, and other actions, with one goal being to improve riparian conditions.

Comment: These EAs will result in continued violations of the Apache-Sitgreaves Forest Plan and the Clean Water Act for failing to protect water quality and riparian habitats.

Response: This EA addresses actions to be taken to protect water quality and riparian habitats. No specific reasons were given to support this comment.

Comment: Riparian recovery would be the same under all alternatives, as portrayed in the EA.

Response: The EA does not portray the same rate of riparian recovery for all alternatives.

Comment: Cumulative effects analysis does not adequately address that historical grazing is the primary culprit in degradation of riparian areas.

Response: Past grazing effects, as well as other effects, are reflected in the current condition of the riparian areas. Past grazing is recognized in the environmental assessment as having had an effect on riparian conditions. Several actions are proposed in this EA and the Cottonwood Wash Timber Sale EA, which has been adopted under this EA, that provide for protection and improvement of riparian areas.

Comment: Without reducing livestock numbers you can not ensure that viability of the goshawk and Mexican spotted owl will not be threatened.

Response: The preferred alternative calls for a reduction in livestock numbers.

Comment: Inadequate range of alternatives, especially an alternative which calls for 5-15 years of rest for riparian areas.

Response: Alternatives were developed to address issues, one of which is riparian health. An alternative was developed which called for rest for up to 5 years, and all alternatives have utilization standards and deferred grazing practices proposed to protect riparian areas.

Comment: No monitoring plan for this allotment.

Response: There is a monitoring plan.

Comment: Aripine DFC, 70/30% Ratio, and Forage Allocation."

Response: We recognize that only Alternative #6 meets the 70:30 allocation ratio and the EA will be changed to reflective this. We recognize that the preferred alternative will not meet the 70:30, livestock:wildlife allocation which was identified as a goal in the Ari-Pine Resource Area desired condition document, although it moves in that direction with the livestock reductions that are proposed. However, our intent is to achieve the 70:30 allocation on the herd unit as a whole.

In addition, there are several vegetation treatments proposed that are likely to produce forage, but no capacity has been assigned to livestock for those areas. This additional forage will be available for wildlife, resulting in further progress toward achievement of the 70:30 allocation.

Comment: "Failure to consider forage consumption by wildlife will likely result in utilization levels that will exceed capacity...."

Response: The change in capacity estimate is described on Page 3 of the EA. How we arrived at allocating 1183 AUMs to livestock is based on 1994 monitoring which indicated that wildlife use did not appear excessive prior to livestock entering the allotment. Livestock use at the end of the season did not appear to be to excessive, except in a few areas, therefore, we assumed that the total capacity for livestock and wildlife was somewhere above the 1183 AUMs. With use standards in place, livestock actual use may vary annually pending effects on key areas and key species.

Comment: "Deviation from the forage allocation for wildlife may constitute a major decision, and may require that the Ari-Pine Resource Coalition reconvene for discussion and recommendation."

Response: The intent is to acheive the forage allocation for wildlife over the whole herd unit; however the Coalition may want to discuss this further. The need for a nother meeting will be pursued.

Comment: "VSS Distribution, differentiation between VSS1(A) and VSS1(B)."

Response: As part of this analysis, we reviewed the Terrestrial Ecosystem Survey extensively and with field reconnaissance of the allotment, it was concluded that the site potential of specific soils was different than originally perceived by the Ari-Pine DFCs. In discussions with Regional Soils Specialist, late seral stage for 43,44,58 soils would be open savannah with very low tree density. This would be consistent with proper livestock management. High tree density in these areas, if possible to reach, would be a disclimax habitat resulting from overgrazing and lack of fire, therefore not consistent with proper livestock management. Forest Plan states that grassland type habitats may have up to 20% tree cover. The VSS1(A) is determined to be an ecotonal zone prairie and P/J habitats.

Comment: There is a concern that the District will be unable to accomplish monitoring as called for in the draft EA.

Response: All alternatives require some level of monitoring and we recognize that Alternative #5 requires a substantial amount. The District is committed to fulfilling its commitment to monitoring.

Comment: Mitigation measures to be implemented when a trend of early removals occurs is unclear.

Response: This is clarified in the EA and Decision Notice.

Comment: There is a concern with water availability for wildlife, based on the proposed actions to construct waterlots and to turn off pipeline water and storage tank valves.

Response: Waterlots will be accessible to wildlife through the use of lay down fences, or installing fences designed to accommodate passage by elk, deer, and antelope. There may be an opportunity for a partnership to maintain water in pastures after livestock have been removed. We do not think it is equitable for the permittees to be required to maintain waters when not using the pastures.

Comment: "Elk Populations".

Response: Heavy use by wildlife is based on personal observations by Forest Service employees. Though not documented by sampling techniques, the use is obvious at certain times of the year and on certain species. The Ari-Pine desired condition document indicates a population estimate at 30 to 50% of what current estimates are, therefore the potential for heavy use in some areas is possible.

Comment: Alternative 6 should be modified to reflect more recent capacity estimates.

Response: This will be done in the EA. Grazing capacity estimates changed from 1000 AUMS to 1183 AUMS, based on monitoring done during the winter of 1994/95.

Comment: The preferred alternative should include a forage allocation consistent with Ari-Pine DFCs. The alternative should be designed to remain in compliance with a level of monitoring that can be reasonably sustained.

Response: With the livestock reductions proposed, the preferred alternative moves toward the 70:30, livestock:wildlife forage allocation. Refer to previous comments related to Ari-Pine DFCs and monitoring.

Comment: "EA does not state what actual use of the allotment has been over the last 10 years? Are the proposed reductions in Alternatives 4,5,6 a real reduction in utilization?"

Response: Alternative #1 describes what has been permitted for last 10 years. The reductions are true reductions, some are both in season and numbers of cattle and one is just numbers in cattle. Utilization standards to be applied would further restrict actual use if grazing not consistent with resource health.

Comment: "Wildlife resource impacts on the local economy."

Response: Specific figures could be calculated as to the economic benefit of wildlife, but in general terms, as range conditions improve along with vegetation diversity, so would antelope populations, therefore, more hunting and viewing opportunities would exist and a commensurate increase in wildlife related revenue to the local economy would be expected. The increase may not be substantial considering that only a small portion of the total habitat exist on the allotment.

Comment: "What are the guidelines for determining what is excessive use (riparians) and will funds be set aside for this possibility (fencing)?"

Response: Use levels are contained in the Permit Clauses and Management Guidelines, Appendix N of the EA. Funds for riparian fencing can result from appropriated federal funds or contributed, non-federal funds.

Comment: "The impacts of grazing on present and future recreational use of the area have not been considered."

Response: Recreation use is minimal in the area, and was not identified as an issue in the process, therefore, not considered significant in this analysis.

Comment: "Cultural Resources have not been identified and effects of grazing analyzed."

Response: Previous surveys have been conducted in the area and it is known that a high density of sites may be found. Some of the vegetation treatments overlap previous surveys and sites can be relocated. Other areas planned for disturbance have not been surveyed. The cost to design, layout, and then survey areas is substantial at the planning phase, and surveying for cultural resources is more appropriate at the site specific project level. At that stage, cultural surveys can be completed in area that is intended to be treated and project modifications can readily be made to avoid conflicts with sites or artifacts. Grazing itself has not been identified as a detriment to cultural resource unless it results in an intensified form of management or livestock are proved to be physically damaging a site, such as a standing ruin.

Comment: The cumulative effects of preferred alternative 5 are not likely to help in recovery of the watershed and are projected to require early removal of livestock. This degree of uncertainty makes it a poor plan to initiate.

Response: With proper monitoring of utilization and movement of livestock, this alternative, along with actions approved in the Cottonwood Wash Timber Sale EA, will result in improvement to the watershed. If early removals of livestock are required, there is a mechanism to adjust numbers to be in agreement with capacity. This alternative is believed to be the best for permitting viable ranching operations, while still protecting the long term sustainability of the land.

Comment: Alternatives 3 and 6 show the most promise for reversing the downward trend on this allotment.

Response: While it is likely that alternatives 3 and 6, would provide for more rapid improvement of watershed, range and riparian conditions, alternative 5 also provides for these improvements, while permitting viable ranching operations.

Comment: Is there an allotment management plan, which is required before a permit can be issued?

Response: It appears that the EA has not been reviewed. The Clay Springs Analysis is a planning process for an Allotment Management Plan, which has incorporated Forest Plan standards and guidelines. The issuance of grazing permits is incidental to the management planning process.

Comment: Cumulative effects in the EA must address numerous items, which are listed by the commentor.

Response: This planning process has addressed the direct, indirect, and cumulative effects of the alternatives on watersheds, TES species, riparians, and other resources. This is standard operating procedure, refer to your copy of the EA pages 25-26 "Cumulative Effects".

Comment: "Special Status Species, Critical habitats, ESA requirements".

Response: A BA&E has been completed and this topic has been addressed, refer to the EA, pages 20-21.

Comment: "USDA requirements, FSM requirements"

Response: The comments are not substantive relative to this analysis. They reiterate requirements, with no evidence provided to support that they were not met.

Comment: "Potential Natural Communities"

Response: The Terrestrial Ecosystem Survey was as a part of this analysis. That document is a complete soil survey of the forest and describes the PNC for different soil mapping units. The TES was used to help define DFC's, identifying problems in relation to habitat potential, and through intensive analysis, identified a deficiency in the Ari-Pine DFC document relating to P/J woodland. A difference exist between a true woodland habitat and a savannah (open grassland with scattered P/J trees) on the allotment.

Comment: "Range Developments"

Response: Mortality occurs in all wildlife species by unnatural and natural means. The construction of improvements and resultant mortality is considered very minute and not significant enough to affect the viability of a species. Mortality is caused by hunting and motor vehicle collisions, which has not caused significant decline in populations. Past documentation has shown that significant effect to population viability is due to decline in reproduction resulting from herbicide, environmental contaminants, or extensive transformation of breeding or nesting habitat from previous levels.

Comment: "Water Quality"

Response: Water quality has not been an issue, because there is no perennial flowing waters on the allotment. Few springs exist and they do not flow for long distances. Water quality concerns is to increase ground cover, rehabilitate riparians and uplands to reduce non-point source pollution from spring runoff or high intensity summer storms. The EA addresses improving watershed conditions therefore addressing the minor concerns over water quality.

Comment: "Land Management Plan Standards and Guidelines"

Response: Statement #1 & #2, #3 have already been addressed. Statement #4 the intent of the Preferred Alternative is to improve resource conditions and improvement is regulated by monitoring. Statements #5 & #6 have been addressed through development and eventual implementation of specific grazing utilization standards.

Comment: Research methods to determine carrying capacity and mitigation for threatened and endangered species are not generally accepted in the scientific community and are not supported by credible scientific evidence.

Response: Methods used to determine carrying capacity on the Clay Springs Allotment are proven methods, and are documented in the Forest Service Range Management Handbook. The field data collected to aid in capacity determinations is part of the project record. It is not clear what mitigation for threatened and endangered species is being referred to, therefore this portion of the comment cannot be addressed.

Comment: Browse availability and degree of utilization is not discussed, which skews the forage availability data in both riparian and non-riparian areas.

Response: It is our judgement that the limited amount of browse found on the allotment is insufficient to warrant its use in determination of the capacity. Capacity is determined from production of perennial, desirable forage species.

Comment: Apache County should be consulted for this and future EAs, and be requested to participate as cooperating or joint lead agency.

Response: The Clay Springs Allotment is in Navajo County. Apache County can be added to our mailing list for future EAs, however, the county has no jurisdiction in Navajo County. They could be involved in the analysis, but it is unlikely that they would be a cooperating agency or joint lead agency in Navajo County.

Comment: Equal protection under the law, takings impacts, impacts on property rights, and potential discrimination against a single class of citizen for the benefit of another should be assessed in the environmental assessment to assure that a human, civil, and constitutional rights are protected.

Response: This assessment addresses the management of grazing use and issuance of grazing permits for the Clay Springs Allotment. Grazing on national forest land is a privilege, not a right. The holding of a permit by a person, does not constitute a property right. Ownership of the land remains with the federal government. Human, civil, and constitutional rights are not violated as a result of this proposal to manage grazing use on the Clay Springs Allotment.

Comment: We take serious issue with the E.A.'s failure to propose any meaningful changes such as eliminations or dramatic reduction in livestock numbers on these three allotments.

Response: The Clay Springs Allotment EA deals with only one allotment. The preferred alternative calls for approximately a 50% reduction in permitted numbers.

Comment: The No Action (no grazing) alternative is the only one which will meet the Forest's Land Management Plan Standards and Guidelines for all management areas, as well as comply with federal law, regulation, and policy.

Response: The no grazing alternative, as well as all others identified, were analyzed for compliance with the Forest Plan and applicable laws, regulations and policy. Other alternatives, in addition to "no grazing" were found to be in compliance.

Comment: Alternatives must be developed to include the following: renewal of permit with reduced stocking; use of different grazing systems at various levels of stocking; long term rest of at least parts of the allotments for restoration; no riparian grazing; wildlife protection; and other alternatives to consider site-specific issues as appropriate.

Response: A range of alternatives was developed to address issues identified during the environmental analysis. The issues of riparian improvement, wildlife protection, and range and watershed improvement which are implied in the above comment, have been addressed by a number of different alternatives in the EA, including the preferred alternative.

Comment: Costs of the following items should be shown in the Draft EIS: fencing, gates, cattle guards, etc.; revegetation and restoration projects; long term losses of soil quantity and quality; water and watershed losses; species and habitat quality and quantity losses; amount of monitoring needed; lost recreational and cultural values, and lost hunting and fishing revenues; predator and pest control costs; direct payments, subsidies, etc.; USDA research, Cooperative Extension, experimental range costs applied to the alternatives; administrative costs; long term losses in genetic diversity, ecological productivity, or environmental capital.

Response: The economic analysis summarized in the EA mentions the revenues generated by the grazing alternatives. The only economic factors determined to be significant to the decision being made were those analyzed in the EA. Other economic factors were determined to be insignificant to the permit issuance decision.

In addition, it does not seem practical or prudent to attempt to place monetary values on expected changes in water quality, riparian habitat, soil productivity, genetic diversity, recreational and cultural values, etc. Presently, there are no accepted standards for "pricing" these resource conditions. The effects of the alternatives on these resources have been discussed qualitatively in the environmental assessment.

Comment: The environmental assessment for this permit made no disclosure of any results of analysis or disclosure of environmental consequences for the proposed action that I can meaningfully comment on. Request that comment period be reopened and adequate scoping and documentation completed so that an adequate Environmental Assessment can be prepared.

Response: The assessment for the Clay Springs Allotment Management Plan revision does include results of analysis in the document, and by reference. It also discloses environmental consequences. In addition, three public meetings have been held in which analysis results and environmental consequences were discussed. We believe it is unnecessary to conduct further scoping, analysis and documentation.

Comment: The environmental assessment for this permit has not utilized sufficient evidence and analysis for determining whether to prepare an environmental impact statement.



Response: Documentation of the decision not to prepare an environmental impact statement will be documented in a finding of no significant impact (FONSI). The FONSI will present the reasons why the action is not believed to have a significant effect on the human environment.

Comment: The environmental assessment for this permit is inadequate and precludes meaningful comment. Request for a revised draft of the EA.

Response: The responder did not specify what is felt to be inadequate, therefore it is not possible to give specific response to this comment. This comment does not present any supporting reasons with the request for a revised draft EA. We feel that we have addressed identified issues in the EA, and that a revision is unnecessary.

Comment: The environmental assessment should be reissued to reflect the cumulative impacts.

Response : Cumulative impacts, including economic impacts, have been addressed in the environmental assessment.

Comment: There is no discussion of consistency or inconsistency with the County Land Use and Resource Policy in the county where I resided. Please issue a revised draft with this information included.

Response: The EA will be amended to address this concern. The County has been invited to comment on this proposal, and no comments were received.

Comment: Renewal or transfer of a permit is merely an administrative action, and does not require preparation of an environmental document.

Response: This comment does not apply to the Clay Springs Allotment environmental analysis. The purpose of the analysis is to develop a new allotment management plan and issue new permits that would be in compliance with the AMP.

Comment: The production/capacity determinations that were used for the analysis of the permit were developed in meetings between May and June 1995.

Response: This is incorrect. Data used to determine production and capacity for the Clay Springs Allotment was collected in 1994.

Comment: The analysis of impacts and creation of mitigation for threatened and endangered species uses the flawed assumption that these species are threatened, endangered or should be treated as sensitive species. The Forest Service should not use flawed data or assumptions on the Mexican spotted owls, Apache Trout, Goshawks, or any other threatened, endangered, or sensitive species to develop mitigation criteria to apply to my allotment.

Response: Threatened and endangered species are listed by the U.S. Fish and Wildlife Service. Sensitive species are determined by the Southwest Regional Office of the Forest Service in Albuquerque. It is beyond the scope of this analysis to propose changing the species on those lists.

No examples of flawed data or assumptions were provided, with regard to management of TES species.

Comment: What is the statutory authority or compelling court decisions that require the Forest Service to subject grazing permit renewals to the NEPA process.

Response: The environmental analysis on the Clay springs Allotment is for the purpose of developing a new allotment management plan, not solely for the purpose of issuing permits.

Comment: Selection of "no grazing" as the "no action" alternative is a significant deviation from the Forest Service policy of making continuation of the current activity the no action alternative. Please explain this deviation from past policy.

Response: When a permit expires the Forest Service is not required to issue a new one. Therefore if the proposed action under NEPA is to issue a permit, or develop an allotment management plan, the "no action" alternative would be to do nothing.

Comment: The Forest Service did not coordinate environmental assessments with Apache County.

Response: The Clay Springs Allotment is in Navajo County, and the county was notified of this analysis. Apache County's Land Use and Resource Policy does not apply in Navajo County, nor did Apache County specifically ask to be involved with this analysis.

Comment: The environmental assessment fails to utilize the best available science.

Response: No evidence or reasons were provided to support this comment.

Comment: Request that a team separate from the ID team examine the science surrounding decisions to reduce grazing allotments, pursuant to Section B of the Public Rangelands Improvement Act.

Response: Section B of PRIA calls for consultation and coordination with the permittee in development of the allotment management plan. It does not require that a separate team be formed to examine the science used in determining livestock capacities.

Comment: Need to identify discrepancies between the EA and the Apache County Land Use and Resource Policy.

Rseponse: The above mentioned policy does not apply in Navajo County.

Comment: Failure of environmental assessment to show groundtruthing of scientific data, analyses or conclusions, rendering the EA suspect.

Response: The EA documents field data that was collected, analysis methods used, and monitoring done on the Clay Springs Allotment.

Comment: Mitigation for social, economic, or cultural impacts is inadequate.

Response: The specific impacts of concern to the commentor were not identified. The Forest Service does not feel that there are significant social, economic or cultural impacts which need to be mitigated.

Comment: Scoping is faulty, rendering the EA suspect.

Response: We feel that interested parties had sufficient opportunities to identify issues and alternatives during public meetings for this analysis, or in response to information mailed to them.

Comment: The need for expeditious completion of environmental assessments is moot and the process should follow a normal NEPA time-frame.

Response: It is unclear how this might apply to the Clay Springs Allotment Analysis.

Comment: Increased tree stand densities and canopy closure has decreased forage availability for wildlife ungulates, decreased water delivery volume, and increased fire risk is not addressed. Alleviation of these conditions is not addressed and should be.

Response: Proposals to deal with these issues are present in the Clay Springs EA, as well as the Cottonwood Wash Timber Sale EA, which covers a portion of the Clay Springs Allotment.

Comment: Shifts in numbers and terms and conditions should be relegated to the allotment management planning process.

Response: The main purpose of the Clay Springs analysis is to develop a new AMP.

Comment: Permit renewal process across USDA Forest are inconsistent, and indiscriminate across Ranger Districts.

Response: This comment does not relate to the Clay Springs analysis, which is being done in order to develop a new AMP.

Comment: My local government has not been asked to participate in this analysis.

Response: Navajo County is included in the mailing list for this project, and has had the opportunity to participate if desired.

Comment: This EA does not adhere to a number of laws, listed in the comment. In addition, the draft EA violates basic Constitutional rights to property, self-determination, and representations.

Response: 36 CFR 215.6, Response to comments received on proposed actions, requires that the commentor provide the following: "(3) Specific facts or comments along with supporting reasons that the person believes the Responsible Official should consider in reaching a decision."

The above comment provides no specific facts with supporting reasons which the Responsible Official can consider.

Comment: Changes in grazing permit sizes and terms and conditions violate the implied and specific will of Congress.

Response: The Forest Service has been authorized by Congress to manage livestock grazing on National Forest land, and part of that management is adjustment of livestock grazing systems and numbers to be in harmony with the land's capacity.

Comment: The Forest Service EA violates case law as expressed in numerous listed cases.

Response: No specific facts or reasons were provided to support this statement.

Comment: The rural economy and social stability of Apache County and the permittee are tied to ranching which is inadequately addressed in the EA.

Response: The Clay Springs Allotment is in Navajo County.

Comment: Management policy derived from this Draft EA is substantially different from other permits within the Apache/Sitgreaves and other forests, thereby violating NEPA.

Response: Intent of this EA is to determine management for the Clay Springs Allotment, not to set policy. No specific facts or reasons provided to support the assertion that NEPA requires the same management on each allotment.

Comment: Draft EA fails to define ecosystem management while inferring ecosystem management as a purpose for the EA.

Response: The ecosystems to be managed as well as the scope of that management are addressed in the Introduction and Purpose and Need of the Draft EA.

Comment: The preferred alternative in the Draft EA places a discriminatory burden on ranchers only, which violates their due process and civil rights.

Response: Grazing on National Forest land is a privilege, and issuance of the permit by the Forest Service is discretionary. The Forest Service is required to manage livestock use in harmony with capacity, and in a way that sustains long term productivity of the land. If the requirements of operations under a grazing permit are too burdensome, a rancher is not required to accept the permit.

Comment: The Forest Service determined the preferred alternative before development of the EA.

Response: No specific facts or reasons were provided to support this statement. In fact, the preferred alternative as identified in the EA is different than the original proposed action.

Comment: Alternatives must consider effects on: consumers, civil rights, minority groups and women; prime farmlands, rangeland and forest land, floodplains and wetlands, threatened and endangered species, and cultural resources.

Response: All of the above were considered and effects documented for range lands, forest land, threatened and endangered species, cultural resources and floodplains.

Comment: No economic analysis of effects of livestock reduction on the feed supply industry in the region.

Response: Not raised as an issue during scoping and not considered to be a significant issue.

Comment: EA does not document assumptions, methods and data sources supporting the analysis of impacts of various alternatives.

Response: These issues are addressed in the EA.

Comment: Best management practices should be implemented during and after all construction phases to protect watershed condition and riparian areas, to maintain adequate vegetative cover, and to minimize discharge of sediment, petroleum, nutrients, bacteria, and other pollutants to the watershed or to waters of the state or United States.

Response: Planned construction activities include fence building, stock tank construction, road improvements and road closures. The fencing is being done to better distribute livestock use, and to allow for deferred grazing within the Cottonwood Wash riparian areas. Construction of one stock tank is planned, and this will be done in accordance with best management practices. Road improvements, as well as road closures, are being done to address erosion concerns, and should result in improved watershed conditions.

Comment: Best management practices should be implemented to protect watershed condition and riparian areas, to maintain adequate vegetative cover, and to minimize the discharge of sediment, nutrients, bacteria, and manure to the watershed or to all waters of the state/waters of the United States.

Response: Permitted numbers, allowable use standards, grazing systems, road management, and vegetative treatments proposed should all contribute to improved watershed and riparian conditions. Improvement of ground cover, and decrease in sedimentation are two of the water quality goals that apply to these actions. In addition, livestock feeding and salting will be done outside of riparian areas.

Comment: Best management practices should be implemented to protect watershed condition and riparian areas from erosion due to prescribed burn.

Response: Prescribed burning is only planned for ponderosa pine forests within the allotment, at this time. Analysis of this burning was covered in the Cottonwood Wash Timber Sale EA. A site specific burn plan will be written before burning. Sensitive soils in the area will be identified, and will be avoided during broadcast burning.

Comment: A monitoring program should be implemented to evaluate the effectiveness of best management practices in protecting watershed condition and waters of the state.

Response: A monitoring plan has been developed for this allotment, to ensure that utilization standards are met in riparian and upland areas. If standards are not met, there will be a provision in the permit to allow for adjustment of numbers and/or season of use.

Comment: Permits may be required for various activities planned.

Response: Prescribed burning will be done with approval to burn from ADEQ. Other permits that may be required for activities that affect waters of the state or United States will be acquired.