



File Code: 1900
2210 Analysis & Plans
Brumley C&H Allotment
Date: August 29, 2011

Dear Interested Party:

This letter is intended to provide further information to all the individuals, agencies, or organizations that have shown interest or have provided comments on the Brumley Ridge C&H Allotment project. To date the project proposal has been to continue authorizing livestock grazing through a term grazing permit on the Brumley Ridge C&H Allotment. In a letter dated DATE, the public was invited and encouraged to comment on the proposed action. Many of you have submitted comments. I sent out a summary of those comments with a letter dated DATE, My staff and I thank you for your responses.

My district staff and I have used the comments in a couple of ways. First, after considering your questions and concerns, and reviewing existing allotment information, we determined it was necessary to collect some additional data. This was undertaken so as to better understand and fully describe the allotment's current conditions. Gathering of this information has recently been completed. Additional data collected included:

- aspen regeneration/browse studies
- greenline riparian studies
- soil condition assessments
- ground cover data in several new areas
- seeps and springs assessments
- utilization monitoring data collected by means of biomass clippings inside and outside cage enclosures, or by use estimation methods
- photographs taken throughout the allotment

Some of the data has been used to develop the Analysis of the Management Situation (AMS) for the Brumley Ridge C&H Allotment. The AMS is enclosed for your review and comment. This is a reader-friendly document that provides an introduction to the baseline information for the Brumley Ridge Allotment Management Plan (AMP) revision and the associated Environmental Assessment.

Potential issues were derived from your previous comments, and identified by Forest Service resource specialists. Issues are defined as a point of discussion debate, or dispute about environmental effects. From comments received, the Brumley Ridge C&H Allotment interdisciplinary team recommended to me whether issues were outside the scope of the proposed action; could be addressed through design features included as part of the proposed action; should be analyzed for alternative comparison; or whether the issue should be analyzed as an alternative to the proposed action. Documentation of this process will be included in the Project Record..



Based on current conditions and comments received from the public, the following issues have been identified and reviewed by an Interdisciplinary Team. These issues will be used to compare the alternatives:

- **Issue 1.** Springs, seeps, and wet meadows may be damaged by continued or increased livestock grazing. Protection provided in the current AMP and permit is inadequate.
- **Issue 2.** Vegetative production and/or ground cover is lower than desired in a few areas on the allotment: some higher elevation open meadows in Upper Brumley and Geyser Pass (50 acres), a few open benches south of Oowah road (30 acres) and the black sage/big sage areas in South Mesa pasture (270 acres). Grazing could cause further damage to the ecological function of the areas resources.
- **Issue 3.** Allotment contains soils that were assessed to be at risk in South Mesa pasture and the benches just north of Boren Mesa in Mill Creek pasture. These are some of the same areas that have vegetative production issues. Grazing could damage soils and cause increased erosion.
- **Issue 4.** Forest Plan and proposed utilization standards could result in over-use of the allotment. Comments received from the public present a recommendation of 30% or lower use of forage on the allotment, which is lower than current Forest Plan standards and the proposed actions.
- **Issue 5.** Grazing in the Geyser Pass area conflicts with recreation activities. There is a large amount of mountain biking, hiking and dispersed camping that takes place up in the Geyser Pass area. The Forest Service has received comments from the public in relation to livestock or livestock excrement interfering with their recreational experiences.

Based upon the issues, one additional alternative has been developed that will be analyzed in detail in the EA. This alternative is entitled Sustainable Multiple Use. Four alternatives will be analyzed in detail in the EA: 1) No Grazing; 2) Current Grazing Management; 3) Proposed Action; and 4) Sustainable Multiple Use. The proposed action and the alternative descriptions are included with this letter.

This letter represents the later stages in the analysis process for the Brumley Ridge Allotment. If you wish to comment on the Analysis of the Management Situation and the Alternatives, please do so by September 20th, 2011. After receiving your comments, we will determine whether further issues are raised, and finalize our Environmental Assessment. Comments can be written in response to this project. Comments received, including names and addresses of those who comment, will be considered part of the public record for this project and will be available for public inspection.

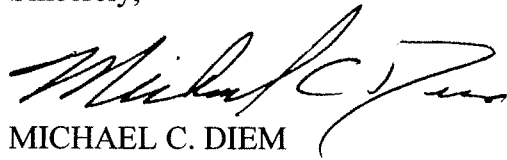
Written comments should be submitted by September 20th, 2011 to Michael Diem - District Ranger, Moab/Monticello Ranger District, P.O. Box 386, 62 East 100 North, Moab, Utah 84532; phone: (435) 259-7155. The office business hours are 8:00 a.m. to noon, 1:00 to 4:30 p.m, Monday-Friday,

excluding federal holidays. Oral comments may be provided at the Moab or Monticello offices during normal business hours via telephone or in person. Electronic comments must be submitted in MS Word (*.doc), rich text (*.rtf), or Adobe Acrobat (*.pdf) format and may be emailed to r4_m-l_moab@fs.fed.us or faxed to 435-259-

If you have any questions, please contact Tina Marian, Rangeland Management Specialist, at (435) 636-3368, tamarian@fs.fed.us. OR Michael Diem, District Ranger, at (435) 636-3341, mdiem@fs.fed.us.

Thank you for your participation and caring about your National Forest!

Sincerely,

A handwritten signature in black ink, appearing to read "Michael C. Diem". The signature is fluid and cursive, with the first name being the most prominent.

MICHAEL C. DIEM
District Ranger

Alternatives Descriptions for Brumley EA.

Quick Table Summary

The following table shows the main differences between the 4 alternatives with more details provided below.

| | Maxiumum Animal Unit Months | Maximum Grazing Season | Proper Use Criteria | Desired Conditions | Adaptive Management |
|----------------------------------------------------------------|-----------------------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Alternative 1 (No Grazing) | 0 | None | None | Forest Plan Desired Cndtions | None because no grazing |
| Alternative 2 (1984 AMP Grazing Management) | 2172 | June 6 to October 19 | Forest Plan Amendment Proper Use Criteria. 45-60% proper use. | Forest Plan Desired Cndtions | Administrative Authorized Actions Apply. No Allotment Specific Adaptive Management Strategy |
| Alternative 3 (Proposed Action) | 1771 | June 6 to October 19 | Allotment Specific Proper Use Criteria June - 40% use of key species July/Aug – 40-50% use of key species Sept/Oct - 50% use of key species | Forest Plan Desired Cndtions and Proposed Allotment Specific Desired Conditions | Administrative Authorized Actions Apply and a Proposed Allotment Specific Adaptive Management Strategy. |
| Alternative 4 (Sustainalbe Multiple Use) | ~1180 | June 6 to October 19 | 30% as overall proper use. | Forest Plan Desired Conditions and Recommended Desired Conditions | Administrative Authorized Actions Apply. The alternative also incorporates the Proposed Allotment Specific Adaptive Management Strategy. |

Animal Unit Month – considered to be one mature (1,000) cow or the equivalent based upon average daily forage consumption of 26 pounds per day for one month. Different types of animals have an equivlanet value assigned. Examples are: a cow/calf pair for one month is 1.32 AUMs, a horse is 1.2 AUMs, a sheep is .2 AUMs and a yearling is .7 AUMs

Detailed Descriptions

Alternative 1 – No Grazing (No Action)

The “no action” alternative is included to meet requirements of the National Environmental Policy Act [40 CFR 1502.14 (d)] and the Grazing Permit Administration Handbook, FSH 2209.13, Chapter 90, Section 92.31 which stipulates that “in addition to the proposed action, the no action alternative shall always be fully developed and analyzed in detail.” “No action” is synonymous with “no grazing” and means that livestock grazing will not be authorized within the project area.

Under this alternative, livestock will no longer be permitted to graze on the Brumley C&H Allotment. Grazing will be eliminated and current term grazing permits will be cancelled. In accordance with agency regulations (36 CFR §222.4), grazing will cease two years after notice of cancellation. Allotment management will not change during this two-year interval from the current management. If this alternative were selected, grazing will not be authorized after a two year notification to the permittee from the date the decision is made. Incidental recreational horse use will still occur.

Range structural improvements will be removed (except water developments that are also beneficial to wildlife), as budget allows. A monitoring program will be developed, as budget allows, determining changes in riparian soils, plant species compositions, and riparian function. Uplands will also be monitored to assess changes in soil productivity, plant species composition, and overall health.

Desired Conditions for No Action (No Grazing):

Under no action, the desired conditions are provided at the Forest Plan level and identify desired conditions for rangelands and other related resources. The desired conditions are generic and not allotment specific because there would be no allotment management plan developed as a result of a decision to implement the no action alternative.

The following lists desired conditions contained in the Forest Plan relating to rangeland management. This list includes forest wide general directions, management unit general directions, standards and guidelines listed for each resource area as these can be viewed as tools used to meet or move towards a desired condition and not as the desired condition itself.

Desired Conditions for Soils:

- Maintain satisfactory watershed conditions.
- Improve deteriorated watershed conditions where feasible.
- Maintain or improve soil productivity and watershed qualities within the ecological site capabilities.

Desired Conditions for Rangeland Resources/Vegetation:

- Maintain upward or stable trends in vegetation and soil condition.
- Invest in range improvements where they will provide the greatest benefit.
- Control noxious weeds and poisonous plants in cooperation with Forest users and State and local agencies.
- Certain vegetative types are to be managed such that varying successional stages will be present to provide for a high level of vegetative diversity and productivity.
- The aspen vegetation type would be managed and maintained in a condition of high productivity.
- For gambel oak and mountain shrub types...vegetative diversity within the grass and forb ground cover would...be improved.
- Endangered, threatened, and sensitive plant species populations and their habitats would be maintained and improved.

Proper Use Criteria of No Action (No Grazing):

Monitoring and enforcement of no livestock grazing on the allotment.

Alternative 2 – 1984 AMP Grazing Management

Continue to authorize livestock grazing on the Brumley allotment under the grazing management system in the 1984 AMP. Management includes administrative authorized actions that are discussed under “Features Common to All Action Alternatives.” These are actions that may be taken through permit administration and do not require NEPA analysis.

1984 AMP grazing management on the Brumley allotment authorizes a grazing season of June 6 to October 19 and 2172 maximum animal unit months. A deferred rotation system is employed to control duration, timing and intensity of grazing.

Desired Conditions for 1984 AMP Grazing System:

Under this management system, desired conditions are provided at the Forest Plan level. The desired conditions are generic and not allotment specific.

The following lists desired conditions contained in the Forest Plan relating to rangeland management. This list does not include forest wide general directions, management unit general directions, standards and guidelines listed for each resource area as these can be viewed as tools used to meet or move towards a desired condition and not as the desired condition itself.

Desired Conditions for Soils:

- Maintain satisfactory watershed conditions.
- Improve deteriorated watershed conditions where feasible.
- Maintain or improve soil productivity and watershed qualities within the ecological site capabilities.

Desired Conditions for Riparian/Floodplains/Wetlands:

- Protect soil and water productivity so that neither will be significantly or permanently impaired.
- Protect and enhance riparian areas including dependent resources.
- Vegetative cover within the riparian component ecosystems would be maintained or diversified and enhanced as necessary to emphasize watershed, wildlife, and fisheries values.

Desired Conditions for Rangeland Resources/Vegetation:

- Bring livestock obligation in line with rangeland carrying capacity.
- Maintain upward or stable trends in vegetation and soil condition.
- Invest in range improvements where they will provide the greatest benefit.
- Control noxious weeds and poisonous plants in cooperation with Forest users and State and local agencies.
- Certain vegetative types are to be managed such that varying successional stages will be present to provide for a high level of vegetative diversity and productivity.

- The aspen vegetation type would be managed and maintained in a condition of high productivity.
- For gambel oak and mountain shrub types...vegetative diversity within the grass and forb ground cover would...be improved.
- Endangered, threatened, and sensitive plant species populations and their habitats would be maintained and improved.

Proper Use Criteria of 1984 AMP Grazing system:

Proper Use Criteria: : Proper Use Criteria are measurements that are used to assist in determining whether allotment conditions are moving towards or meeting desired conditions. They should be used in addition to other information such as long term trend study data to determine if and when a change in management direction needs to occur in order to meet or move towards desired conditions.

The proper use criteria applied in the 1984 AMP grazing system follows the 1990 Forest Plan Amendment for Proper-Use Criteria as shown below.

1. Uplands:

| <u>Management System</u> | <u>Vegetative Type</u> | <u>% Use of Key Species</u> |
|--------------------------|------------------------|-----------------------------|
| Season Long | All | 40-55% |
| Deferred Rotation | All | 45-60% |
| Rest Rotation | All | 55-65% |

2. Riparian Areas:

| | <u>%Use of Key Species</u> |
|--------|------------------------------------------|
| Spring | 50-60% |
| Summer | 45-50% |
| Fall | 30 to 40% or 4-5" of stubble or regrowth |

3. Soils:

| <u>% Slope</u> | <u>%Allowable Soil Disturbance</u> |
|-----------------|------------------------------------|
| 0-25% | 30% |
| 25-40% | 20% |
| *41% or Greater | 10% |

*Slopes over 40% are usually not suitable for cattle use.

Best Management Practices – Best Management Practices are as discussed in Part 3 of the Term Grazing Permit and Annual Operating Instructions. Includes range improvement maintenance standards, salting practices and herding standards.

Alternative 3 – Proposed Action

Continue to authorize grazing on the Brumley allotment and implement grazing management which will meet or move allotment conditions towards desired conditions. Desired conditions include those general conditions defined in the 1986 Manti-La Sal National Forest Land & Resource Management Plan (Forest Plan) **and** allotment specific desired conditions for the Brumley allotment. An allotment specific adaptive management strategy is developed as part of the proposed action (see Tables 2-5 below). This is not the same as administrative authorized actions that are discussed under “Features Common to All Action Alternatives.” These are actions that may be taken through permit administration and do not require NEPA analysis.

The proposed grazing system authorizes a grazing season of June 6 to October 19 and 1771 maximum animal unit months. A rotation grazing system will be employed to control duration, timing and intensity of grazing on the Brumley allotment.

Desired Conditions for Proposed Grazing System:

Under the proposed management system, desired conditions are provided at the Forest Plan level and at an allotment specific level. The allotment specific desired conditions refine the general desired conditions given in the Forest Plan for management on the Brumley allotment. Allotment specific desired conditions are consistent with the more general Forest Plan desired conditions.

Forest Plan Level Desired Conditions

See description in Alternative 2

Allotment Specific Desired Conditions

Desired Conditions for Soils:

- Soil quality, productivity, and hydrologic function are maintained and restored where needed. Long-term soil productivity is maintained or enhanced.
- Soil infiltration is high and runoff limited. Sufficient vegetative cover and vegetation spatial arrangement exists to intercept raindrops and reduce raindrop splash erosion. Litter on the soil surface is sufficient to protect soil from erosion and encourage a high rate of infiltration. Bare soil spaces are expected to be small and irregular in shape and are usually not connected. The vegetative structure is usually adequate to capture snow and ensure snowmelt occurs in a subdued manner allowing maximum time for infiltration and reduce runoff and erosion in all but extreme thunder storm events. Soils are not compacted.
- Rills and water flows patterns on soils are rare except on more sandy soils where minor rills and flow patterns may be naturally present.
- None to rare signs of pedestalling in forested areas (Aspen and Ponderosa) and shrub areas with loamy and clay soils. Areas historically chained and/or plowed and seeded may show some pedestalling from historic vegetation treatments. Areas with sandy soils may show minor pedestalling as result of natural wind erosion.

- Some gullies may be present in landscape settings where increased runoff may accumulate (such as drainage bottoms). Such gully development is expected to be limited to slopes exceeding 20% and adjacent to sites where runoff accumulation occurs (slickrock, bedrock areas). Any gullies present should show little sign of accelerated erosion and should be stabilized with perennial vegetation

Desired Conditions for Riparian, Springs, Seeps, Wetlands:

- Stream channels and floodplains are functioning properly relative to the landform (gradient, size, shape, roughness, and sinuosity) and climate. Banks are stable and able to dissipate energy associated with high waterflows, thereby reducing erosion, improving water quality and capturing bedload.
- Riparian, wetland, spring and seep areas identified as being in proper functioning condition are managed to maintain at least that condition with no downward trends due to livestock use. Areas identified as functioning-at-risk or non-functioning show an upward trend towards proper functioning condition.
- Riparian, wetland, spring or seep ground cover near natural levels to prevent erosion and capture sediment from upland areas.
- Maintain or improve willow on all sites capable of supporting willow. Maintain or improve cover of sedges or other wetland/riparian species on all sites capable of supporting these plants.

Desired Conditions for Vegetation:

- **Aspen:** Shrub and herbaceous layers are well developed and diverse. Ground cover averages at least 80%. Species that rate high and medium in erosion control potential (watershed protection) are dominant. Annual production averages at least 75% of potential for the range site.
- **Mixed Mountain Brush:** The herbaceous layer is well developed, diverse and persistent. More than 50% of the upper vegetation layer is dominated by deciduous shrubs/trees. Composition: Grasses 10-30% , Forbs 5-20%, Shrub cover is often greater than 50% and may exceed 80% canopy cover. Ground cover averages at least 70%. Species that rate high and medium in erosion control potential (watershed protection) are dominant. Annual production averages at least 75% of potential for the range site.
- **Oakbrush:** The herbaceous layer is well developed, diverse and persistent. Composition: Grasses 20-35%, Forbs 5-20%, Shrubs 50-65%. Ground cover averages at least 75%. Species that rate high and medium in erosion control potential (watershed protection) are dominant. Annual production averages at least 75% of potential for the range site.
- **Pinyon Juniper Woodlands:** Shrub, forb and grass composition make up 20% or more of total vegetation canopy cover. Ground cover averages at least 60-70% depending on potential. Cryptogamic crusts are present or developing under PJ at sites that have the potential. Species that rate high and medium in erosion control potential (watershed

protection) are dominant. Annual production averages at least 75% of potential for the range site.

- **Sagebrush:** Native, late-seral species dominate the herbaceous layer rendering the sagebrush communities more resistant to invasion by exotic species. Herbaceous canopy cover typically exceeds 50 percent, except on shallow or rocky soils. The landscape proportions of structural stages, described in terms of shrub canopy, are within the following ranges: 20 to 40 percent of the area with 0-10% shrub canopy cover; 35 to 55 percent of the area with 11-30% shrub canopy cover; 15 to 35 percent of the area with 31-50% shrub canopy cover. These landscape percentages apply only to large areas. Ground cover averages at least 70% and signs of accelerated erosion are absent. Non-native species (smooth brome, crested wheatgrass) may be persistent in historically seeded areas. Species that rate high and medium in erosion control potential (watershed protection) are dominant. Annual production averages at least 75% of potential for the range site.
- **Ponderosa Pine:** Understories are fairly open with a good diversity of grass, forbs and shrubs. Species that rate high and medium in erosion control potential (watershed protection) are dominant. Annual production averages at least 75% of potential for the range site.
- **Grassland/Forb Meadows:** Grasslands and meadows are common landscape components which form a mosaic within the forested types. Grasslands and meadows are free of tree and shrub encroachment, support stable watershed conditions, and are composed of desired native and non-native herbaceous species. Ground cover averages at least 70%. Species that rate high and medium in erosion control potential (watershed protection) are dominant. Annual production averages at least 75% of potential for the range site.
- **Plant Mortality and Decadence:** In general, a mix of age classes with some dead and decadent plants are present. Slightly more decadence in trees and shrubs occurs during periods of extended drought, insect infestations or near the end of a plant community's fire cycle.
- **Invasive and noxious weeds:** The introduction and spread of noxious weeds is contained. New infestations of noxious weeds are rare across the landscape and existing large infestations are slowly declining.
- **Sensitive plant species:** Management activities contribute to the recovery of federally listed, proposed, and sensitive plant species.

Proper Use Criteria of Proposed Grazing system:

Proper Use Criteria: Proper Use Criteria are measurements that are used to assist in determining whether allotment conditions are moving towards or meeting desired conditions. They should be used in addition to other information such as long term trend study data to determine if and when a change in management direction needs to occur in order to meet or move towards desired conditions.

The proper use criteria applied in the proposed grazing system are presented below. These criteria are allotment specific to manage the range resources on the Brumley allotment.

1. Forage Utilization on Key Species: Uplands

| Maximum Forage Utilization Based on the Average Current Year's Growth (includes use by livestock and wildlife) | | | |
|----------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------------|-------------------|
| Uplands | | | |
| Management System | Percent Use of Key Species* | | |
| | June pastures | July-Aug pastures | Sept-Nov pastures |
| Deferred Rotation | 40 | 40-50 | 50 |
| Rest Rotation | 40 | 40-50 | 50 |

Management systems that may be used on the allotment include but are not limited to those listed above.

2. Browse Utilization on Key Woody Shrubs: Riparian and Upland (non-Aspen)

Browsing hits on new leaders of key riparian (willow) and upland woody shrubs should not exceed 45%.

3. Browse Utilization on Aspen Suckering

Midseason browse should be avoided over consecutive years. Intensity of terminal leader browse should be minimized during mid- and late season. Repeat browsing of suckers within a growing season should be avoided.

4. Forage Utilization on Key Species*: Riparian, Greenline, and Wetland**

| Vegetation Type | Percent Utilization by Season Used | | | Stubble Height | Comments |
|--------------------------------------------------------|------------------------------------|----------|----------|----------------|----------------------------------------------------------------------------------------------------------------------------|
| | June | July/Aug | Sept/Nov | | |
| Greenline Hydric Species | ≤ 45 | ≤ 45 | ≤ 40 | 4-5" | Utilization % at the time livestock are in the pasture, stubble height, vegetation remaining at end of the growing season. |
| Hydric species in wetlands** not influenced by streams | ≤ 45 | ≤ 45 | ≤ 40 | 4-5" | Utilization % at the time livestock are in the pasture, stubble height, vegetation remaining at end of the growing season. |
| Non-hydric species in riparian areas | ≤ 45 | ≤ 45 | ≤ 40 | 2-3" | Utilization % at the time livestock are in the pasture, stubble height, vegetation remaining at end of the growing season. |

* The key species selected will depend upon the plant species in the present plant community, the present ecological status, and the potential natural communities for the specific sites monitored.

**Typically perennially wetlands are not grazed, this refers to seasonal wetlands.

5. Soil Disturbance

Riparian, Wetlands, Springs and Seeps

Stream bank alteration – *Current year stream bank alteration due to shearing, trampling and trailing – no more than an average of 30% of the **reach area monitored.

Wetland, spring or seep soils – No more than an average of 30% of the wetland, spring or seep area will be disturbed by *current year trampling or trailing.

*Current-year alteration is discernible from previous years' alteration because of weathering effects of freeze/thaw cycles, rain events, and erosion by stream flow or vegetative regrowth.

**A stream reach is the length of the stream selected for monitoring. A suitable size is usually no less than 100m long and ideally it should have a variety of flows.

Upland Soils –

Slopes 0-25% - No more than 30% soil disturbance***

Slopes 26-40% - No more than 20% soil disturbance***

Slopes over 40% - No more than 10% soil disturbance***

– Generally slopes over 40% are too steep for cattle and do not get used.

***This is current year disturbance attributed to cattle use within the key area monitored.

Best Management Practices – Best Management Practices are as discussed in Part 3 of the Term Grazing Permit and Annual Operating Instructions. Includes range improvement maintenance standards, salting practices and herding standards. **The herding standard for the Brumley allotment will be to provide a full-time rider for proper distribution, protection and management of cattle on the allotment.**

Adaptive Management Strategy Specific to Brumley Allotment

This strategy is developed to address issues identified through internal and external scoping, which are:

Issue 1. Springs, seeps, and wet meadows may be damaged by continued or increased livestock grazing. Protection provided in the current AMP and permit is inadequate.

Issue 2. Vegetative production and/or ground cover is lower than desired in a few areas on the allotment: some higher elevation open meadows in Upper Brumley and Geyser Pass (50 acres), a few open benches south of Oowah road (30 acres) and the blacksage/big sage areas in South Mesa pasture (270 acres). See Map A attached. Continued or increased grazing could cause further damage to the ecological function of the areas resources.

Issue 3. Allotment contains soils that were assessed to be at risk in South Mesa pasture and the benches just north of Boren Mesa in Mill Creek pasture. These are some of the same areas that

have vegetative production issues. See map A. Continued or increased grazing could damage soils and cause increased erosion.

Issue 4. Forest Plan and proposed proper use criteria could result in over-use of the allotment.- If proposed utilization levels are causing resource damages they will be lowered by 5-10%. This adaptive strategy is covered in Tables 3 to 6 below for this issue and thus there is no specific table for Issue 4.

Issue 5. Grazing in the Geysers Pass area conflicts with recreation activities.

The tables below (1-8 on the next pages) show the adaptive management strategy for two scenarios for each of the issues where an adaptive management strategy would apply. The first table for each issue shows the scenario of when the indicators or proper use criteria **are being met** but conditions are still not meeting nor moving towards DC Management Objectives. The second table for an issue shows the adaptive management strategy if proper use criteria **are not being met** (not due to permittee non-compliance) and conditions are not moving towards DC Management Objective.

If indicators are not being met because the permittee is not following management as directed then permit actions such as suspended numbers or season should be implemented. Further violation could lead to suspension and/or cancellation of a permit entirely. Permit action due to permittee non-compliance is not directed by NEPA and applies to all action alternatives.

Issue 1

The table below shows the adaptive management strategy if indicators or proper use criteria **are** being met and yet conditions are at the trigger point or threshold of concern.

Table 1. Seeps, springs and associated wet meadows

| Resource | DC Management Objective | Existing condition and trend | Trigger or threshold for concern | Past Management | Proposed Management (proper use criteria) | Adaptive Management – not moving towards DC | Monitoring |
|-------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Seeps, springs and associated wet meadows | PFC rating with no downward trends. No excessive trampling | Some developed and undeveloped springs, seeps or wet meadows not adequately protected from trampling. | Static or downward trend over 3 years | No soil disturbance standard for springs, seeps and wet meadows | No more than an average of 30% of the wetland, spring or seep area will be disturbed by *current year trampling or trailing. | Change indicator and/or lower allowable soil disturbance by 5-10% See also Table 9 Administrative Authorized Actions | Soil disturbance at the time livestock are in the pasture. PFC/trend rating periodically. |

The table below show the adaptive management strategy if indicators or proper use criteria **are not** being met and conditions are at the trigger point or threshold of concern.

Table 2. Seeps, springs and associated wet meadows

| Resource | DC Management Objective | Existing condition and trend | Trigger or threshold for concern | Past Management | Proposed Management (proper use criteria) | Adaptive Management – not moving towards DC | Monitoring |
|-------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Seeps, springs and associated wet meadows | PFC rating with no downward trends. No excessive trampling | Some developed and undeveloped springs, seeps or wet meadows not adequately protected from trampling. | Static or downward trend over 3 years | No soil disturbance standard for springs, seeps and wet meadows | No more than an average of 30% of the wetland, spring or seep area will be disturbed by *current year trampling or trailing. | Adjust management system being implemented on the allotment. See List of Potential Actions for Issue 1 below. | Soil disturbance at the time livestock are in the pasture. PFC/trend rating periodically. And implementation monitoring. |

Issue 2

The table below shows the adaptive management strategy if indicators or proper use criteria **are** being met and yet conditions are at the trigger point or threshold of concern.

Table 3. Range Vegetation Production and Ground Cover

| Resource | DC Management Objective | Existing condition and trend | Trigger or threshold for concern | Past Management | Proposed Management (proper use criteria) | Adaptive Management – not moving towards DC | Monitoring |
|----------------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Range vegetative production and ground cover | Move towards or meeting 75% of potential for production Move of meeting Ground Cover DC of 70% | Production below 75% of potential according to soil type in 3 areas (340 acres). Ground cover below 70% in a few areas. | Static or downward trend over 3 years | 45-60% use of key species | June - 40% use of key species July/Aug – 40-50% use of key species Sept/Oct - 50% use of key species | Change Indicator and/or lower utilization by 5-10% See also Table 9 Administrative Authorized Actions | Utilization at the time livestock are in the pasture, and/or at end of the growing season. Vegetative production assessments periodically. |

The table below show the adaptive management strategy if indicators or proper use criteria **are not** being met and conditions are at the trigger point or threshold of concern.

Table 4 Range Vegetation Production and Ground Cover

| Resource | DC Management Objective | Existing condition and trend | Trigger or threshold for concern | Past Management | Proposed Management (proper use criteria) | Adaptive Management – not moving towards DC | Monitoring |
|----------------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range vegetative production and ground cover | Move towards or meeting 75% of potential for production Move of meeting Ground Cover DC of 70% | Production below 75% of potential according to soil type in 3 areas (340 acres). Ground cover below 70% in a few areas. | Static or downward trend over 3 years | 45-60% use of key species | June - 40% use of key species July/Aug – 40-50% use of key species Sept/Oct - 50% use of key species | Adjust management system being implemented on the allotment. See List of Potential Actions for Issue 2 below | Utilization at the time livestock are in the pasture, and/or at end of the growing season. Vegetative production assessments periodically, and monitor that adjustments in management are being implemented. |

Issue 3

The table below shows the adaptive management strategy if indicators or proper use criteria are being met and yet conditions are at the trigger point or threshold of concern.

Table 5. At Risk Soils

| Resource | DC Management Objective | Existing condition and trend | Trigger or threshold for concern | Past Management | Proposed Management (proper use criteria) | Adaptive Management – not moving towards DC | Monitoring |
|------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Soils in South Mesa and Mill Creek | Ground cover increases. Pedestalting and active erosion decreases. | Wind erosion, compaction and pedestalting is present, ground cover lower than 70%. | No improvement or increased bare ground. Pedestalting is more severe. Compaction is more severe. Signs of active erosion and soil displacement. | 45-60% use of key species | June - 40% use of key species July/Aug – 40-50% use of key species Sept/Oct - 50% use of key species | Change indicator and/or lower utilization by 5-10% See also Table 9 Administrative Authorized Actions | Utilization at the time livestock are in the pasture, and/or at end of the growing season. Ground cover and soil assessments periodically. |

The table below show the adaptive management strategy if indicators or proper use criteria are not being met and conditions are at the trigger point or threshold of concern.

Table 6 At Risk Soils

| Resource | DC Management Objective | Existing condition and trend | Trigger or threshold for concern | Past Management | Proposed Management (proper use criteria) | Adaptive Management – not moving towards DC | Monitoring |
|------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Soils in South Mesa and Mill Creek | Ground cover increases. Pedestalting and active erosion decreases. | Wind erosion, compaction and pedestalting is present, ground cover lower than 70%. | No improvement or increased bare ground. Pedestalting is more severe. Compaction is more severe. Signs of active erosion and soil displacement. | 45-60% use of key species | June - 40% use of key species July/Aug – 40-50% use of key species Sept/Oct - 50% use of key species | Adjust management system being implemented on the allotment. See List of Potential Actions below for Issue 3. | Utilization at the time livestock are in the pasture, and/or at end of the growing season. Ground cover and soil assessments periodically. <u>and</u> monitor that adjustments in management are being implemented. |

Issue 5

The table below shows the adaptive management strategy if indicators or proper use criteria **are** being met and yet conditions are at the trigger point or threshold of concern.

Table 7. Recreation

| Resource | DC Management Objective | Existing condition and trend | Trigger or threshold for concern | Past Management | Proposed Management (indicator is duration of use in Geyser Pass) | Adaptive Management – not moving towards DC | Monitoring |
|--------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Recreation in Geyser Pass area | Appropriate opportunities of dispersed recreation would be provided (Forest Plan DC). | Conflicts with dispersed recreation and grazing in the Geyser Pass area. | Forest Plan Management Unit designation changes from RNG to SPR. | Deferred rotation. Livestock use the pasture for about 4 weeks. | Deferred rotation. Livestock use the pasture for about 4 weeks. | Decrease amount of time allowed in high recreation areas. See List of Potential Actions below for Issue 5. | Livestock are using pasture as indicated in the AOI. |

The table below show the adaptive management strategy if indicators or proper use criteria **are not** being met and conditions are at the trigger point or threshold of concern.

Table 8 Recreation

| Resource | DC Management Objective | Existing condition and trend | Trigger or threshold for concern | Past Management | Proposed Management | Adaptive Management – not moving towards DC | Monitoring |
|--------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Recreation in Geyser Pass area | Appropriate opportunities of dispersed recreation would be provided (Forest Plan DC). opportunities. | Conflicts with dispersed recreation and grazing in the Geyser Pass area. | Forest Plan Management Unit designation changes from RNG to SPR. | Deferred rotation. Livestock in the pasture from 3-4 weeks. | Deferred rotation. Livestock in the pasture from 3-4 weeks. | If indicators are not being met, it means AOI is not being followed and permit action may be implemented (ie, non-compliance, suspension or cancellation). | Livestock are using pasture as indicated in the AOI. |

List of Potential Actions

Adaptive Management Actions specific to the Brumley allotment. These are potential actions that can be implemented when indicators or proper use criteria are not being met and conditions are at “Threshold of Concern” or “Trigger”. See Tables 1-10 above. Permanent range structures or improvements (such water developments and barbed wire fences) will require NEPA analysis before being implemented. These actions are listed here because there is not enough space within the Tables above.

Issue 1 –

1. Erect temporary electric fencing around spring, seeps or wet meadows areas that are being impact by livestock, while livestock are using a pasture area.
2. Build permanent exclosures, large enough to protect functionality of the spring, seep or wet meadow, in areas where they are being impacted by livestock and develop water outside the wet area.
3. Change duration of use or implement periods of rest. (See also Table 9 Administrative Authorized Actions)

Issues 2 and 3 – These issues are related and generally in some of the same areas.

1. Seed, mulch and rest South Mesa black sage area to recover production and soils.
2. Erect temporary electric fencing to control livestock distribution in Upper Brumley pasture. This will assist to prevent cattle from concentrating on the higher elevation openings on the east end of the pasture.
4. Develop water in Lower Brumley to increase available water in the pasture to enable more effective use of the lower elevation pasture.
3. Change duration of use or implement periods of rest. (See also Table 9 Administrative Authorized Actions)

Issue 5 –

1. Divide Geyser Pass into 2 or more pastures so as to provide rest or a shorter duration of grazing in areas with a high amount of recreation.
2. Use administrative authority to close areas with high amount of recreation to grazing and reconfigure pasture boundaries. (See also Table 9 Administrative Authorized Actions)

Alternative 4 – Sustainable Multiple Use Alternative (SMU)

Continue to authorize grazing on the Brumley allotment and implement grazing management which will meet or move allotment conditions towards desired conditions. Desired conditions include those general conditions defined in the 1986 Manti-La Sal National Forest Land & Resource Management Plan (Forest Plan) **and** recommended desired conditions. Also, there are several management practices identified in this alternative and recommended to be implemented as part of the comprehensive grazing strategy.

This alternative includes a grazing season of June 6 to October 19 and about 1180 maximum animal unit months. A rest rotation grazing system will be employed to control duration, timing and intensity of grazing on the Brumley allotment.

All portions of the proposed alternative will be incorporated in this alternative if they are not in conflict with this alternative as requested by the submitter of the alternative.

Desired Conditions for SMU:

Under SMU alternative desired conditions are provided at the Forest Plan level and the alternative gives some recommended desired conditions.

Forest Plan Level Desired Conditions

See description in Alternative 2 – Current Grazing Management

Recommended Desired Conditions

Domestic ungulate capacity is based on slope, current forage production, ground cover, sustainability of native vegetative species sensitive to overgrazing, distance to water, soil condition, and both wild and domestic grazer populations. Wild grazers include elk, deer, rabbits, small rodents, insects, and birds.

Utilization standards are complied with each grazing season.

All range improvements are maintained to standard prior to livestock going onto the allotment.

Grazing management does not impair existing conditions and will lead to the achievement or maintenance of desired conditions.

The grazing system provides for the production of an adequate number of native seed heads, to ensure the condition of native grasses and forbs described in desired conditions.

Upland Sagebrush

Ground cover (i.e. basal vegetation, litter, moss/lichen or rock $\geq 3/4$ ") is generally increasing and is greater than 85%. Appropriateness of percent basal vegetation (as distinct from litter) should be considered.

The desired conditions approximate those found in an appropriate Ecological Site Description, reference area, or longterm enclosure for upland sagebrush.

In the interim, until an appropriate Ecological Site Description is available:

- 2-4 species of native perennial bunch grasses that typically do not dominate as a sign of grazing pressure make up the majority of the grass component.
- 2-4 species of native perennial forbs that do not dominate as a sign of grazing pressure make up the majority of the forb component, with flowers available for pollinators.

Conifer cover (*Pinus*, *Juniperus*, *Abies* and *Picea* spp.) of generally less than 5%.

Community structure: Sagebrush / steppe habitat conditions meet the needs of sagebrush obligate species.

Aspen

Aspen stands contain appropriate proportions of height classes from <1' to >15'.

Ground cover (i.e. basal vegetation, litter, moss/lichen or rock $\geq 3/4$ ") is greater than 90%. Appropriateness of percent basal vegetation (as distinct from litter) should be considered.

The desired conditions approximate those found in an appropriate Ecological Site Description, reference area, or longterm enclosure for aspen.

In the interim, until an appropriate Ecological Site Description for aspen is available:

- 2-4 species of native perennial bunch grasses that typically do not dominate as a sign of grazing pressure make up the majority of the grass component.
- 2-4 species of native perennial forbs typically do not dominate as a sign of grazing pressure make up the majority of the forb component, with flowers available for pollinators.

Conifer cover in aspen stands (understory and overstory) <[15%].

Aspen canopy cover >40%.

Sagebrush cover in aspen stands <10%.

Pinyon-Juniper Seral Woodlands [i.e. stands consisting of trees <150 yrs. old]

Ground cover (i.e. basal vegetation, litter, moss/lichen or rock $\geq 3/4$ ") is greater than 70%. Appropriateness of percent basal vegetation should be considered.

The desired conditions for pinyon juniper woodlands approximate conditions found in an appropriate Ecological Site Description, reference area, or longterm exclosure for pinyon juniper

In the interim, until an appropriate Ecological Site Description is available:

- 2-4 species of perennial bunch grasses that typically do not dominate as a sign of grazing pressure make up the majority of the grass component.
- 2-4 species of perennial forbs that typically do not dominate as a sign of grazing pressure make up the majority of the forb component, with flowers available for pollinators.

Pinyon-juniper canopy cover $\leq 10\%$.

Riparian areas

[*Definition:* Riparian areas include the area on each side of a stream or creek, or surrounding a spring or wetland area that supports riparian vegetation, not just the greenline immediately adjacent to water. Riparian vegetation includes plants that require water in excess of annual precipitation.]

Stream banks are capable of withstanding significant flow events without showing excessive erosion.

Based on potential, stream banks are $\geq 95\%$ vertically stable.

Based on potential, native shrub cover is almost continuous, with distribution of height classes sufficient to provide ongoing recruitment.

Ground cover (i.e., basal vegetation, litter, moss/lichen or rock $\geq 3/4$ ") is greater than greater than 90%. Appropriateness of percent basal vegetation as distinct from litter should be considered.

Deep-rooted native riparian grasses and grasslike species are in a condition that they can regain ground that is being lost to Kentucky bluegrass, bare ground, and a depleted diversity.

Of the grass/grass-like species component, $\geq 70\%$ is native species (i.e., not Kentucky bluegrass or other non-natives).

Cottonwood and willow height classes demonstrate ongoing recruitment above ungulate browse height (e.g., $\geq 20\%$ of individual cottonwood or willow plants are in the 4.1'-6' height class).

Springs

Riparian areas surrounding springs are maintained such that the vegetative and wildlife community within the spring's riparian zone and associated wetlands remain intact.

Fish / In-Stream Conditions

In fish-bearing streams

- Peak water temperature $< 20^{\circ}$ C.
- Cobble embeddedness is $\leq 25\%$.
- Frequent, high-quality pools are present according to potential.
- A healthy and diverse clean water assemblage of macroinvertebrates is present according to potential.
- Multiple age classes of fish are present and average of current biomass is maintained.
- Grasses are overhanging the creek/stream at bank edge.

Cheatgrass / Noxious Weeds

Existing and new noxious weed populations are decreasing in acreage, number of sites and plant density.

Cheatgrass is declining in acreage, number of sites and plant density.

Cheatgrass areas are avoided as livestock grazing areas wherever possible.

Wildlife

Food and construction materials are supported for recruitment of sprouts (willow, aspen, cottonwood) for beavers where conditions are physically appropriate for beaver to exist.

Crucial big game range supports deer and elk populations within ecological capacity involving direct communication and collaboration with Utah Division of Wildlife Resources.

Sagebrush / steppe habitat conditions meet the needs of sagebrush obligate species.

Healthy aspen stands and older age class aspen stands are present and restored for goshawk reproduction.

Fire

Vegetation has enough fine fuels to allow historic fire return intervals and intensity, and effectively carry natural ignitions and prescribed fire.

Patch mosaics of reduced fuel loading are similar to historic conditions in mixed conifer/aspen and pinyon-juniper woodland.

Proper Use Criteria of SMU:

Management requirements that are proposed in the SMU alternative are given below. It should be noted that all action alternatives will be required to follow all the provisions of the term grazing permit.

- 1. Thirty percent utilization (upland and riparian) will be phased in one pasture at a time until all pastures are at 30% utilization.**
- 2. Each pasture will receive a two-year rest on a rotating basis.**
- 3. Springs and wet meadows frequented by livestock will be fenced, with a 50-foot buffer to allow for expansion and protection of associated wetlands. (*Locations of the site-specific springs, seeps or wet meadows that were indentified during a field visit with Forest Service staff and additional areas that have had archeological clearance are given in Map B. Two of the springs are developed and the existing exclosures will be expanded. Two other springs and a seep area will have an exclosure built around them to protect from livestock and provide water to wildlife and livestock.*)**
- 4. The current forage capacity of Boren Mesa will be assessed due to dominance by unpalatable increasers,**
- 5. The small relic aspen clone on west edge of Boren Mesa will be fenced.**
- 6. Rock Slide Spring and surrounding riparian and spring-associated communities will be fenced.**
- 7. Bike cattle guard, spring-loaded gates, and improved signage will be installed at Clark Lake.**

Features Common to All Alternatives

Noxious Weed Actions Common to All Alternatives

The ongoing Manti-La Sal National Forest Noxious Weed Strategy (USDA 1993) will continue to be implemented on the allotment. The strategy provides a systematic approach to noxious weed treatment using chemical, biological, and mechanical means of weed control for the project area. Prevention, early detection and treatment are the most cost-effective way to prevent spread of noxious weeds.

Monitoring Actions Common to All Alternatives

A monitoring plan is developed using Forest Service Handbook 2209.21 techniques and protocol, implemented and followed to identify the effectiveness of planned activities. The monitoring plan will be described in the Brumley AMP.

Implementation monitoring

Used to determine if the goals, objectives, standards and guidelines, and practices of the Forest Plan and allotment specific standards are implemented in accordance with the Forest Plan. This includes short-term monitoring (e.g. Actual use record and forage and browse utilization techniques -Stubble height, ocular estimates, and use-mapping).

Effectiveness monitoring.

Used to determine if the Forest Plan standards and guidelines, and practices, as designed and implemented and allotment specific standards are effective in accomplishing the desired result. This includes long – term monitoring (e.g. nested frequency trend studies, greenline, photo-points, and point ground cover samples, production, PFC, Rangeland Health).

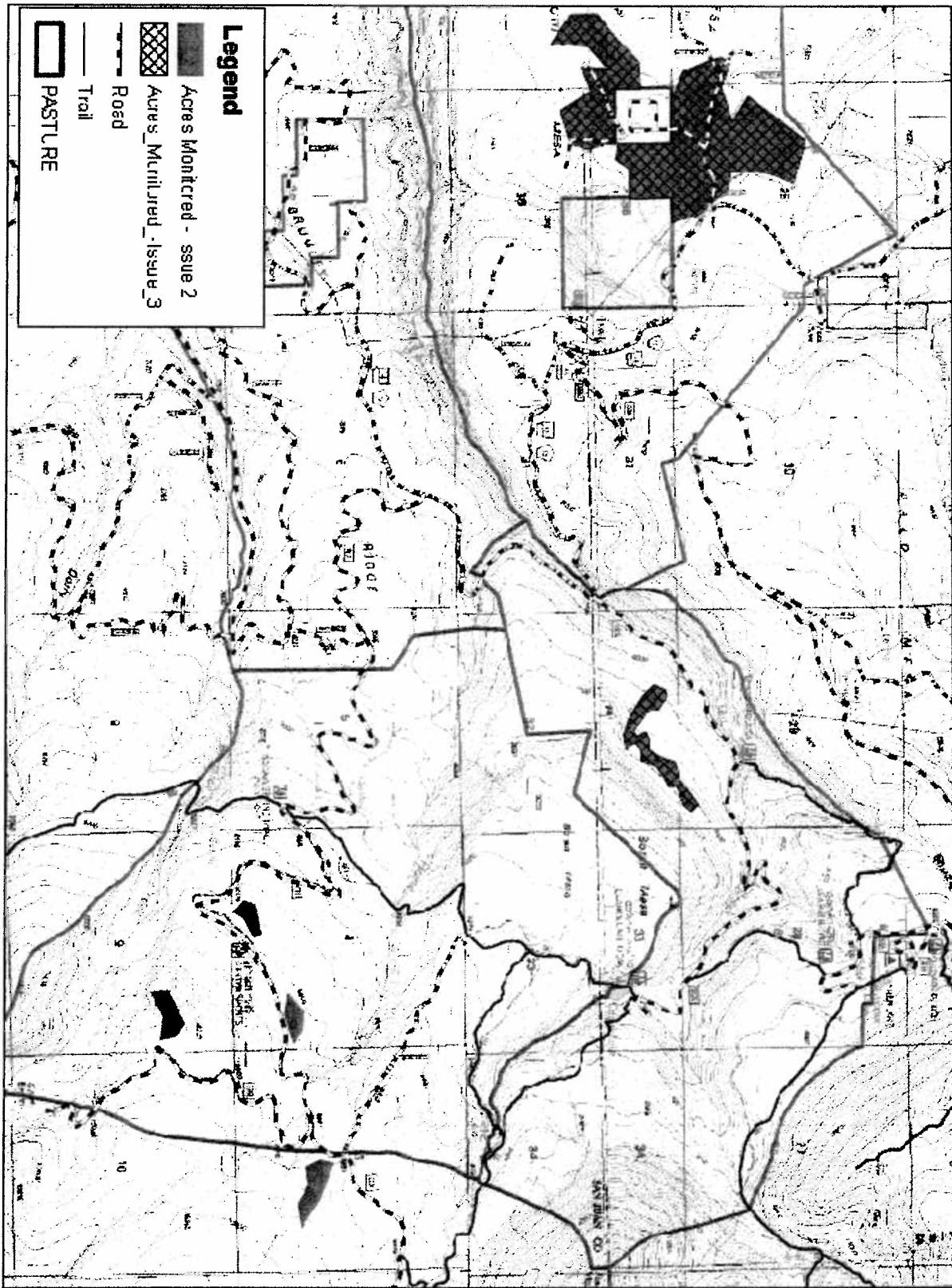
Administrative Authorized Actions Common to All Action Alternatives

These are actions that may be taken through permit administration and do not require NEPA analysis. They are listed here for information purposes on how an authorized grazing permit is able to adjust grazing management when needed according to monitoring data.

Administrative Authorized Actions may be implemented singly or as a set of management actions and will be implemented through the AOI. Table 9 lists and describes the probable Administrative Authorized Actions that could be implemented. However, it is not intended to exclude other actions which may be authorized by the grazing permit or under authority of 36 CFR 222, Forest Service Manuals and Handbooks, and other laws and regulations as they exist or may be enacted.

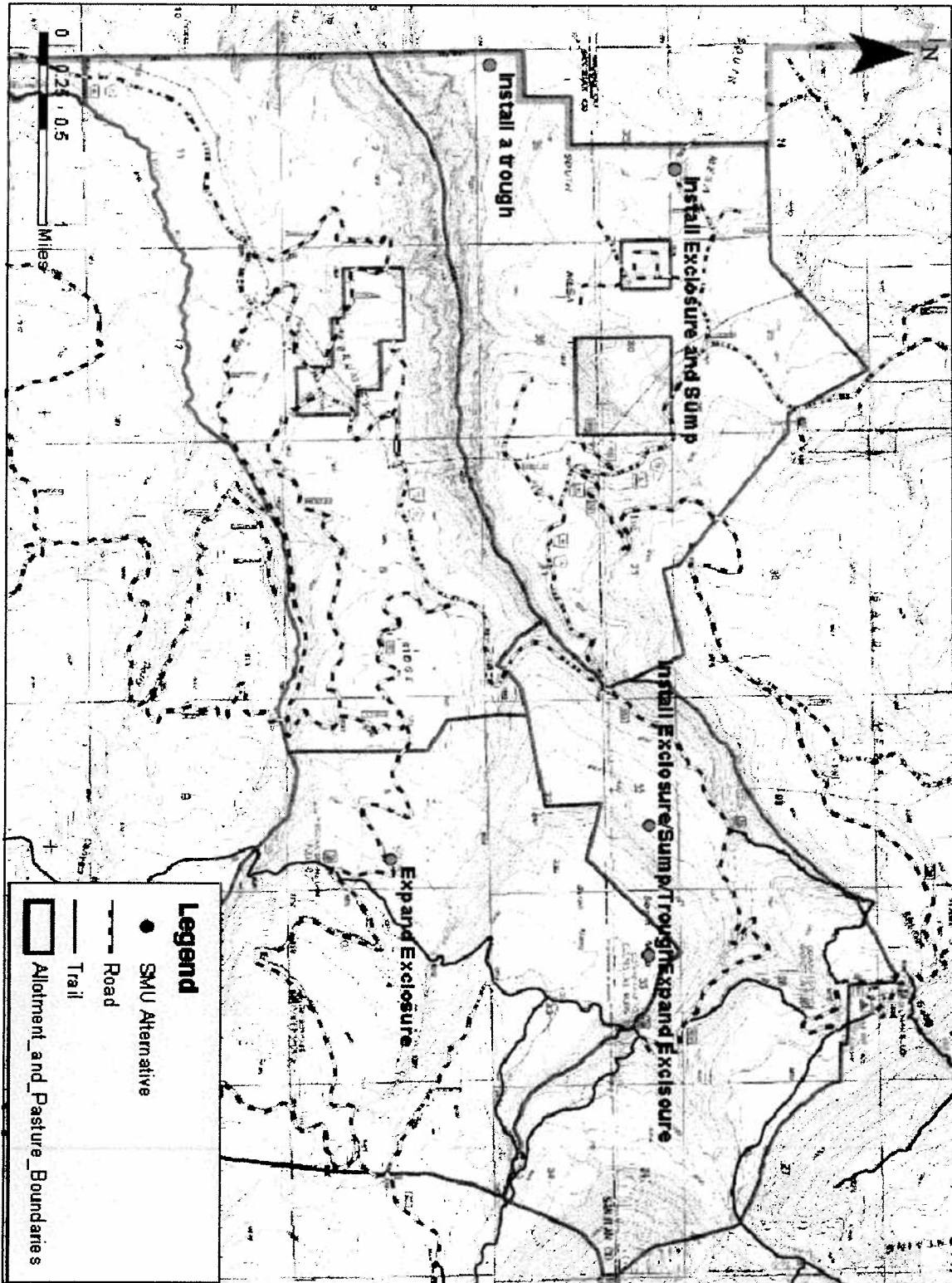
| Table 9 Potential Administrative Authorized Actions | Authority |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| 1. Modify the terms and conditions of a permit to conform to current situations brought about by changes in law, regulation, executive order, development or revision of an allotment management plan, or other management needs. | 36 CFR 222.4 |
| 2. Modify the seasons of use, numbers, kind, and class of livestock allowed or the allotment to be used under the permit, because of resource condition, or permittee request. | 36 CFR 222.4 (Long-term change in livestock kind will require additional NEPA analysis and decision) |
| 3. Adjustments to livestock numbers and seasons of use. | 36 CFR 222.4 |
| 4. Implement periods of rest for the allotment or areas within the allotment. | 36 CFR 222.4 |
| 5. Modification of grazing practices. Includes: salting practices, herding practices, and other management practices. Implementation of “best management practices” | 36 CFR 222.4 |
| 6. Adjust grazing to address conflicts with other resource uses. | 36 CFR 222.4 |
| 7. Adjust grazing to provide for maintenance or restoration of aquatic and riparian processes and functions and beneficial uses. | 36 CFR 222.4 |
| 8. Coordinate grazing with timber harvest and forest regeneration activities. | 36 CFR 222.4 |

Map A



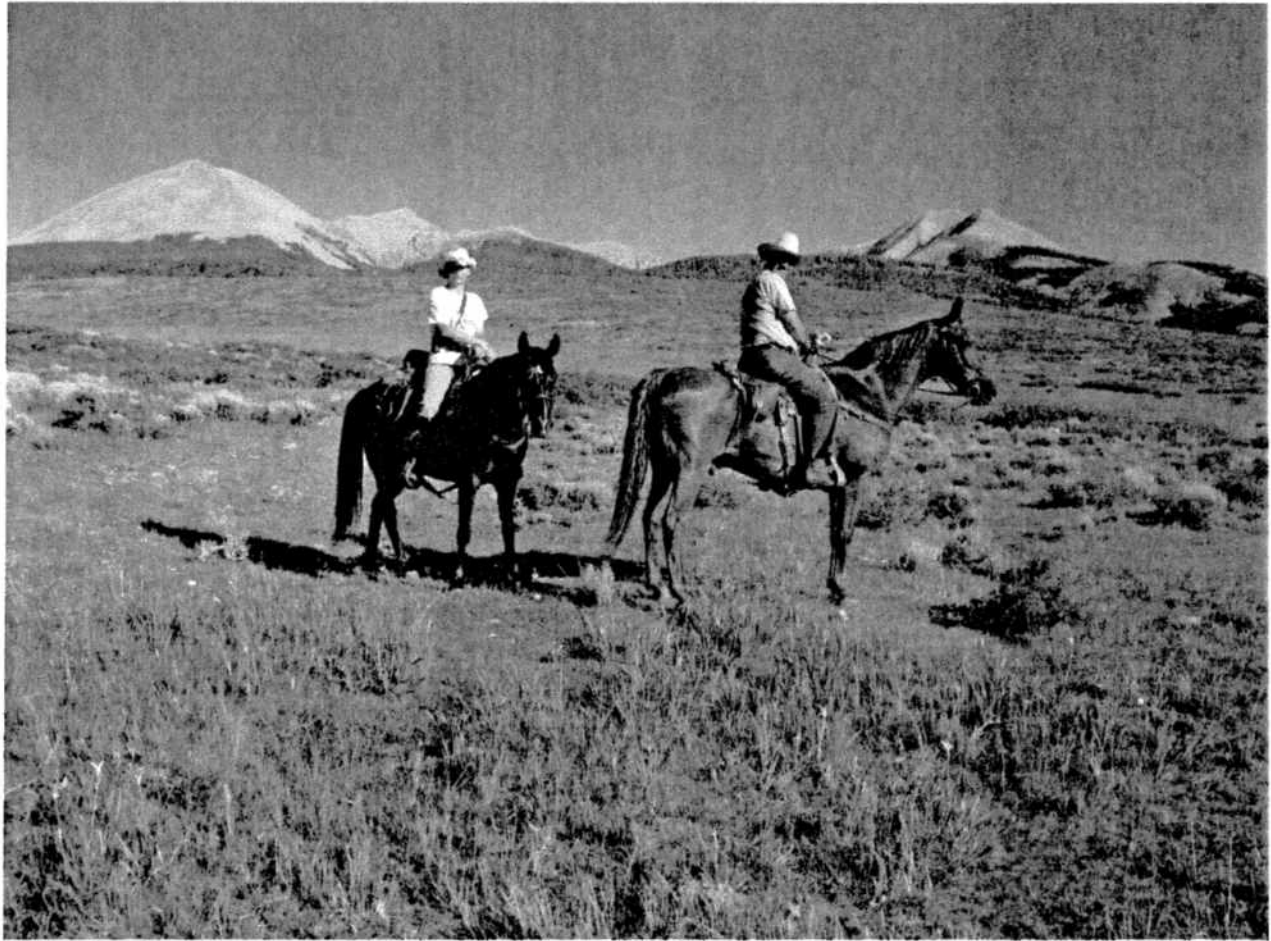
Issues 2 and 3 Monitored Acres

Map B – Locations of spring, seeps or wet areas that have been indentified to expand or build enclosures and provide water for wildlife and livestock.



Springs, Seeps or Wet Meadows to be protected

**ANALYSIS OF THE MANAGEMENT SITUATION
(EXISTING CONDITIONS)
FOR THE
BRUMLEY C&H ALLOTMENT EA**



Complied by: Tina Marian – Range Management Specialist

August 2011

CHAPTER 1.0 Introduction

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1.2 AMP revision process

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2.7.3 Existing Resource Conditions

CHAPTER 3.0

3.1 Issues Identified

3.2 Next Steps

3.3 Bibliography

CHAPTER 1.0 INTRODUCTION

1.1 Purpose of the AMS

This Analysis of the Management Situation for the Brumley Ridge allotment area is intended to be a reader-friendly document that provides an introduction of the baseline information for the Allotment Management Plan (AMP) revision and the associated Environmental Assessment. It does not include as detailed information (such as photos, graphs and tables) as will each resource specialist report and the project record prepared for the EA. This summary compiles, in one location, important information about existing resource conditions, current management practices, and issues and concerns identified to date. The issues and concerns discussed in this document may not comprise an exhaustive list of issues and concerns, nor do the issues included at this time represent conclusions or decisions.

1.2 AMP Revision Process

An AMP is a livestock grazing management plan dealing with a specific unit of rangeland and based on multiple use resource management objectives. The AMP considers livestock grazing in relation to other uses of rangelands and in relation to renewable resources such as watersheds, vegetation and wildlife. Terms and conditions that may be incorporated into the AMP include:

- *Manti-La Sal National Forest Land and Resource Management Plan (LRMP, or Forest Plan) Standards and Guidelines for utilization, riparian management, soil disturbance, and timber regeneration.*
- Structural and nonstructural-improvement needs and maintenance assignments.
- Livestock distribution, herding and salting requirements.
- Requirements of cultural resources and coordination needs for threatened, endangered or sensitive species of plants and animals.
- Specific requirements from the Decision Notice associated with the upcoming EA including an adaptive management strategy with clear objectives, targets that identify desired conditions and specific decision thresholds.
- Monitoring plan with protocols which are key to effective adaptive management.

The approach to this AMP revision process includes building on experience, new ideas, and working with collaborators. A successful AMP revision depends on the ability of the Forest Service and other interested parties, stakeholders, tribal representatives, and agencies to collaborate effectively. Communication and input from all collaborators during the AMP revision process are critical. The process of collaborative planning must be balanced with the need to move forward.

1.3 General Description of Allotment Area

The allotment encompasses approximately 16,000 acres of National Forest System lands located about 16 miles southeast of Moab, UT. The allotment is situated on the ~~east~~ slopes of the La Sal

West

Mountains. It includes portions of the Upper Pack Creek, North Fork Mill Creek, and Geyser Creek watersheds and the majority of the Horse Creek-Mill Creek watershed. Elevation ranges from the tops of the La Sal Mountain Peaks (the highest being Mount Mellenthin at about 12,600) to the lowest point in the Mill creek drainage at 5,800ft. There are approximately 7500 acres that are considered suitable for livestock grazing, the majority of suitable range is found between 6500 and 10,500 feet elevation. The allotment contains a variety of vegetative communities and soil types which will be discussed in more detail in the next chapter.

1.4 Allotment History

This section is intended to give the reader a summary of grazing history of the Brumley allotment area. It will be split into two subsections titled Prior to 1983 and 1983 to Present, the reason being the allotment boundaries were not as they currently are until 1983. Consequently, use history before 1983 is difficult to compare with what it is today because of the area of use changes several times between the early 1900's and 1983.

Prior 1983

This allotment was grazed heavily by cattle, sheep and horses when the forest was first created in the early 1900's. Records show the between 350-500 head of cattle and 2000 sheep grazed this allotment and the upper units of the adjacent Dorry allotment until 1926. It is also reported the Geyser Pass was a favorite gathering place for horses and as many as 200 to 300 would graze the area during the summer, entering before range readiness. The allotment files after 1926 state that "the elimination of the large number of horses in Geyser Pass has been a big factor in checking the deterioration on this area."

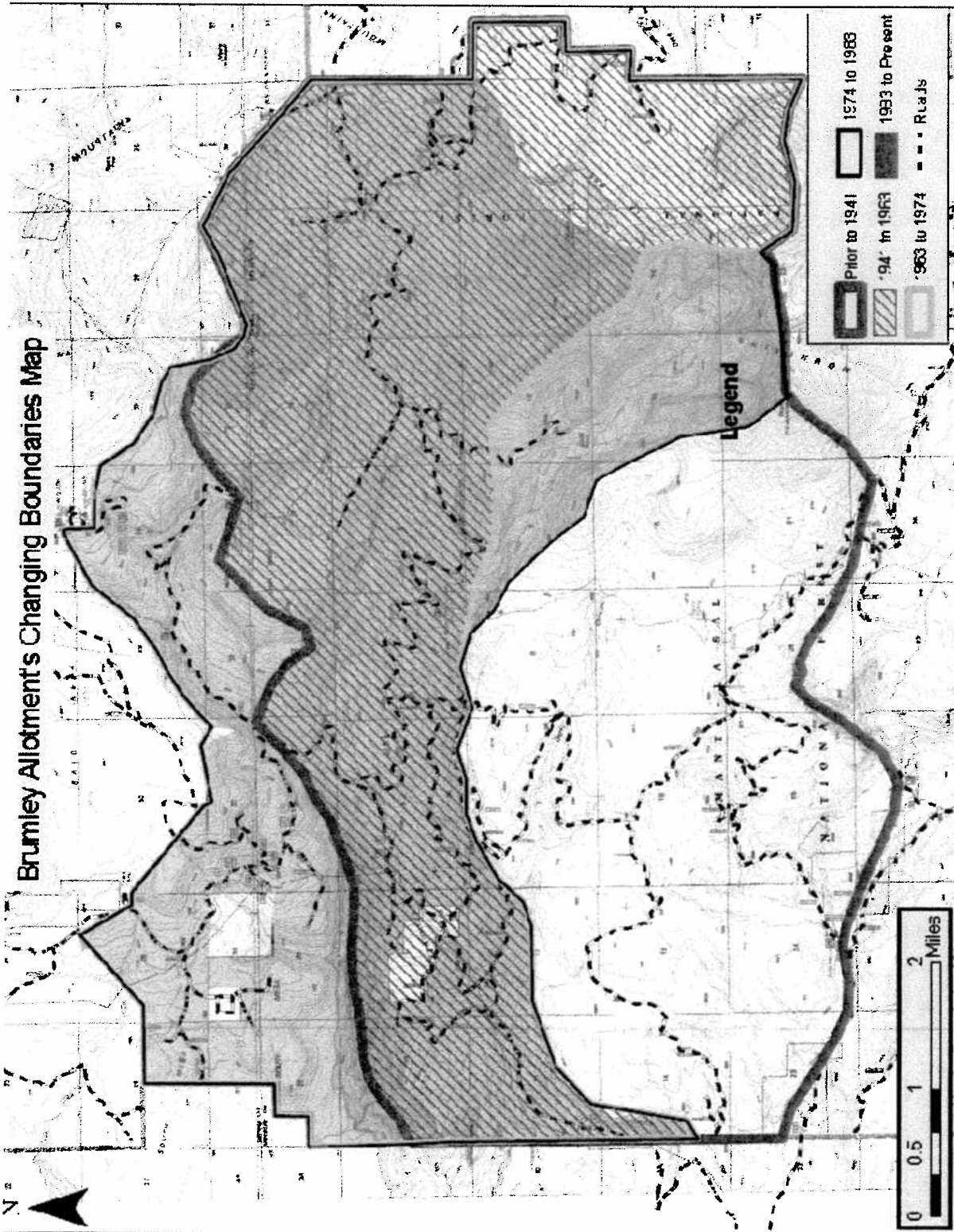
According to early maps found in the allotment files the allotment boundaries before 1941 were situated approximately as shown in Map 1 below, however there were no division fences.

By 1941, fences dividing Brumley allotment from the Dorry allotment were constructed. At this time the Brumley allotment consisted of what is presently Lower Brumley, Boren Mesa and Geyser Pass Units not including the Gold Basin area and including the Dark Canyon area (see 1941 to 1963 on Map 1). The allotment also included what is at present the Deep Creek allotment between 1953 and 1961. Permitted livestock during this time was 900 sheep and 151 head of cattle until 1956 when all sheep permits were converted to cattle, making a total of 285 head permitted with a season of use from 6/1 to 10/15 which is about 1694 AUMs.

In 1963, the allotment boundaries were changed again to add what is now South Mesa and Mill Creek units to the allotment and the number permitted increased to 447 head for a season of 6/1 to 10/25 or 2852 AUMs. Actual numbers run averaged about 410 head and in 1981 the permit was decreased to 395 head from 6/16 to 10/20 or 2178 AUMs. The record states the decrease in numbers was implemented in 1981 to bring the permittee in line with the upper limits of livestock numbers. A 1979 letter also states that White Ranches had taken cuts in numbers which had improved range conditions. Further allotment boundary changes were made in 1974,

adding the Gold Basin area to the allotment and in 1983 when the Dark Canyon area was taken from Brumley and put in the La Sal allotment (see 1974 to 1983 and 1983 to Present on Map 1).

Map 1



1983 to Present

As explained above, the allotment boundaries for the Brumley allotment have not changed since 1983 and the remainder of this section will focus on use history from 1983 to present. Even with the changes in allotment boundaries, the permitted number of livestock continued at 395 head from 6/16 to 10/20 or 2178 AUMs until 1991 when numbers were decreased to 368 head, yet the season was increased by 9 days, effectually leaving the AUMs unchanged at 2171. The permitted number of AUMs continued at this level until 2003 when the 45% of the permitted AUMs was administratively cancelled due to permittee non-compliance in regards to the base property ownership requirement.

According to Annual Operating Instructions (AOI) and Actual Use Record sheets, AUMs were reduced in some years due to drought conditions or personal convenience and so permitted AUMs fluctuated from 1990 to 2002 (see Figure 1 below).

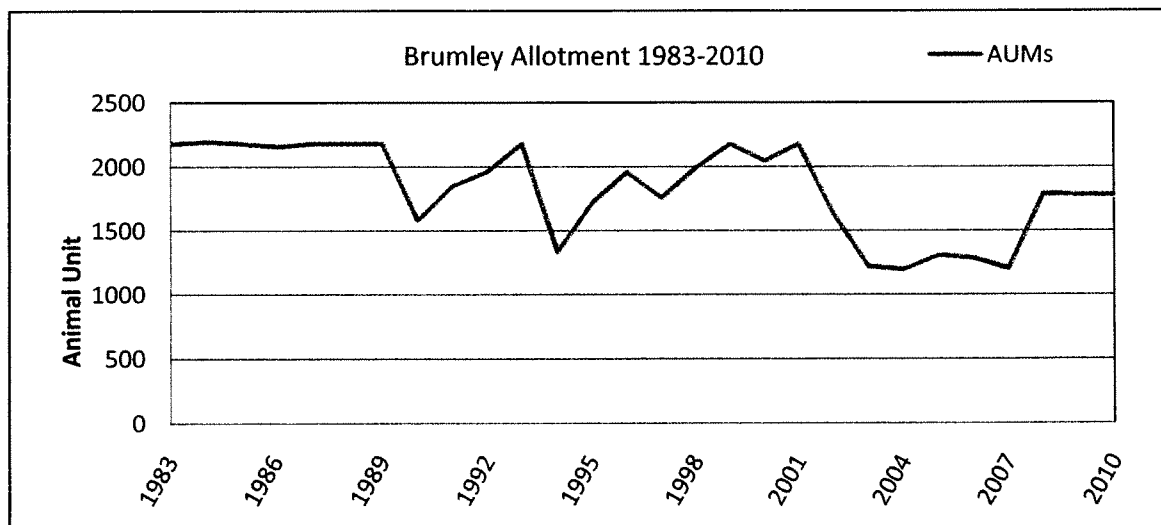


Figure 1. The graph above shows the number of AUMs authorized on the Brumley allotment from 1983 to 2010. Generally the AUMs were reduced following several years of below average precipitation. AUMs were reduced in 2003 for permit violations. Permitted AUMs were partially restored in 2008.

Utilization studies and field notes taken during this time period (1983-2002) indicate that different pastures would experience overuse in some years, particularly after drought years, if no reductions were implemented. Specific areas mentioned in field notes were: overuse along the Loop Road and the east part of Lower Brumley along the fence line and by the ditch; overuse along the Geyser Pass Road in Upper Brumley and in some open meadows; overuse in open meadows in Geyser Pass, the area near Redd's private land (Burro Pass) and Grassy Lakes; overuse near the ditch in Mill Creek. Field notes for some years also indicated proper use was obtained in all pastures for the grazing season. This illustrates the annual variance in capacity of the allotment and the need for effective adaptive management.

From 2003 to 2007, as stated above, the permitted AUMs were reduced due to violations of the requirements of the permit involving base property ownership. Actual use and AOI records indicate that up to 1300 AUMs were authorized during this time. In 2008, a portion of the cancelled AUMs were restored, bringing the number of AUMs to 1771.

CHAPTER 2.0 TOPICS DISCUSSED

The topics to be discussed in this Chapter that have been determined to be relevant for the AMP revision include: rangeland management, range vegetative resources, hydrology/watershed resources, soil, wildlife, cultural resources and recreation. Existing conditions for each resource area was provide by each resource specialist. Documents (data sheets, field notes, photos, ect.) that are referred to in each section are part of the project record developed for the EA.

2.1 Rangeland Management

2.1.1 Current Management Practices (2003 to Present)

The Brumley Allotment is managed under a five pasture deferred rotation system. The season of use is from June 6th to October 19th. The current AMP allows for 386 cow/calf pairs, though only from 215 to 300 pairs have been grazing since 2003 (*see 1983 to Present section above for further details of permitted numbers*). The pasture configuration includes: two low-elevation (7,000-8,500 ft) pastures, Lower Brumley and South Mesa; two mid-elevation (8,500 to 10,000 ft) pastures, Upper Brumley and Mill Creek; and one high-elevation (over 10,000 ft) pasture Geyser Pass. The rotation generally changes direction yearly with either South Mesa or Lower Brumley pastures being used first. In years South Mesa is used first, cattle move into Mill Creek unit second and then use either Upper Brumley or Geyser Pass third and Lower Brumley last. In years where Lower Brumley is used first, cattle use Upper Brumley second, then either Geyser Pass or Mill Creek third and South Mesa last.

A deferred grazing system provides management of the time of grazing use, the duration of grazing use and the intensity of grazing use. The current system gives plant species within pastures the opportunity to complete their growth cycle before being grazed in some years and allows for recovery after grazing in other years. This system also limits the duration of time in which a pasture is grazed which decreases the chances that individual grass plants will be defoliated repeatedly during the growing season (Reed et al, 1999). Intensity of use is guided by the 1990 Forest Amendment for Range Proper Use Criteria and the AMP. The amendment gives a range of 45-60% use on key species in upland areas with a deferred rotation system and anywhere from 30-60% use on key species for riparian areas depending on the time of use.

Structural improvements such as fences, stock ponds and troughs are instrumental in achieving good range management. There are several constructed fences and water developments on the

Brumley allotment. Boundary fences keep livestock within the permitted allotment area. Interior fences facilitate the use of the pasture units and the rotation system described above. Water developments aid in improving livestock distribution with the pastures. Placing salt or other supplements in underused areas and riding are additional tools used to improve livestock distribution within the pastures on the Brumley allotment. Livestock herding and salting standards and range improvement maintenance standards are given in the permit issued for the Brumley allotment.

Annual Operating Instructions (AOI) are planned each year to implement grazing on the Brumley allotment. AOI's are discussed with the permittee and contain the planned numbers, season of use and pasture rotation within the constraints of the AMP and Forest Plan. The AOI reiterates proper use standards and instructs the permittee that livestock are to be moved when proper use is reached within a pasture. The AOI also reviews improvement maintenance and herding standards written in the permit. The AOI is used to initiate rest or deferment of pastures or to reduce authorized numbers or season of use during drought periods or during other natural or man-made disturbances (fires) that impact range resources. The AOI is used to implement changes in aspects of range management where monitoring has shown allotment conditions are not meeting or moved towards desired conditions or where there may be conflicts with other resources.

Season of use, duration of use and intensity is monitored on the Brumley allotment. Season and duration of use is determined by communication with the permittee and periodic allotment inspections by Forest Service staff during the season. Permittees are contacted if livestock are found in pastures at times not indicated in the AOI or not previously approved by the District Range Management Specialist. Intensity is determined using ocular estimation methods for larger areas and/or clipping and weighing of forage methods using small enclosure cages in selected key areas.

Consistent violations of the AMP or AOI that are detected through monitoring may lead to the issuance of a Notice of Non-compliance letter to the permittee, which states the violation(s) and gives a timeframe in which to correct violations. If violations are not corrected, permit action may be taken including canceling the permit in part or whole.

2.1.2 Existing Resource Conditions

This section will disclose existing conditions for range resources on the Brumley allotment which will include a discussion of actual management occurring on the ground compared to the AMP and AOIs. This section will also disclose utilization information that was collected in 2004, 2007-2010 and known conditions of structural range improvements. This section will not discuss long term trend studies data (ground cover, species composition) as this is covered in Section 2.2.

Management System

Generally, the five pasture rotation management system described in the AMP, the permit and yearly AOI's is currently being followed. There are documented occurrences where livestock were not where they were authorized to be, a few of which are discussed below. Successful management largely depends on the commitment and effort demonstrated by the permittee. Management has improved since 2006 due to the efforts of the current permit holder.

Actual use records included in the file for 2003, 2004, 2008, 2009 and 2010 (*records for 2005-2007 are not in the permit files*) show that pasture rotations were close to the corresponding years AOI. As stated in the AOIs, entry and departure dates for pastures are an estimate and are flexible in order to respond to resource conditions. For example, in 2009, a portion of the 300 head of livestock were authorized to remain in the Mill Creek pasture after September 19th because the feed and water in the South Mesa pasture was dry and there was still good forage in Mill Creek.

As stated above, there are some instances where livestock were found to be in unauthorized areas. In 2003, the permittee was issued two Notice of Non-compliance letter for livestock not being in the proper pasture or trespassing onto an adjacent allotment (2210 files in project record). The non-compliance was remedied in both cases (2210 files in project record). An area adjacent to the Brumley allotment, the Burro Pass and Upper Mill Creek areas (Wet and Dry Fork) were closed to grazing in 1964 due to deteriorating watersheds. Conditions improved considerably and the area was reevaluated for grazing potential by an interdisciplinary team in 1984. The area remains closed to grazing. Trespass livestock into this area from the Brumley allotment was documented in 2003 and 2007. Forest Service staff contacted the permittee and the permittee responded by removing cattle from the area. The current permittee was made aware of the continual problem with trespass cows in the closed area. In 2008 -2010 no livestock entered the Burro Pass, Wet Fork/Dry Fork areas (2210 files in project record).

Additional field notes of allotment inspections and correspondence with the permittee not specifically mentioned here will be included in the project records for the EA. They generally indicate that current range management is following AMP, permit and AOI directions regarding pasture rotations. They also indicate that the proper corrective actions are taken when violations occur.

Proper Use

As discussed in Section 2.1.1., proper use of the forage resource takes into account the time of grazing use, the duration of grazing use and the intensity of grazing use. Pastures within the Brumley allotment are used at a different time of year most years. Changing the timing of grazing changes the type of impacts that grazing has on plants within the pastures (Sharp et al. 1994). Therefore, current management is avoiding impacting the same plants the same way each year. Duration controls how often an individual grass plant is grazed. The longer livestock are in a pasture, the higher the probability that a plant will be grazed over and over. To avoid

repeated defoliation the duration of time spent in one area should be limited (Briske 1986). Because of the large size of the pastures in the Brumley allotment the duration on most pastures is between 4-6 weeks, yet within the pastures a full time rider aids in keeping livestock from spending a large amount of time in one area. Intensity of use is that is allowed by the Forest Plan (45-60%) is exceeded in some areas in some years. (see utilization data from 2004, 2007-2010 in project record.) The efforts of the permittee to control livestock distribution and hold cattle in the correct pasture has increased greatly, which has assisted in the recovery of some of the upper elevation areas in Upper Brumley and Geysers Pass that were getting used too early in the year because of unauthorized livestock.

Structural Improvements

Before 2006, many of the fences on the allotment were in disrepair, as a result of neglect of the previous permittee. Since 2006, yearly AOI meetings have included an agreement to rebuild or do heavy maintenance on particular fences throughout the allotment. These agreements have been completed and documented and fences on the allotment are in fair to good conditions. Since 2009, agreements to rebuild or maintain water developments has assisted in bringing structural improvements on the allotment up to permit standards. There are some spring enclosures on the allotment that may need expansion. Several ponds have recently been maintained in the lower pastures.

2.2 Rangeland Vegetative resources

2.2.1 Overview

The allotment lies entirely within the Upper Colorado-Kane Spring (HUC 4 level) watershed. Precipitation ranges from 16 inches a year at lower elevations to greater than 30 inches at higher elevations. From 1983 to the present there have been years of high moisture to years of sustained drought.

Lower Brumley and South Mesa pastures are both dominated by Pinyon-Juniper woodlands and oak brush, portions of which had been chained and reseeded in the 1940s or later. The dominant grass species in these pastures are crested wheatgrass (*Agropyron cristatum*), bulbous bluegrass (*Poa bulbosa*) and smooth brome (*Bromus inermis*). Upper Brumley and Mill Creek pastures transition from oakbrush in the lower elevations of the pasture to aspen and conifers, with open parks with a diversity of grasses and forbs in the higher elevation portions of the pastures. Boren Mesa, which is part of the Upper Brumley pasture, is an open intermittent wet meadow area, some of which is invaded by Iris (*Iris missouriensis*). There is also a large amount of timothy (*Pheleum pratensis*) present on the mesa. Geysers Pass pasture is a high elevation pasture dominated by aspen and conifers with open parks and meadows with a diversity of grasses and

forbs. Many areas in this pasture have small wetlands, springs and wet meadows areas that have associated wetland species.

2.2.2 Current Management Practices

The current management system for the Brumley allotment is discussed in the previous section 2.1.1. The Forest Plan currently emphasizes range forage production (RNG) in over 57% (9125 acres) of the allotment area. The description for the management emphasis in the Forest Plan states: *“Emphasis is on production of forage and cover for domestic livestock and wildlife. Intensive grazing management systems are generally favored. Range condition is improved or maintained through range and/or silvicultural improvement practices, livestock management through a grazing system, and coordination with other resource activities. Some periodic heavy forage utilization may occur. Opportunities for investments in structural and non-structural improvements to increase forage production is moderate to high. Nonstructural restoration practices include a full spectrum of treatments such a plowing, seeding, cutting, chaining, burning, spraying with herbicides, crushing, pitting, furrowing, and fertilization. Investments are made in compatible resource activities. Dispersed recreation opportunities vary between semiprimitive nonmotorized and roaded natural appearing. Management activities are evident, but harmonize with the natural setting.”*

Management direction for RNG includes: 01 Improve or maintain range condition to fair or better.

02 Balance livestock obligations and use with grazing capacities.

The other main emphasis on the allotment (3183 acres or 20% of allotment) is Wood-Fiber Production and Harvest (TBR). Management unit direction for range within a TBR emphasis area includes:

01 Protect regeneration from unacceptable livestock damage. Proper livestock management methods will be included in allotment management plans and annual operating plans to protect regeneration. Permittees will be held responsible for damages resulting from negligence.

02 Utilize transitory forage that is available when demand exists, and where investments in regeneration can be protected. Vary utilization standards with grazing system and ecological condition. Specify standards in the Allotment Management Plan.

2.2.3 Existing Resource Conditions

The indicators of upland and riparian range condition to be used to discuss existing condition are: ground cover, annual production, species richness/diversity, structural and functional diversity, invasive/noxious weeds and shrub/tree cover where applicable. Also included are vegetation vegetative community types (successional status), bank stability and woody regeneration for riparian areas. The information for these indicators is collected from eight

Forest Service long-term range trend studies, two greenline studies, 45 ground cover studies and several production studies. Detailed information about these studies will be available in Range Specialist Report and project record.

The long term trend studies given information on trends in ground cover, species composition, vegetative production and shrub cover. Ground cover studies simply give data on ground cover and a short list of the dominate plant species in more areas and soil types than where the long term range trend studies are located, these studies do not give information on trend, just current condition. The greenline studies given information on the type of vegetation occurring in the riparian area, bank stability and woody species regeneration (more hydrological information will be discussed in Section 2.3.)

Ground cover - Ground cover refers to the ground surface area that is covered by vegetation, litter, gravel/rock and biological crusts. The data collected shows the ground cover is higher at the higher elevations in most cases, which would be expected given the higher amount of precipitation the higher elevation areas receive. The majority of the areas monitored had 80% or more ground cover (See Table 1 below).

| Ground Cover | Proportion of studies |
|--------------|-----------------------|
| 90- 100% | 32% |
| 80-89% | 23% |
| 70-79% | 15% |
| 60-69% | 19% |
| 50-59% | 13% |

Table 1. Ground cover on Brumley allotment.

Range trend studies show that ground cover has fluctuated overtime but generally increased at most sites. There are a few areas that are indicating that ground cover is lower than what is desired for that community type. These are mainly in the black sage areas of South Mesa, a few small open bench areas in Mill Creek just above the Oowah road and the east part of the

Upper Brumley pasture. Overall, the allotment is showing good ground cover which indicates a healthy watershed.

Annual production- Annual production is the net quantity of above-ground biomass produced within a year. Production varies from year to year and is mostly dependent upon the climate and precipitation of that year (Barrett et al. 2002). Past production data was determined by ocular estimation in lbs/acre. The most recent production data was collected by clipping and weighing vegetation at the range trend studies sites and a few additional sites.

At the range trend study sites, production values averaged over about a 20 year period show that most areas are close to meeting the potential production of the site (based on soil type) or exceed potential (in those areas that have been chained and seeded). The Gold Basin range trend study site was only 41% of potential and two other areas (not trend study areas) where production data was collected also showed low vegetation production. These areas were located in the east part of the Upper Brumley pasture. Other areas that have lower than expect production are in the

black sage areas of South Mesa and a few small open bench areas in Mill Creek just above the Oowah road.

Species richness and Diversity – Species richness is simply the number species encountered within the study plot(s). Species diversity takes into the account the number of species encountered and the relative abundance of those species. The diversity indices used here are the Shannon-Weaver index and the Simpson's Index (Krebs 1998). Estimated production of cover and nested frequency was used to obtain relative proportion of each species.

Both indices are used because they can convey different information. Simpson index gives more weight to the abundant species, yet does not have some of the assumptions that the Shannon-Weaver index works under. Generally values for the Shannon-Weaver index ranges between 1.5 (low diversity) and 3.5 (high diversity). Values for the Simpson index usually range from 0 (low diversity) to 10 (high diversity).

Species richness and diversity have fluctuated over time but have generally increased at most trend study site areas. The higher elevation open meadow sites exhibit high diversity (Simpson index of above 10 and Shannon index above around 3), while most of the lower sites exhibit moderate diversity.

Functional and Structural Composition - Functional and structural groups are a suite of species that are grouped together because of similar shoot or root structure, photosynthetic pathways, nitrogen fixing ability, life cycle. Both the presence of functional groups and the number of species within the groups have been shown to have a large impact on ecosystem processes (Pellant et al. 2005). Functional and structural groups that may be included are: trees, tall shrubs (deep rooted), sub-shrubs, cool season perennial bunchgrasses, cool season perennial sod-forming grasses, warm season grasses, carex/sedges, perennial nitrogen-fixing forbs, other perennial forbs, annual grasses and annual forbs. Not all groups are necessary or desired for each study site, for example, trees (specifically juniper and pinyon pine) are not a desired component of a healthy sagebrush ecosystem. For this summary, species are also grouped by their potential to reduce soil erosion and by their forage value to cattle, elk and deer. These values were obtained from FSH 2209.21 (USDA Forest Service 2005).

The diversity of composition of plant functional and structural groups is fair to good. Most of the trend study sites are within open meadows and have very few shrubs and trees, which is to be expected and desired. The lower elevation chained and seeded areas do not have a warm grasses component. This may be because the non-native seeded species, such as smooth brome has been able to outcompete such species. The presence of annual forbs and grasses is low or zero in most areas. The Gold Basin and Grassy Lakes sites have a large amount of forb species, which may explain some of the low ground cover and low production on the sites.

The majority of plant species present on the allotment are considered to be of medium to high values for erosion control (watershed value). The Gold Basin and Grassy Lakes site shows that over 30% of the species present are rated low in erosion control value. This coincides with the large amount of forbs present on these sites.

Many of the range trend study areas show that about 20-40% of species are low in forage value to cattle, but of high or medium values to deer and elk. This may be explained by the amount of small, low profile forbs that are present in many of the transect areas. Some of this may be due to historic overgrazing when fences were not being maintained.

Invasive/noxious weeds - Invasive species have the potential to become a dominant or co-dominant species on a site if not actively controlled and may impact an ecosystem's type and abundance of species (DiTamsos 2000). The presence of invasive plants can be an indicator that the vegetative health of the site may be poor.

There are few areas in the allotment that are infested with noxious/invasive weeds. A few of the lower elevation disturbed areas (off-road vehicles and camping) contain cheatgrass. There is also bindweed and knapweed that occurs along the Loop Road. These areas are monitored and treated yearly.

Iris is not considered a noxious weed but is invasive on intermittent wet meadow types, like Boren Mesa. *"It is important to recognize that Iris... is a natural component of the meadow ecosystem, and should not be eradicated. However, in situations where they have become the dominant species, employing management strategies may be beneficial for both livestock and wildlife...the best solution is to develop a grazing management plan, which prevents livestock from excessive meadow utilization."* (CDAF 2011). Inspection in 2011 showed that the mesa is still producing a high amount of forage for livestock and wildlife even with the presence of a considerable amount of Iris on the mesa.

Shrub/Tree Cover – Shrub and tree cover can potentially be more than 100% because this is a canopy cover value. For example, a site may have aspen cover overhead and then below have snowberry cover and within the snowberry cover there may also be roseshrubs, so there are potential three layers provided canopy cover. Also, the percentage cover given is not a relative percentage, meaning that a cover of 30% aspen does not mean that 30% of the vegetation present on the site is aspen, it just means that 30% of the area monitored has some aspen cover. This indicator is only applicable to three of the range trend study sites. This is because the other five sites are vegetation types that are open grass and forb meadows and shrubs were not present or less than 6% cover, which would be expected for these community types. In the chained areas (Lower Brumley and South Mesa) shrub cover was 25 and 27% respectively. The majority of shrub cover was from either black sage or mountain sagebrush at both sites. Some cover was also from pinyon pines that are reinvading the chainings. The South Meador site showed a 64% cover. This is because both an overstory of aspen and understory of snowberry and rose are

included. Aspen had about a 30% cover value and snowberry 32%. Both snowberry and aspen cover has appeared to increase on this site when comparing 1970's photos with current photos.

Bank Stability and Successional Status – Greenline data gives information of what type and how much of a vegetative community is present. “Each community type has been assigned an “L” if it is known to occur in later successional stages along the greenline, or an “E” if known to occur in earlier stages of succession along the greenline. Each community type also has been assigned a stability class ranking. This ranking ranges from 1, those types least capable of buffering the forces of moving water, to 10, those types with the highest buffering capabilities. The rating is based on the strength, amount, and depth of roots, as well as special leaf and crown features” (Windward 2000).

Two streams reaches were monitored in 2009. The Moonlight Meadows study showed that bank stability was in excellent condition, but still in early successional stages. This may be a result of past grazing practices that overgrazed the Moonlight Meadows area being corrected (by maintaining fences) and the stream beginning to recover. The Geyser Creek study showed fair bank stability and to be in mid-successional stages.

Woody species regeneration - Willow cover is still low in the Moonlight Meadows (only about 3.2%) and it is not certain what the potential for willow cover at the site may be. The Geyser Creek reach runs through an area where most of the tree cover is fir and does not likely have much potential for willow cover.

Rangeland vegetation on the Brumley allotment is in fair or better condition with stable or upward trends. An exception to this may be the open meadows in Upper Brumley, the black sage area on South Mesa and a small bench area of openings within oakbrush just south of the Oowah road. This will be discussed further in Section 3.

2.3 Hydrology/Watershed resources

2.3.1 Overview

The Brumley Ridge Allotment is within three sixth level watersheds: Horse Creek – Mill Creek, Upper Pack Creek, and Geyser Creek. The first two watersheds are tributary to Mill Creek and flow into the Colorado River. Geyser Creek flows eastward and is part of the Dolores River Watershed.

The Brumley Ridge Allotment includes riparian areas associated with Mill, Brumley, Horse, Geyser Creeks and their tributaries as well as with the numerous springs and wetlands present throughout the area. There are also ditches and reservoirs within the allotment that support riparian vegetation around and along their length.

The Acting Regional Administrator of the U.S. Environmental Protection Agency (EPA) in Region VIII has designated the Glen Canyon Aquifer System as the “sole source” of drinking water for approximately 6000 permanent residents within the City of Moab (pursuant to section 1424(e) of the Safe Drinking Water Act). This area encompasses approximately 76,000 acres.

2.3.2 Current Management Practices

Management direction for watershed and hydrology include: maintain satisfactory watershed conditions; provide favorable conditions of water flow (quality, quantity and timing); protect soil and water productivity so that neither will be significantly or permanently impaired; and protect and enhance riparian areas including dependent resources, maintain or improve fisheries habitat.

Areas that are designated by the Forest Plan for riparian area emphasis are managed under the following direction: 01 Provide for proper stocking and livestock distribution to protect riparian ecosystems. 02 Avoid trailing livestock along the length of riparian areas except where existing stock driveways occur. Rehabilitate existing stock driveways where damage is occurring in riparian areas.

Relocate them outside riparian unit if possible and when necessary to achieve riparian area goals.

Water Quality Management:

It is the responsibility of each state to assign beneficial-use designations to all streams and lakes. The water quality standards associated with each use are designed to ensure the long-term protection of those beneficial uses. The beneficial uses for streams in this allotment are:

Mill Creek: protected for use as a raw water source for domestic water systems with prior treatment by treatment processes as required by the Utah Division of Drinking Water

Geyser Creek and tributaries: protected for secondary-contact recreation, such as boating, wading, or similar uses; protected for cold-water species of game fish and other cold-water aquatic life, including the necessary aquatic organisms in their food chain; protected for agricultural uses, including irrigation of crops and stock watering.

All surface waters, irrespective of ownership, that are geographically located within the outer boundary of a National Forest are designated as High Quality Waters – Category 1. The existing quality of these waters is better than the standards established for the designated uses. This high level of quality is to be maintained. New point source discharges of wastewater, treated or otherwise, are prohibited. Nonpoint sources of wastes shall be controlled to the extent feasible through regulatory programs and implementation of best management practices. Best management practices must be designed to maintain the current, high level of water quality (UT DEQ, 2008).

2.3.3 Existing Resource Conditions

The indicators of hydrologic/watershed conditions to be used to discuss existing conditions of the resource on the allotment are: riparian and stream conditions, springs, seeps and wetland conditions, water quality, and condition of sole source aquifer.

Riparian and Stream Conditions

The following information on the riparian areas and streams has been collected:

- Level II Riparian Inventories conducted by contractors (1997)
- 2008 Forest Service Interdisciplinary Team Field Trips
- Hydrologist field reviews in 2008 and 2009
- Greenline transects on Geysers Creek and in Moonlight Meadows

The above information indicates that riparian conditions within the Brumley Ridge Allotment, for the most part, currently meet Forest Plan Standards.

Brumley Creek and Horse Creek are steep, 'A' type streams in a 'V' shaped valleys with overstories of conifer and aspen. These channels are not dependent upon vegetation for stream bank stability. Debris torrents occur in these channels and associated floodplains, indications of this include within channel depositions of cobble rubble and cobble levees present along stream banks and floodplains. There is an abundance of downed woody material across and in the stream channels that add substantial complexity to the habitat, such as pools. The cobble substrate in the stream beds was generally free of algae and embedded fine sediment. Livestock access to these channels is limited to trail crossings and livestock use was minimal.

Mill Creek in its lower reaches (below the loop road) is a canyon and the only way for livestock to access this area is from the bottom, off of Forest Service Lands. Above the Loop Road, livestock use the area along FS Rd 76, up to Oowah Lake. A Forest Service baseline biomonitoring site is present on Mill Creek at FS Rd 76 crossing. The monitoring protocols and analysis methods are the same as for the State of Utah's comprehensive assessment of stream ecosystems (UCASE) program. Physical integrity is monitored by following EPA's wadeable stream EMAP protocols, which quantifies important habitat characteristics for fish and the organisms upon which they depend. Biological integrity is estimated by comparing the composition macroinvertebrate assemblages against collections made at comparable streams that have experienced minimal influence by human-caused activities (i.e., reference sites)(UDWQ, 2006). Data has been collected at this site but has not been processed and analyzed. In general, Mill Creek and its tributaries in the area above the loop road are not very sensitive to livestock use ('A' and 'B' stream types with boulder/cobble substrate) and were rated proper functioning in 2008 (USDI, 1998a). However, there is considerable dispersed recreation in this area which, combined with livestock use, raises concerns for riparian areas. For example, dispersed recreation along the Wet/Dry Fork of Mill Creek has damaged springs that drain into the creek. Livestock also trail down from the Warner Lake area and through this same area resulting in

additional use of this fragile spring area. The wetlands around Warner Lake have been fenced off from livestock use.

Moonlight Meadows and Geyser Creek within the allotment are similar stream types – both are dependent upon vegetation for streambank stability and are therefore sensitive to livestock use. Both of these streams drain glacial terrain in subalpine wet meadows. Some elk use was also noted in these areas. Long-term greenline transects were established along these channels to help monitor trend of riparian vegetation and streambank stability. Both streams had banks that were at least 80% stable (see Section 2.2.3 above).

Wetlands, Springs and Seeps Conditions

Wetlands in the Geyser Pass area are numerous in number as well as acreage and are key areas for groundwater recharge and wildlife habitat. Several wetlands were assessed using the proper functioning condition assessment process in 2008 and all were found to be at proper functioning condition (USDI, 1998b). The Brumley Ridge allotment also contains numerous springs, wet meadows and seeps. Point of Diversion (POD) data was collected as part of an adjudication from 1998-2001. Sixty-seven field data points were identified on the Brumley Ridge allotment and data collected included photo points, GPS coordinates and condition of the site. Last summer (August 2010), twenty-three locations in the Geyser Pass area were re-visited and re-photographed and from this data it was ascertained that most of these wet areas remained in good condition or better. There were a few areas that seem to have lost some water flow in 2010, however this year's (2011) record snowfall and precipitation (rain) may have reversed this trend. Geologically, many of the springs that show little flow are part of formations or geological features that are not fed by ground water which may explain restricted amount of flow, especially during drought years. There was also one area photographed in 2010 that appears to have received trampling from wildlife and livestock.

A very large wet meadow/spring area was visited on August 12, 2011. Three springs were observed, but there are many dispersed springs/seeps in this meadow. A PFC survey was performed at one of the springs and was rated as properly functioning. The other two springs showed good steady flow. Total area of springs/seeps in this meadow is approximately 2-3 acres, maybe more. Vegetation was very good and abundant and consisted of willow, sedges and *Senecio triangularis* which is associated with wet carex meadows. Smooth brome and yarrow was also present. At a lower elevation spring there was evidence of trampling.

Two particular seep/spring areas that were observed in 2011 to be receiving excessive trampling are located in the lower part of Upper Brumley pasture along the Geyser Pass road and the western border of South Mesa. These areas may be concentrated on and impacted by livestock if not protected adequately.

Water Quality Conditions

Beneficial Uses

The assessed classes of the Mill Creek within the Forest are currently supporting beneficial uses (UT DWQ, 2006). The water quality of the Geyser Creek Watershed has not been assessed.

Impaired Waters and/or TMDL's

The following waterbodies were identified as impaired in the State's 2002 303(d) list issued by the Utah Division of Water Quality and are downstream from the allotment. The use class affected is in bold. TMDL's have been completed by the State of Utah and approved by EPA for both waterbodies. Neither waterbody is included in the current 303(d) list.

| Waterbody | Pollutant(s) | Use Class |
|------------------------------------------------------------------------------------|--------------------------------------|----------------------|
| Mill Creek & tributaries from confluence with Colorado River to U.S.F.S. boundary. | temperature, total dissolved solids. | 1C, 2B, 3A, 4 |
| Ken's Lake | temperature | 2B, 3A, 4 |

Mill Creek TMDL

The implementation strategy for Mill Creek is focused on lands downstream of the Forest boundary and includes meeting the bypass flow requirement at Sheley diversion and improving stream shading. Pack Creek at the USFS boundary met standards for TDS and no implementation actions were proposed on National Forest System lands.

Ken's Lake TMDL

The TMDL concludes that the elevated temperatures are due to natural causes. A site-specific standard has been developed.

Water Quality Monitoring

The State of Utah Division of Water Quality monitoring records of Pack Creek and Mill Creek below Forest Service Lands indicate that most water quality parameters have been within standards with the exception of phosphorus. The exceedence reports indicate that the total phosphorous concentrations exceeded chronic standards for both sites approximately 30% of the time and acute standards approximately 15% of the time. The non-point sources of phosphates include: natural decomposition of rocks and minerals, erosion and sedimentation, atmospheric deposition, and direct input by animals/wildlife. Given that other nutrients are not elevated, it is probable that exceedences in total phosphorus is due to particulate phosphorus (phosphorus bound to sediment particles) and derived from natural sources.

Sole Source Aquifer Conditions

Moab's current drinking water production is from one developed spring from the Wingate Sandstone and three developed springs and five drilled wells from the Navajo Sandstone near the northeast canyon wall of Spanish Valley. These developments are not on National Forest System lands. Discharge from one well is reportedly as large as 2,000 gallons per minute, and discharge from one spring near the well field is reportedly over 300 gallons per minute.

The lower Jurassic Wingate Sandstone, overlain by the lower Jurassic Kayenta Sandstone, overlain by the lower Jurassic Navajo Sandstone comprises the approximately 800 feet thick Glen Canyon Aquifer System. Water production is primarily due to fracture flow. The aquifer is exposed at the surface within its service area and considered to be moderately to very vulnerable.

Recharge to consolidated bedrock aquifers, such as the Glen Canyon Group, is by several methods. Among them are the infiltration of precipitation directly into the fractured bedrock outcrops or into the aquifer from overlying, saturated unconsolidated deposits; the upward leakage of groundwater from underlying formations; the downward leakage of groundwater from overlying formations; the seepage into the aquifers from streams flowing across outcrops, where the water table is lower than the streambed, and by infiltration of irrigation water. Near Moab, the Navajo sandstone is well exposed at moderate elevations, receives abundant recharge from streams draining the La Sal Mountains.

2.4 Soils

2.4.1 Overview

There are about 30 different major soil types present on the allotment. Soils in the lower elevations of the allotment are derived from the Dakota or Morrison Sandstone formations. The potential for moderate to high soil erosion does exist in these areas. Soils found at the higher elevations above the Loop Road, are derived from tertiary porphyritic intrusive rocks. They are fine textured silt loam soils and are highly productive. Most soils on the allotment are fairly stable.

2.4.2 Current Management Practices

Current Forest plan direction that gives management for soils includes :

- Maintain or improve soil productivity and watershed qualities within the ecological site capabilities.
- Minimize adverse, man-caused impacts to the soil resource including accelerated erosion, compaction, contamination, and displacement.

Two of the “at risk” sites are located in a black sage area in South Mesa pasture. They area has shrubs that are pedestalled with some soil compaction. Plant litter is present near vegetation, but absent between plants. Private land inholdings are nearby and there is a ditch that runs along pasture.

The third “at risk” site is a park located along a bench below Boren Mesa and above the Oowah road. The park is small, approximately 1 acre in size and appears well used by livestock, with what appears to be a salt block area. The soil surface is dished with sparse vegetation cover. Shrubs are pedestalled and the soil compacted. Less than 5% of the grass vegetation has seed heads and use in the area appears to be beyond sustainability.

Ground Cover - Effective ground cover was measured using a 100-ft transect every 1 foot at each location in addition to measuring soil compaction along the 100-ft transect every 10 feet. The FSH 22090.21 for management of rangeland ecosystem health, gives recommendations for Properly Functioning Conditions (PFC) of Intermountain Region rangelands as defined by ground cover. Ground cover includes vegetation, litter, rock (> 3/4 –inch), moss/lichens, and cryptogams (Region IV standard). Proper functioning rangeland watersheds at any scale correlate to a protective ground cover that provides for basic functionality which is defined as sustaining the watershed components to provide for stability and recoverability of physical components. The Region IV rangeland standards the minimum ground cover for sustaining ecosystem vegetation cover types within Region IV. However, some adjustment may be necessary to fit the local environment conditions present in the project area.

Ground cover data collected at the soil sample sites show that minimum ground cover for Properly Function Condition (PFC) is met or exceeded for all sample sites except for the site above the Oowah road. Ground cover is also discussed in Section 2.2.3.

2.5 Wildlife

2.5.1 Overview

The Brumley Ridge allotment goes from the Forest boundary at 6000 feet to the top of the La Sal Mountain peaks. The variety of habitat types in this elevation range support a corresponding diversity of wildlife species. There are numerous wildlife species of interest that are present on the allotment including mule deer and elk, wild turkeys, American pikas, golden eagles, peregrine falcons, band-tailed pigeons, three-toed woodpeckers, Virginia’s warblers and northern goshawks. *Bear?*

2.5.2 Current Management Practices

Current Forest plan direction that gives management for wildlife includes :

- Maintain or improve habitat carrying capacity for elk or deer.

- Provide adequate drainage and revegetation on disturbed areas to stabilize soils and control soil erosion.
- Rehabilitate disturbed areas where feasible.
- Maintain soil erosion losses at or below the soil loss tolerance values (T-factors).
- Protect soil and water productivity so that neither will be significantly or permanently impaired.

Best management practices including the soil and water conservation practices (SWCP's) in FSH 2509.22 are incorporated in the planning and implementation of all ground-disturbing activities on lands administered by the Forest Service.

2.4.3 Existing Resource Conditions

The indicators of soil condition to be used to discuss existing condition of the resource on the allotment are: soil erodibility, soil erosion hazard, soil quality condition, effective ground cover.

Soil erodibility - Soil erodibility is a measure of the susceptibility of a soil particle to detachment and transport by rainfall.

There is 1 soil component having a high soil erodibility rating within the allotment which accounts for less than 1% of the allotment area.

Soil erosion hazard - Soil erosion hazard is the susceptibility of a bare soil to erosion, or the potential inherent in the soil itself to erode if the forces that cause erosion are applied to an area that is not adequately protected. There are three ratings: (1) slight – problems of soil erosion control are unimportant; (2) moderate – some attention must be given to prevent unnecessary soil erosion; and (3) severe/very severe – methods of operation and disturbance must be planned to minimize soil erosion.

There are 11 soil map units that contain soil components with severe/very severe soil erosion hazard; these 11 soil map units account for 39% of the allotment area.

Soil Quality Condition- The USFS Region IV soil condition evaluation and qualitative soil management monitoring form was used to assess existing conditions. The soil health rating and soil health trend are based on the hydrologic and physical soil condition ratings. Soil health indicators are rated as satisfactory, impaired or unsatisfactory based on observed condition ratings. Assessment evaluations are based on ocular documentation, by data collection for effective ground cover, and by describing the soil profile.

Ten soil condition evaluations were made for the Brumley Grazing allotment area. Three sites have a “at risk” soil health rating with “no change” soil health trend. The other sites have a satisfactory soil health rating with either no change or improving soil health trends.

- Maintain or improve wildlife habitat diversity.
- Maintain or improve fisheries habitat.
- Protect, maintain, and/or improve habitat for threatened or endangered and sensitive plants and animals.
- Provide habitat for viable populations of the existing vertebrate and invertebrate species found on the Forest.

In areas where range forage production is the emphasis the direction states to: Balance wildlife use with grazing capacities and habitat.

There are also several other specific directions related to wildlife (particularly Management Indicator Species and Threatened/Endangered or Sensitive species in the Forest Plan and Amendments.

2.5.3 Existing Resource Conditions

Threatened/Endangered or Sensitive Species

There are no federally listed threatened/endangered species present on the allotment.

Other Wildlife

The lower elevation pinyon-juniper and sagebrush habitats are important deer and elk winter range. Habitat improvement projects completed on South Mesa and Brumley Ridge in the 1970s would benefit from retreatment to restore productivity of the shrub and herbaceous understory. Summer range is the limiting factor for mule deer on the La Sal Mountains. Periodic drought, in addition to successional changes, has impacted vegetative conditions, forage availability and nutritional quality, which affects fawn recruitment and survival. Fawn:doe ratios on the La Sal herd unit are consistently below the state average. Vegetation projects, including prescribed fire, to regenerate aspen and increase forage production and diversity in the oakbrush zone would be beneficial to deer and other wildlife species. There are 3400 acres of oak/mountain brush habitat on the Brumley Ridge allotment where there has been no significant disturbance (such as fire) in the last 50+ years and the majority of the type is in a late-seral stage with encroaching pinyon-juniper. Invasive species, or weeds, have not been a major adverse impact on this allotment except for some areas with cheatgrass in the lower elevations.

The diversity of habitats provides for a large variety of migratory bird species, and the BBS survey across the allotment averages 60 breeding species observed annually (2003-2011). With the small sample size, population trends for these species cannot be determined, but the species richness and number of individuals is stable between years.

Raptors on the allotment, including golden eagles, generally have displayed consistent territory occupancy and high nest success rates. The peregrine falcon territory on the edge of the

allotment has been active in all 5 years since it was discovered. The northern goshawk territories have not been as productive. Both known territories had aspen nest trees which are now dead, and these have not been replaced with new nests in live trees. The understories of the nest areas are thick with increasing spruce and fir and heavy down woody debris.

The higher elevation spruce-fir vegetation type, dominated by mature trees, provides excellent habitat for three-toed woodpeckers in the Geyser Pass-Gold Basin area. Conifers are increasing in the aspen zone, reducing understory productivity and forest diversity. While aspen regeneration is successful in some areas, especially at the lower end of the aspen zone, other areas show evidence of heavy utilization and reduced recruitment of sapling trees.

Numerous plant species of interest occur on the allotment. Most are associated with the high elevation alpine ecosystem which is not grazed by cattle, but does support American pika.

2.6 Timber Management

2.6.1 Overview

There is a variety of woodland vegetation types present on the allotment. The lower elevations are dominated by Pinyon Juniper woodlands, which transition to oak brush and mountain shrubs woodlands in the mid-elevations. The higher elevation areas in the allotments are dominated by pure aspen stands, aspen mixed with conifers and spruce/fir woodlands.

2.6.2 Current Management Practices

Current Forest plan direction that gives management for woodlands and forested vegetation includes :

- Certain vegetative types are to be managed such that varying successional stages will be present to provide for a high level of vegetative diversity and productivity.
- Aspen is to be managed, with commercial or noncommercial treatments, with the goal of maintaining 13 percent of the Forest in aspen type or increasing the aspen type toward the 19 percent it represented in 1915.
- The aspen vegetation type would be managed and maintained in a condition of high productivity. Silvicultural practices treating total clones would generally be utilized resulting in the aspen type appearing as even-aged stands, but with stands in all age classes throughout the Forest.
- Aspen stands should be managed for forage as well as wood fiber.
- Include provision to provide wood products for public use in the management of pinyon-juniper and oak stands.
- Protect regeneration from unacceptable livestock damage.

2.6.3 Existing Resource Conditions

Aspen and aspen-mixed conifer is about 20% of the vegetation community. Although levels of conifer invasion vary, most clones in this area would be classified as seral (early successional). With lack of disturbance (fire or human-caused) to remove conifer and stimulate regeneration most clones in the allotment would eventually be dominated and replaced by conifer trees (Douglas-fir, Engelmann spruce, subalpine fir, and ponderosa pine).

In the late eighteenth and early nineteenth centuries livestock (sheep and cattle) numbers were extremely high and management was basically non-existent. A convergence of factors that no longer apply combined to create current forest conditions throughout the west and in this area as well. Factors included: 1) Favorable climate for tree establishment; 2) Especially heavy, unregulated, unmanaged grazing until about 1920; and 3) Substantially reduced fire return intervals for low-intensity fire that would otherwise have thinned young trees (fire suppression practices) (Borman 2004) or a lack of mixed severity fires that would have regenerated stands or groups of trees in longer fire return interval vegetation types (mixed conifer and spruce-fir). Regular fire intervals would also have aided in maintaining diverse structures in the aspen type. Many of the existing decadent aspen clones in the Brumley Ridge Allotment and other areas of the Moab District developed during or immediately following the period of intense grazing (1870-1920). Fire suppression practices implemented after 1910 have also reduced the amount of fire disturbance forest-wide.

About 50% of the aspen and aspen mixed conifer vegetation in the allotment is within slopes that may be grazed by livestock. Remaining slopes are in excess of 25-30% slope and are generally not accessible by cattle.

This allotment has had minimal logging. Firewood, posts, poles, Christmas tree cutting, and small timber sale contracts and permits have occurred adjacent to roads, but most suitable timber is located within Inventoried Roadless Areas and is not available currently for logging.

Field review and monitoring on the La Sal Mountains have shown a steady loss of older aspen on the mountain range and the Moab District. Currently most dominant aspen clones are mature or decadent and in poor condition. SADS (sudden aspen decline), which has increased in severity over the last 6-8 years in the southwest, and associated pests (bark beetles, etc) is evident across the Moab District and adjacent lands. The age of aspen clones (generally 100-150 years in age), combined with conifer encroachment, drought and climate change, high levels of insect activity (aspen bark beetle and poplar borer active in Warner Campground and other areas of the allotment), disease, and increased ungulate grazing has resulted in the decline and loss of many aspen clones across the landscape. These disturbances have stimulated regeneration of some aspen clones, but data regarding the extent and condition of these clones is not available.

Regeneration and degree of hedging data was collected in 2008 and 2009 in seven different aspen clones across the allotment. Five of the seven areas monitored showed over 3000

stems/acre of aspen regeneration. The Gold Basin site had over 6000 stems/acre. The other two sites were above 1500 stems/acre. Most of the aspen regeneration was in size class 1 – less than 1.5 feet or Size Class 2 – between 1.5 and 4.5 feet in height. Browse damage was categorized into none/slightly hedged; moderately hedged and closely hedged. 6 of the 7 areas had less than 15% of suckers that were closely hedged. In the Burro Pass area about 30% of suckers were closely hedged. Browsing of aspen suckers by both wildlife and livestock is apparent in Burro Pass but the clone is regenerating with over 3,900 stems/acre.

Within Inventoried Roadless Areas prescribed or natural fire is the primary tool available to provide disturbance that could kill encroaching conifers and stimulate regeneration (suckering) of suppressed aspen clones.

Fire suppression practices over the last century have allowed the density and extent of Gambel oak and pinyon-juniper to increase and conifers have invaded aspen clones. As this occurred grass, forb, sagebrush, and riparian or wetland vegetation types declined and ladder fuels increased within conifer forests, increasing fire hazard. This potentially forces wildlife and livestock to concentrate grazing more heavily in lower slope (less than 30%) aspen clones, meadows, and riparian areas.

There have been 25 wildland fires reported and suppressed in the area since 1972. All but 3 were contained at about 0.1 acres. There was a 65 acre fire in 1982, a 28 acre fire in 2007, and a 5 acre fire in 1999. Pile burning was implemented on 102 acres in 1990 as part of a fuels reduction project.

Seral aspen areas would generally require mixed severity to stand-replacing fire to regenerate and maintain these clones. With the increase in fuel, closed canopy forest, and drought conditions, fires on the La Sal Mountains have increased in size and severity as evidenced by the 1994 Willow Basin Fire, the 2002 Hang Dog Fire, the 2006 Lion Creek Fire, and the 2008 Porcupine Ranch Fire (within 1.5 miles of the allotment) that burned in vegetation types, structures, and elevations similar to those in Brumley Allotment.

2.7 Recreation

2.7.1 Overview

The Brumley Ridge Allotment is located in the central portion of the La Sal Mountains and overlaps some of the most popular and heavily used recreation areas on the Moab/Monticello District.

The Brumley Ridge Allotment also contains portions of the Horse Mountain-Manns Peak and Mount Peale Inventoried Roadless Areas (IRA) as well as the entire Mill Creek Gorge Research Natural Area (RNA).

Recreation use is diverse within the allotment and includes; dispersed camping, OHV use, mountain biking , hiking, equestrian use, hunting, fishing, backpacking, rock climbing, mountaineering and winter sports. The area serves as an important respite from the intense heat of the lower elevations around Moab in the summer. Many

Recreation facilities within the allotment consist of 11.4 miles of non-motorized system trails, 2 miles of motorized system trails and two developed campgrounds.

2.7.2 Current Management Practices

Current Forest plan direction that gives management for woodlands and forested vegetation includes :

- Offer a broad range of dispersed and developed recreation opportunities by providing appropriate recreation experience and setting levels.
- Provide the opportunity for developed recreation sites to be operated by public concessionaires.
- Provide appropriate developed recreation capacity where demand exists and private sector cannot meet the demand.
- Maintain, enhance, and/or rehabilitate visual resources to the planned VQO.
- Manage livestock use to be compatible with recreation use. Locate structural and design non-structural improvements to meet visual quality objectives.

2.7.3 Existing Resource Conditions

Developed Campgrounds

Oowah Lake Campground is located within the allotment and the Warner Lake Campground is directly adjacent to the allotment. Both campgrounds are popular areas for camping, fishing, hiking and mountain biking, and are usually full to capacity every weekend in the summer. Oowah Lake has 15 campsites and a day use area. Several non-motorized trails leave from the campground. Warner Lake has 20 campsites, a group area, a day use site and a rental cabin. Both areas are fenced and excluded from grazing, however cattle often get through the fences and enter the campgrounds impacting the camping experience of forest visitors.

Trails

11.4 miles of non-motorized system trails are located within the Brumley Ridge Allotment including the following trails:

- Moonlight Meadows Trail # 5179
- Boren Mesa Trail #5037
- Squaw Springs Trail # 5038
- Warner Lake/Beaver Basin Trail #5033

- Schuman Trail #5036
- Warner to Oowah Trail #5030
- Clark Lake Trail # 5141
- Clark Lake Loop Trail # 5144

These trails are some of the most heavily used on the District and many of them are parts of longer trail systems that are used to access other areas of the forest and adjacent BLM lands. A portion of the “Whole Enchilada” trail is located within the allotment which is a very popular trail that is used primarily by mountain bikers.

2 miles of motorized trail and numerous other Forest System Roads are used by OHVs in the allotment.

Livestock grazing along some of the trails have resulted in conflicts with recreational trail users. Impacts to trail use is generally in the form of excessive amounts of manure left by the cattle along the trails which make the trail undesirable to hike or bike along. The majority of these trail conflicts have occurred along the Moonlight Meadows trails.

Cattleguards have been placed along the Moonlight Meadows and Clark Lake Loop trails where they pass through pasture fences to reduce the occurrences of gates being left down and cattle using the higher meadows before they are allowed to be there.

Dispersed Camping

The allotment is heavily used for dispersed camping. The majority of the dispersed camping occurs along the Geyser Pass and Gold Basin Road. Currently the Forest Service Travel Plan allows for dispersed camping with vehicles within 150’ of authorized roads. Most of the popular dispersed sites are occupied every weekend in the summer months and during the fall hunts.

Livestock often use the same areas forest visitors use for camping which has resulted in many of these dispersed campsites being impacted by manure and the presence of the livestock during certain times of the year.

Dispersed Recreation

Various forms of dispersed recreation occur primarily dispersed recreation takes the form of off-trail hiking and backpacking, climbing in Mill Creek gorge and Brumley Creek, and peak bagging in the high peaks around Geyser Pass and Gold Basin.

Upper Gold Basin is a popular area for dispersed recreation mainly hiking and peak bagging. This area of the allotment is closed to grazing and recreation use in this area is therefore not impacted by livestock grazing.

The areas used for climbing are too steep and currently impacts from livestock do not occur.

Hunting

Big game hunting is very popular in the allotment including deer, elk and bear. Deer and Elk hunting starts in mid August and continues through December. The bear hunts include a spring and fall hunt and a summer pursuit season. The area has become a very popular for bear hunting.

Motorized Recreation

Motorized recreation is popular in the allotment and occurs along Forest System Roads and one motorized trail. The Geyser Pass Road is part of a longer OHV loop that local OHV clubs promote and use for tours.

Commercial Outfitter and Guides

Numerous authorized outfitter and guides use the area including; hunting, hiking/mountaineering, climbing, outdoor education, mountain biking guides and shuttle companies. The majority commercial outfitter guide use is the commercial shuttle companies that primarily drop clients off at Geyser Pass to ride to Burro Pass to ride the “Whole Enchilada”

La Sal Loop Road Scenic Drive

The La Sal Loop Road is a popular scenic drive for local residents and visitors to the Moab area and passes through the allotment.

Inventoried Roadless Areas (IRAs)

Portions of the Horse Mountain-Manns Peak and Mount Peale IRAs are within the allotment. IRAs are managed to protect their roadless and wilderness character which includes opportunities for solitude and primitive recreation, naturalness, undeveloped and untrammeled character.

CHAPTER 3.0

3.1 Issues Identified

Based on current conditions and comments received from the public, the following issues have been identified and reviewed by an Interdisciplinary Team.

Issue 1. Springs, seeps, and wet meadows may be damaged by continued or increased livestock grazing. Protection provided in the current AMP and permit is inadequate.

Issue 2. Vegetative production and/or ground cover is lower than desired in a few areas on the allotment: some higher elevation open meadows in Upper Brumley and Geyser Pass (50 acres), a few open benches south of Oowah road (30 acres) and the blacksage/big sage areas in South Mesa pasture (270 acres). Grazing could cause further damage to the ecological function of the areas resources.

Issue 3. Allotment contains soils that were assessed to be at risk in South Mesa pasture and the benches just north of Boren Mesa in Mill Creek pasture. These are some of the same areas that have vegetative production issues. Grazing could damage soils and cause increased erosion.

Issue 4. Forest Plan and proposed utilization standards could result in over-use of the allotment. Comments received from the public present a recommendation of 30% or lower use of forage on the allotment, which is lower than current Forest Plan standards and the proposed action's.

Issue 5. Grazing in the Geyser Pass area conflicts with recreation activities. There is a large amount of mountain biking, hiking and dispersed camping that takes place up in the Geyser Pass area. The Forest Service has received comments from the public in relation to livestock or livestock excrement is interfering with their recreational experiences.

3.2 Next Steps

The proposed action and alternative descriptions are being sent to interested parties simultaneously with this Analysis of the Management Situation. The Moab/Monticello district will be receiving comments regarding this document and the alternative descriptions before a decision is made.

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