

Chapter 2: Alternatives (Including the “Proposed Action”)

INTRODUCTION

This chapter describes and compares the alternatives considered for the Martin Basin Rangeland Project. It includes a description and map of each alternative considered. This section presents the alternatives in comparative form, sharply defining the differences between each alternative and providing a clear basis for choice among options by the decision maker and the public. Some of the information used to compare the alternatives is based upon the design of the alternative, while other information is based upon the environmental, social, and economic effects of implementing each alternative.

ALTERNATIVES CONSIDERED IN DETAIL

The Forest Service developed three (3) alternatives, including the “Current Management/No Action,” “Proposed Action” and “No Grazing” alternatives, in response to issues raised by the public. In addition, a fourth alternative was submitted by Resource Concepts, Inc., in response to the DEIS. This alternative was then amended by the Nevada Department of Agriculture and is now included in the FEIS as Alternative 4: “RCI Proposal.” The “RCI Proposal” was analyzed by the Forest Service in a similar manner as the original three (3) alternatives, and the full text of both the RCI proposal and the Nevada Department of Agriculture’s letter are included in Appendix G of this FEIS.

ALTERNATIVE 1 – CURRENT MANAGEMENT / NO ACTION

Under the “Current Management /No Action” alternative, current Allotment Management Plans (AMPs) would continue to guide the management within the Project Area. The Project Area consists of the Granite Peak, Buttermilk, Martin Basin, West Side Flat Creek, Buffalo, Indian, Bradshaw and Rebel Creek Allotments. The systems, numbers of animals, and season of use would remain the same under this alternative. There are currently 5,305 cattle and 25 horses permitted within the Project Area. This amounts to 20,639 head months (HMs) of cattle and 95 HMs of horses.

- **Indian Allotment**
(June 16 – September 30)
301 Cow/Calf Pairs (1,069 Head Months)
Rest Rotation Grazing System
- **West Side Flat Creek Allotment**
(June 1 – August 25)
461 Cow/Calf Pairs (1,319 Head Months)
Rest Rotation Grazing System
- **Martin Basin Allotment**
(June 6 – September 27)
1,935 Cow/Calf Pairs (7,316 Head Months)
25 Horses (95 Head Months)
Rest Rotation Grazing System
- **Buttermilk Allotment**
(May 22 – September 22)
1,303 Cow/Calf Pairs (5,655 Head Months)
Rest Rotation Grazing System
- **Granite Peak Allotment**
(May 21– September 30)
1,050 Cow/Calf Pairs (4,626 Head Months)
Rest Rotation Grazing System
- **Buffalo Allotment**
(June 16-August 31)
255 Cow/Calf Pairs (654 Head Months)
Rest Rotation Grazing System
- **Rebel Creek Allotment (Vacant)**
- **Bradshaw Allotment (Vacant)**

Levels of allowable utilization are established for both upland and riparian vegetative communities on all allotments. These levels, which would remain the same, are taken from Amendment #2 of the *Forest Plan* and are summarized below:

- Upland herbaceous vegetation = 65%
- Riparian browse (i.e., willow) = 35%
- Upland browse (i.e., bitterbrush, snowberry, serviceberry) = 50%

Table 25-T: Allowable Use on All Allotments, which details Desired Conditions for Alternative 2: No Action / Current Management by allotment and stream name, can be found in Appendix A of this FEIS.

The desired or acceptable resource conditions for riparian areas as outlined in Amendment #2 are described in Appendix A. These conditions are described by riparian category and definitions of the categories are also included in Appendix A.

No new structural developments would be approved under this alternative. Maintenance of existing structural developments would continue as outlined in the individual term grazing permits.

Monitoring Plan

Implementation Monitoring (Short Term)

Herbaceous and browse utilization observations would be conducted on streams and uplands listed within the term grazing permits.

- Annual schedules and other annual instructions would be monitored for compliance each grazing season.
- Terms and conditions in the grazing permits would be monitored annually.

Effectiveness Monitoring (Long Term)

- This would be used to determine if the standards and guidelines in the *Forest Plan* as amended are effective in accomplishing the desired result. This includes nested frequency trend studies, riparian level II and III studies and photograph points.
- Any monitoring in existing allotment management plans would also be conducted.

Mitigation Measures

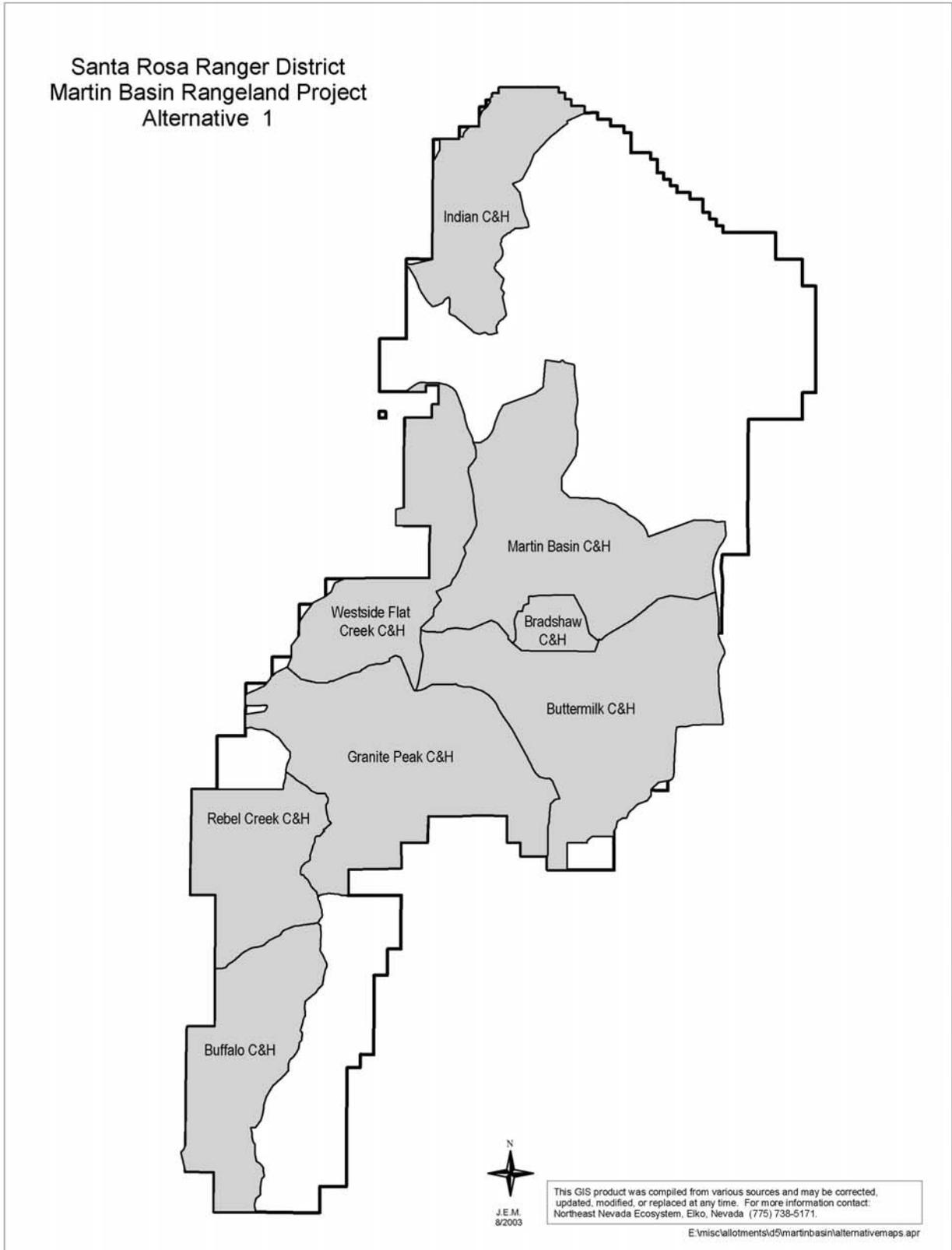
Implementation of the Rangeland MOU between the Forest Service and the Nevada State Historic Preservation Office (SHIPO) would continue. Treatment Plans will be developed to address adverse impacts to sites from livestock grazing. Any future proposed developments, or any other action that will result in an increased level of ground disturbance will be addressed individually through the Section 106 regulations of the NHPA and NEPA process and as required under the MOU.

Livestock concentrating activities would not occur in potential habitat for Osgood Mountain milkvetch and obscured scorpion plants and known locations of Cusick's hyssop until surveys are completed. Livestock congregating activities would include, but are not limited to, salting, and water developments.

Sensitive plants would be protected if negative effects are occurring. Surveys would continue to be performed in potential habitat. If populations of sensitive plant species are found, monitoring would be used to determine if livestock grazing is having a negative impact. Example actions may include but are not limited to excluding cattle from the site, changing the timing of grazing, reducing utilization levels, and changing techniques to manage the livestock.

Training would be provided with field tours for appropriate personnel to familiarize them with Rare and Sensitive plants and their habitat.

Map 1-M: Allotments (Alternative 1)



ALTERNATIVE 2 – PROPOSED ACTION

The proposed action was developed to meet the purpose and need. The proposed action would authorize cattle grazing in eight (8) allotments within the Project Area. Bradshaw and Rebel Creek Allotments would be incorporated into one (1) or more of the remaining allotments. Portions of Rebel Creek Allotment may be fenced and not be authorized for grazing at this time due to the extremely steep terrain which tends to cause livestock to congregate in the riparian area.

Management Standards

Vegetative Groups

Management standards have been developed for the vegetative communities that are within the Project Area. These vegetative communities or groups are:

- Aspen communities,
- Cottonwood communities,
- Wet Meadows,
- Moist to Dry Meadows,
- Wyoming big sagebrush communities,
- Mountain big sagebrush communities,
- Mountain brush communities, and
- Stream/Riparian communities.

Inventories would identify the current functioning level of the various vegetative communities and appropriate allowable utilization levels, from Table 1-T and Table 2-T would be applied. The standards include maximum allowable utilization levels for herbaceous vegetation and woody vegetation. The levels of utilization vary based on whether or not the vegetative group currently Functions as Desired, Does Not Meet a Desired Function, or has Crossed Below a Threshold. Each group contains several attributes that can be measured to determine the functioning level. The attributes are guidelines and may be used in combination with each other or singly to determine the functioning level. These attributes are arranged in matrix form and are located in Appendix B. In addition, a detailed description for each vegetative group is in Appendix B.

The management standards are summarized, by vegetative group, in Table 1-T and Table 2-T.

TABLE 1-T: Standards for Herbaceous Vegetation¹

	Management Standard for "Functions as Desired"	Management Standard for "Does not meet Desired Function"	Management Standard for "Crossed below Threshold"
Vegetative Group	Allowable Utilization as a % by weight (herbaceous)	Allowable Utilization as a % by weight (herbaceous)	Allowable Utilization as a % by weight (herbaceous)
Moist-Dry Meadow	Up to 45%	Up to 35%	Up to 25%
Wet Meadow	Up to 45%	Up to 35%	Up to 25%
Stream / Riparian³	Up to 45%	Up to 35%	Up to 25%
Aspen	Up to 45% or 20% of available suckers browsed	Up to 35% or 20% of available suckers browsed	Up to 25% or 20% of available suckers browsed
Wyoming big sagebrush³	Up to 50%	Up to 40%	Up to 30%
Mountain big sagebrush	Up to 50%	Up to 40%	Up to 30%
Mountain brush	Up to 50%	Up to 40%	Up to 30%



TABLE 2-T: Standards for Woody Vegetation

	Management Standard for "Functions as Desired"	Management Standard for "Does not meet Desired Function"	Management Standard for "Crossed below Threshold"
Vegetative Group	Allowable Utilization as a % of available current year's growth (Associated woody vegetation)	Allowable Utilization as a % of available current year's growth (Associated woody vegetation)	Allowable Utilization as a % of available current year's growth (Associated woody vegetation)
Stream / Riparian (willow)	Up to 30%	Up to 20%	Up to 10%
Mountain brush (bitterbrush, snowberry, serviceberry)	Up to 35%	Up to 25%	Up to 15%
Aspen	Up to 20% of available suckers browsed or up to 45% utilization of herbaceous vegetation	Up to 20% of available suckers browsed or up to 35% utilization of herbaceous vegetation	Up to 20% of available suckers browsed or up to 25% utilization of herbaceous vegetation
Cottonwood	Up to 20% of available suckers browsed	Up to 10% of available suckers browsed	No browsing on available suckers

Notes:

¹The following resources were used to develop the utilization guidelines represented in the tables above:

The Forest Plan, Amendment 2: "Managing Riparian Areas in the Intermountain Region"

Managing Grazing of Riparian Areas in the Intermountain Region, General Technical Report INT-263 by Warren P. Clary and Bert F. Webster

Growth and Reproduction of Grasses Heavily Grazed under Rest-Rotation Management by Richard E. Eckert, Jr. and John S. Spencer

Grazing Studies: What We've Learned by Jerry L. Holechek, Hilton Gomez, Francisco Molinar, and Dee Galt

³Streams that are currently being managed at a utilization level below 45% to comply with Amendment 2 of the Forest Plan or to comply with previous Section 7 Consultations would remain under that standard.

⁴Utilization levels in the Wyoming big sagebrush communities would not apply to annual grasses (i.e., cheatgrass)

Representative sites within the vegetative groups on each allotment would be sampled for selected attributes listed in the applicable matrix and then classified into one (1) of the three (3) functioning groups. These sites should be areas that represent that vegetative group within that pasture and would be those areas likely to show change with an adjustment in livestock grazing management.

The representative sites would be selected and sampled by a monitoring team chartered by the District Ranger. There will typically be at least one (1) representative site per vegetative group within each pasture or unit. There will also be at least one (1) representative site per stream within each pasture or unit.

Stream Groups

The following streams that have been identified with current or recently existing Lahontan cutthroat trout populations would be classified first, and management standards will be established. The classification would occur in 2005 through 2007.

CURRENTLY OCCUPIED STREAMS

- Three-Mile Creek
- Indian Creek
- Long Canyon Creek
- Andorno Creek
- Falls Creek



PREVIOUSLY OCCUPIED STREAMS

- North Fork Cabin Creek
- Dutch John Creek
- Lye Creek
- Deep Creek
- Round Corral Creek
- Road Canyon Creek
- South Fork Flat Creek
- Flat Creek
- North Fork Little Humboldt River
- Gabica Fork of Willow Creek
- Rebel Creek
- East Fork Quinn River
- Mullinix Creek

Remaining Vegetative Groups and Streams

The following schedule is for the purpose of establishing management standards that would be applied to the remaining streams and vegetative groups within each allotment:

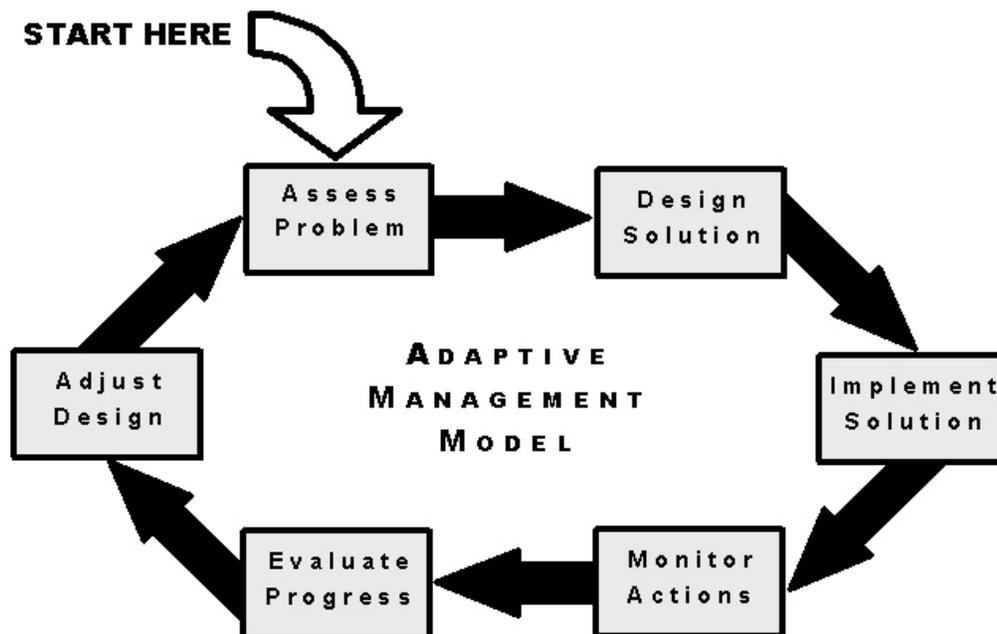
- Granite Peak Allotment – 2006-2007
- Martin Basin Allotment – 2007-2008
- Buttermilk Allotment – 2008
- Buffalo Allotment – 2009
- Indian Allotment – 2009
- West Side Flat Creek Allotment – 2009
- Bradshaw Allotment – 2010
- Rebel Creek Allotment – 2010

Availability of funding would determine actual dates of completion. Following categorization and establishment of standards each vegetative group would be monitored for compliance with those standards. Until they are categorized, the vegetative groups would be managed under the standards listed for Functions as Desired.

Adaptive Management

This alternative incorporates an adaptive management process that will guide livestock management. This adaptive management process is designed to provide land managers and livestock producers the ability to react appropriately to results from monitoring both short term activities and long term management objectives in order to meet desired conditions. The process is based on a six (6) step cycle that requires managers and permittees to work through all six (6) steps, as identified in the figure below, in order to successfully complete the process.

**Figure 1-F:
Adaptive
Management
Model**



Using the six (6) step process represented above, Allotment Management Plans (AMPs) would be developed over time for all allotments in consultation with the permittees, incorporating an adaptive management strategy. This strategy would be designed to allow flexibility during implementation to make adjustments due to changing conditions and/or results from monitoring. Meetings between the FS and permittee in the winter or spring would occur to discuss:

- Past season grazing strategy,
- Annual indicators or standards,
- Results from any inventory or long term condition and trend monitoring,
- Other factors or events that affected the previous grazing season (drought, fire)
- Any factors that could affect the up-coming grazing season, and
- What, if any, changes need to be made in the grazing strategy to improve upon the conditions from the past seasons.

At this meeting, an assessment would be made as to whether the actual grazing use in the past year's grazing season left the rangeland in a condition that is likely to result in the desired trend towards meeting management objectives.

The outcome of these annual meetings may result in adjustments for the upcoming season depending on the combined results of all of the above (step 6). If necessary, adjustments would be made to correct any problems, take advantage of the successes, or adjust for other conditions or events that may occur such as fire, drought, or economic considerations. Adjustments could include any of the following:

- Changing the timing and/or amount of time livestock are in any particular area,
- Increasing riding to improve distribution,
- Changing salting locations,
- Changing triggers, or
- Using temporary facilities such as fencing or water sources.

The amount, direction, and type of management adjustment(s) would be changed depending on the results of the monitoring and the desired condition.

If necessary, permitted numbers and seasons may be modified to balance the permitted numbers and/or season with the livestock managers ability to meet utilization standards and long term objectives Over the long term. The amount of adjustment in seasons or numbers of livestock, if any, is usually dependent on the level of the permittee's livestock management. The amount of change is unknown but would be based on monitoring following implementation of this alternative.

Associated Management Measures

- A Riparian Pasture would be created on lower Cabin Creek. This pasture would also include a portion of Martin Creek.
- A Riparian Pasture would be created along the lower three (3) miles of Rebel Creek and Wood Canyon. No livestock grazing would be currently authorized in this pasture.
- Maintenance of structural developments would be outlined in the individual term grazing permits.
- Authorize no grazing in streams and other areas with riparian habitat from mid-July through August ("hot season") at least one (1) out of every three (3) years.

Additional Mitigation Requirements

- Livestock grazing will not occur prior to June 1 of each year if strong, quantifiable evidence is presented to the Forest Service indicating that livestock grazing prior to that date is having a considerable adverse effect on nesting sage grouse populations within a specific allotment or pasture.
- Authorize no grazing in streams and other areas with riparian habitat from mid-July through August (“hot season”) at least one (1) out of every three (3) years.
- Conduct monitoring required in related Section 7 Consultations.
- Implementation of the Rangeland MOU between the Forest Service and the State Historic Preservation Office would continue. Treatment Plans will be developed to address adverse impacts to sites from livestock grazing. Any future proposed developments, or any other action that will result in an increased level of ground disturbance (i.e., placement of salt blocks, fertilizing, etc.), will be addressed individually through the Section 106 regulations of the NHPA and the NEPA process and as required under the MOU.
- Livestock congregating activities would not occur in potential habitat for Osgood Mountain milkvetch and obscured scorpion plants and known locations of Cusick’s hyssop until surveys are completed. Livestock concentrating activities would include but are not limited to salting and water developments.
- Sensitive plants would be protected if negative effects are occurring. Surveys would be performed in potential habitat. If populations of Sensitive plant species are found, monitoring would be used to determine if livestock grazing is having a negative impact. If livestock grazing is having a negative effect, the site would be protected. Example actions may include but are not limited to excluding cattle from the site, changing the timing of grazing, reducing utilization levels, and changing techniques to manage the livestock.
- Training would be provided with field tours for appropriate personnel to familiarize them with the Rare and Sensitive plants and their habitat. Reports would be placed in the project file and would contain training provided, surveys performed, monitoring results, and management activities as appropriate.

Monitoring Plan

Implementation Monitoring (Short Term)

Herbaceous and browse utilization observations would be conducted on selected areas annually. The selected areas will best represent the general vegetative or stream group being monitored and the utilization that is occurring within that group.

Compliance with terms and conditions in the grazing permits including Annual Operating Instructions would be monitored annually.

Monitoring would be conducted as required in related Section 7 Consultations.

Effectiveness Monitoring (Long Term)

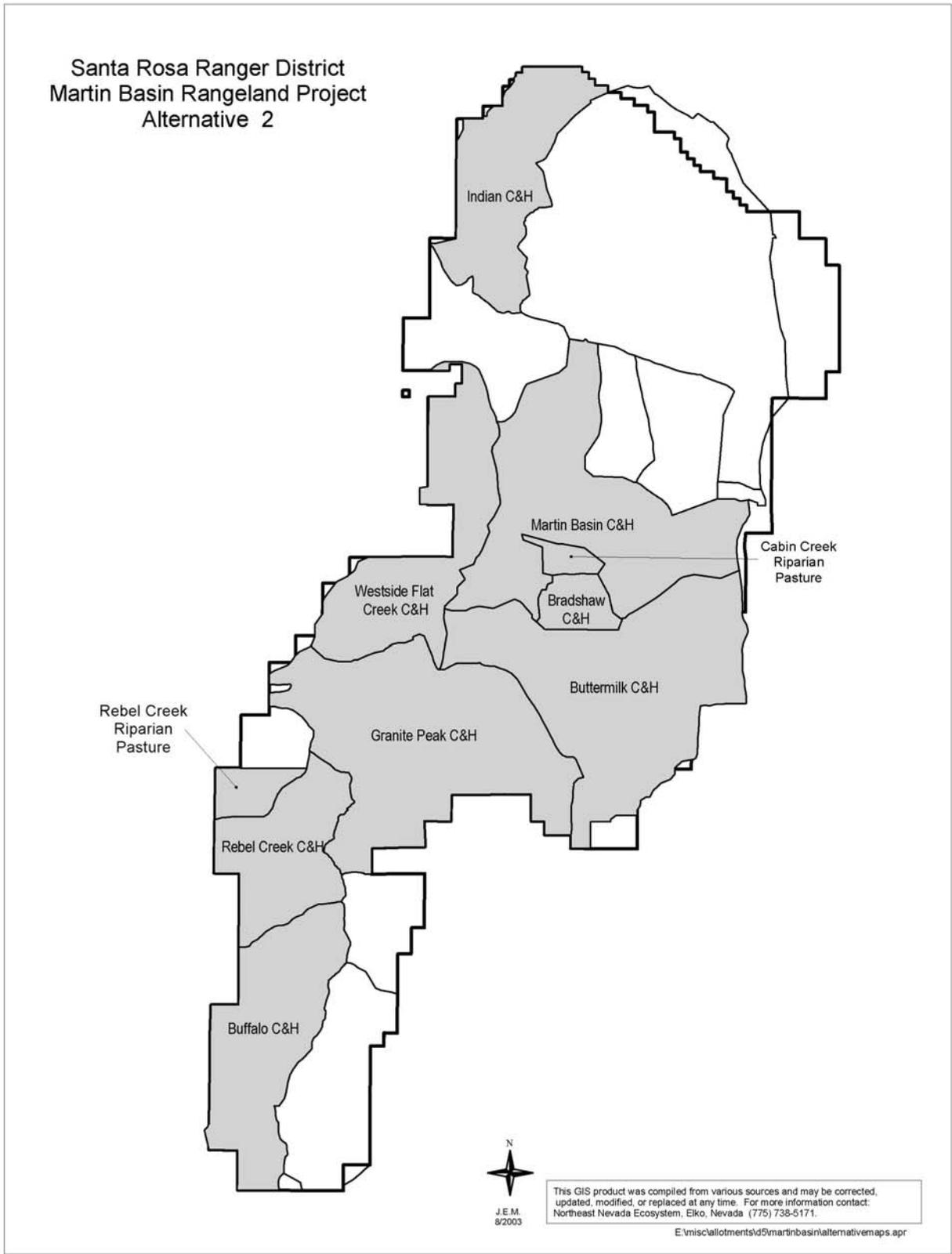
Monitoring sites would be established as needed to determine trends and changes in functioning levels. This information, along with livestock grazing use data, will be used to evaluate any needs for changes in management. Monitoring would follow Forest Service accepted methodologies. A detailed monitoring protocol describing methods, time frames, locations and a key to identify the vegetative groups is included in the project record. This protocol will guide the effectiveness monitoring.

Long-term photographic comparison may also be used as is practicable and/or appropriate.

A monitoring schedule would be established as the vegetative groups on each allotment are categorized. Monitoring would normally occur on a 10-year schedule. The schedule could be shortened or lengthened if changing resource conditions indicate a need. Funding availability would control amount of monitoring conducted.

Streams identified with current or recently existing Lahontan cutthroat trout populations would normally be monitored on a five to ten year schedule. However, the South Fork of Indian Mile Creek would be monitored annually to determine the effectiveness of the management standards.

Map 2-M: Allotments & Riparian Pastures



ALTERNATIVE 3: NO GRAZING

This alternative would phase out grazing at the end of a five (5) year transition period, ending in 2009. If current term grazing permits expire prior to 2009, then new permits would be issued to extend to 2009. This alternative would result in a reduction of 5,663 cattle and 25 horses. This amounts to a cattle and horse combined total of 22,145 HMs. The allotments would be managed under their current systems and standards until they become vacant. Existing improvements that are no longer functional or needed would be removed. This would include interior fences, cattleguards, and water developments. This would occur over time as allotments become vacant and budgets allow.

Monitoring Plan:

A monitoring program would be developed as budget allows, to determine changes in individual vegetative communities. The area would also be monitored for unauthorized livestock. Implementation of the Rangeland MOU between the Forest Service and the State Historic Preservation Office would continue until livestock have been removed from the allotments.

As existing range improvements are scheduled for removal they will be evaluated for historical significance and appropriate measures will be taken in consultation with the State Historic Preservation Officer as required under Section 106 of the NHPA and as required under the MOU.

ALTERNATIVE 4: RESOURCE CONCEPTS, INC. (RCI) PROPOSAL

Alternative 4, as submitted by Resource Concepts, Inc. (RCI), is very similar to Alternative 1: "Current Management / No Action" as developed by the Forest Service in the draft environmental impact statement (DEIS). In summary, the RCI proposal includes the following features:

- "Permittees would initiate completion or updating Allotment Management Plans..."
- "Alternative 4 accepts FS use of Vegetation matrices as defined in the EIS....However, the Alternative conditions this acceptance upon determination of site capability to achieve matrix descriptions through construction and monitoring of exclosures for validation."
- "The management system would be implemented as an active adaptive management approach..."
- "Alternative 4 would maintain existing utilization standards defined in Amendment 2 to the Forest Plan by FS on each allotment."
- "[U]tilization standards may or may not be retained, rather they should be used as a within-season triggers and annual short-term indicators..."
- "FS use the MB project which has soils and ecological site descriptions provided by NRCS to further validate the matrices."

The complete text of Alternative 4: RCI Proposal, as amended and summarized by the Nevada Department of Agriculture, can be found in Appendix G of this FEIS.

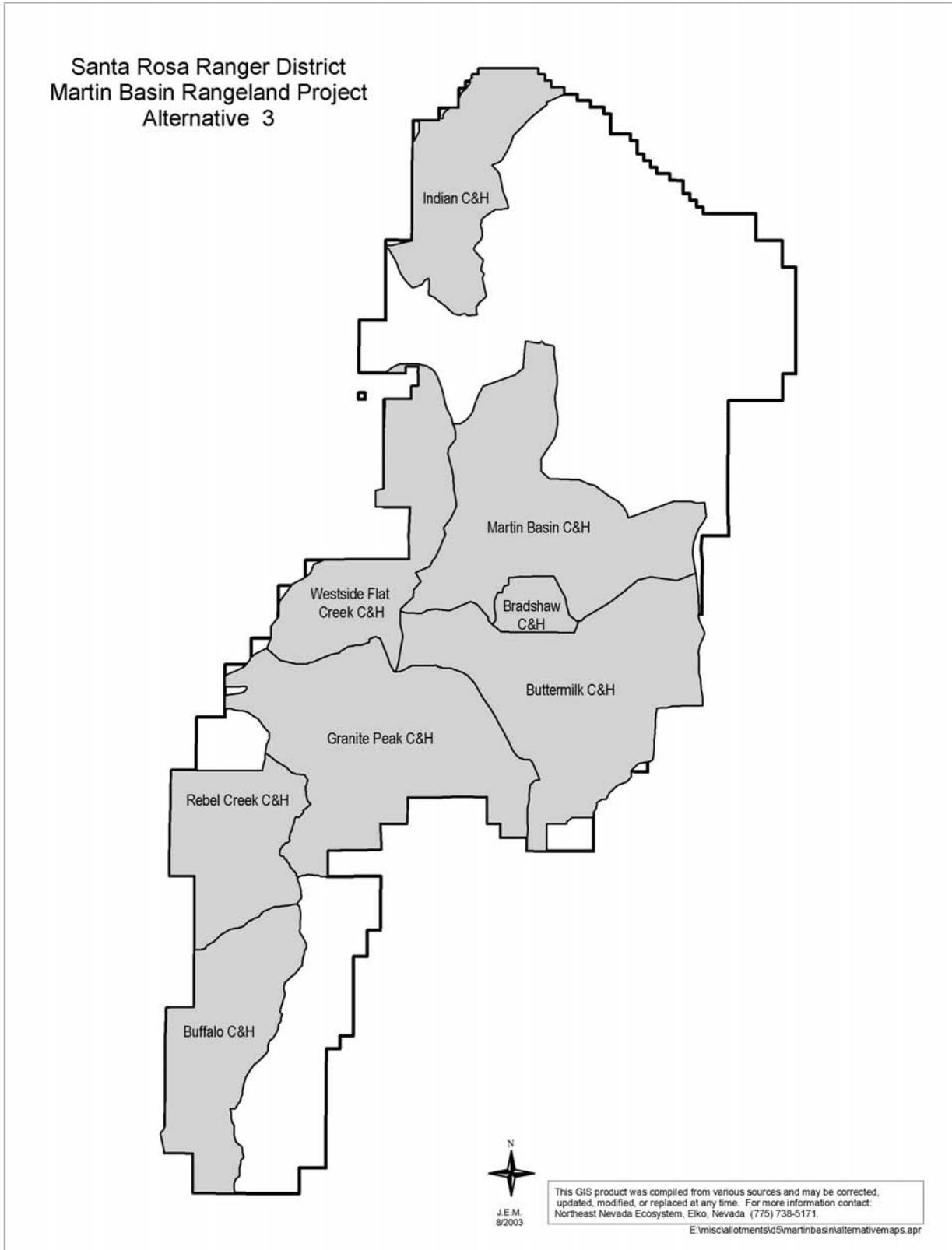
Monitoring Plan

See specific details provided in Appendix G of this FEIS.

Mitigation Measures

See specific details provided in Appendix G of this FEIS.

Map 3-M: Allotments Affected by Alternative 3: "No Grazing"



ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

Federal agencies are required by NEPA to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). Public comments received in response to the Proposed Action provided an additional suggestion for alternative methods for achieving the purpose and need.

Restoration Alternative

A “Restoration Alternative” suggested by Western Watersheds’ response to the scoping process recommended significant reductions in livestock numbers and reliance on non-structural methods of livestock control and dispersion. Passive restoration techniques such as cessations in livestock use and closure of roads were also suggested. However, a “restoration alternative” was not analyzed through the document for the following reasons:

- The suggested restoration alternative partially duplicates the pertinent features of the “no grazing” alternative which is analyzed in full.
- Analysis of potential road closures is outside the scope of this analysis as stated in the “Purpose of and Need for Action” of this FEIS.
- Changes in livestock numbers and/or seasons are achieved through the term grazing permits, which is an administrative process and, therefore, outside the scope of this NEPA analysis.
- Non-structural methods of livestock control and dispersion, such as alterations in riding patterns, are already evaluated in the analysis.

VISUAL COMPARISON OF ALTERNATIVES 1 - 4

This section provides a summary of the effects of implementing each alternative that was studied. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives. Each section of the table runs across both pages, with the effects of alternatives 1 and 2 presented on the left-hand, or even numbered, page and the effects of alternatives 3 and 4 on the right hand, or odd-numbered, page. Effects of implementing each alternative are described in detail in Chapter 4.

Table 3-T: Comparison of Alternatives – Effects of Implementation

COMPARISON OF ALTERNATIVES - EFFECTS OF IMPLEMENTATION		
WATER QUALITY	ALTERNATIVE 1:	ALTERNATIVE 2:
	“Current Management / No Action”	“Proposed Action”
Fecal coliform	Unchanged or increase	Decrease in degraded areas. Remain unchanged in functional areas.
Sediment	Unchanged or increase	Decrease in degraded areas. Remain unchanged in functional areas.
Water temperature	Unchanged or increase	Decrease in degraded areas. Remain unchanged in functional areas.
Dissolved oxygen	Unchanged or decrease	Increase in degraded areas. Remain unchanged in functional areas.

COMPARISON OF ALTERNATIVES - EFFECTS OF IMPLEMENTATION		
SOIL QUALITY	ALTERNATIVE 1:	ALTERNATIVE 2:
	“Current Management / No Action”	“Proposed Action”
Compaction	Unchanged	Decrease
Riparian trampling	Unchanged	Decrease
Upland trampling	Unchanged	Decrease
Wind erosion	Increase	Unchanged
Water erosion	Increase	Unchanged



EFFECTS OF IMPLEMENTATION - COMPARISON OF ALTERNATIVES		
ALTERNATIVE 3:	ALTERNATIVE 4:	WATER QUALITY
"No Grazing"	Resource Concepts, Inc. (RCI) Proposal	
Unchanged or decrease the quickest	Unchanged or increase	Fecal coliform
Unchanged or decrease the quickest	Unchanged or increase	Sediment
Unchanged or decrease the quickest	Unchanged or increase	Water temperature
Unchanged or increase the quickest	Unchanged or decrease	Dissolved oxygen

EFFECTS OF IMPLEMENTATION - COMPARISON OF ALTERNATIVES		
ALTERNATIVE 3:	ALTERNATIVE 4:	SOIL QUALITY
"No Grazing"	Resource Concepts, Inc. (RCI) Proposal	
Decrease	Unchanged	Compaction
Decrease	Unchanged	Riparian trampling
Decrease	Unchanged	Upland trampling
Unchanged to decrease	Increase	Wind erosion
Unchanged to decrease	Increase	Water erosion



COMPARISON OF ALTERNATIVES - EFFECTS OF IMPLEMENTATION		
FISHERIES	ALTERNATIVE 1:	ALTERNATIVE 2:
	“Current Management / No Action”	“Proposed Action”
Bank stability	Existing bank stability trends would continue. Many stream banks are currently below desired levels for stability and below <i>Forest Plan</i> standards.	Recovery of bank stability (and improvement in channel morphology) is expected to occur at a regular rate. Stability would improve more rapidly than with “Current Management/No Action,” but is expected to occur more slowly than under “No Grazing.”
Water Temperature	Unchanged or increase	Decrease in degraded areas. Remain unchanged in functional areas.
Embeddedness (measure of fine sediment levels)	Embeddedness levels would continue at current levels. Many areas are above 25% at this time.	Substrate embeddedness would be less than “Current Management/No Action.” Improvements in bank stability and overall riparian health would reduce sediment levels.
Lahontan Cutthroat Trout (LCT)	Habitat would remain as is currently exists and populations should remain unchanged as a result of livestock grazing.	Habitat should improve and there is a potential for increases in populations.
Trout (all other species)	Habitat would remain as is currently exists and populations should remain unchanged as a result of livestock grazing.	Habitat should improve and there is a potential for increases in populations.



EFFECTS OF IMPLEMENTATION - COMPARISON OF ALTERNATIVES		
ALTERNATIVE 3:	ALTERNATIVE 4:	
"No Grazing"	Resource Concepts, Inc. (RCI) Proposal	FISHERIES
The rate of bank stability recovery would be expected to be expedited under "No Grazing" compared to other alternatives. Removal of livestock would cause a corresponding improvement in bank stability.	If current utilization standards and use patterns continue, bank stability will be similar to Alternative 1. If utilization increases or grazing occurs at "critical" times, bank stability is expected to decrease. If utilization decreases or other actions are taken to disperse livestock from the riparian, bank stability will increase similar to the "Proposed Action."	Bank stability
Unchanged or decrease the quickest	Unchanged or increase	Water Temperature
Embeddedness is expected to be reduced at a more rapid rate than with the other alternatives. Recovery of riparian habitats and stream bank stability would filter fine sediment and reduced sediment input.	If current utilization standards and use patterns continue, embeddedness will be similar to Alternative 1. If utilization increases or grazing occurs at "critical" times, embeddedness is expected to remain the same or increase. If utilization decreases or other actions are taken to disperse livestock from the riparian, embeddedness will decrease similar to the "Proposed Action."	Embeddedness (measure of fine sediment levels)
Habitat should improve at a more rapid rate and the potential for population increases is greatest.	If current utilization standards and use patterns continue, habitat and populations will be similar to Alternative 1. If utilization increases or grazing occurs at "critical" times, habitat may decrease and there is potential for population decrease as well. If utilization decreases or other actions are taken to disperse livestock from the riparian, habitat and population will respond as per the "Proposed Action."	Lahontan Cutthroat Trout (LCT)
Habitat should improve at a more rapid rate and the potential for population increases is greatest.	If current utilization standards and use patterns continue, habitat and populations will be similar to Alternative 1. If utilization increases or grazing occurs at "critical" times, habitat may decrease and there is potential for population decrease as well. If utilization decreases or other actions are taken to disperse livestock from the riparian, habitat and population will respond similar to the "Proposed Action."	Trout (all other species)



COMPARISON OF ALTERNATIVES - EFFECTS OF IMPLEMENTATION			
WILDLIFE		ALTERNATIVE 1:	ALTERNATIVE 2:
		“Current Management / No Action”	“Proposed Action”
	Sage Grouse		
	Nesting habitat	Higher utilization in the uplands near springs and seeps would leave less cover to hide nests (65% utilization).	Lower utilization levels in the uplands near springs and seeps would leave more cover to hide nests than “Current Management/No Action”, but less than “No Grazing” (50% utilization).
	Brood rearing habitat	Higher utilization in uplands and around springs and seeps would provide the least amount of hiding cover and would have the greatest impact on forbs and insects that provide a food source.	Utilization in uplands and around springs and seeps would be lower and would provide better hiding cover and foraging areas than “Current Management/No Action.”
	Leks	Leks would not be impacted, however, there may be reduced vegetation around them that is used to conceal the grouse from predators	Leks would not be impacted, however, there may be reduced vegetation around them that is used to conceal the grouse from predators



EFFECTS OF IMPLEMENTATION - COMPARISON OF ALTERNATIVES		
ALTERNATIVE 3:	ALTERNATIVE 4:	WILDLIFE
"No Grazing"	Resource Concepts, Inc. (RCI) Proposal	
		Sage Grouse
This alternative would provide the highest level of cover and the best hiding cover for nesting sage grouse (no utilization by livestock).	Higher utilization in the uplands near springs and seeps would leave less cover to hide nests (65% utilization).	Nesting habitat
Hiding cover and foraging habitats would improve rapidly, however, long-term foraging habitats may decline some without disturbance which may reduce the availability of some forbs.	Higher utilization in uplands and around springs and seeps would provide the least amount of hiding cover and would have the greatest impact on forbs and insects that provide a food source.	Brood rearing habitat
There would be sufficient hiding cover adjacent to leks.	Leks would not be impacted, however, there may be reduced vegetation around them that is used to conceal the grouse from predators	Leks



COMPARISON OF ALTERNATIVES - EFFECTS OF IMPLEMENTATION		
VEGETATION	ALTERNATIVE 1:	
	“Current Management / No Action”	“Proposed Action”
Riparian Communities		
Streams		
Use levels	Maximum 45% utilization. Not based on condition of stream.	Maximum 45% utilization. Based on condition of stream.
Health or Functioning Level	Maintain current status. Streams in less than desired condition may not trend towards desired condition.	Most streams should show improvement. Streams should trend toward functions as desired.
Bare ground	Unchanged from "Current Management"	Slight decrease to unchanged from "Current Management"
Seeps, springs, meadows		
Use levels	Maximum 65% utilization.	Maximum 45% utilization.
Health or Functioning Level	The higher utilization levels on these communities would have the greatest impact. Herbage production would be reduced and trends would be downward.	The utilization levels should allow for improvement in the functioning level of these communities. Trends should be upward.
Bare ground	Unchanged to slight increase from "Current Management"	Decrease from "Current Management"
Aspen communities		
Use levels	Maximum 65% utilization on herbaceous vegetation. Maximum 35% utilization on current year's aspen growth associated with streams.	Maximum 20% of available suckers or maximum of 45% utilization on herbaceous vegetation.
Regeneration	Reduced in smaller stands.	Sufficient regeneration to maintain stand.
Upland Vegetation		
Use levels	Maximum 65% utilization on herbaceous vegetation.	Maximum 50% utilization on herbaceous vegetation.
Vegetative Composition	Some localized increases in sagebrush cover and density due to livestock grazing.	Similar effects as Alternative1, however localized increases in sagebrush would be slower than "Current Management/No Action."
Bare ground	Unchanged from "Current Management"	Slight decrease to unchanged from "Current Management"



EFFECTS OF IMPLEMENTATION - COMPARISON OF ALTERNATIVES		
ALTERNATIVE 3:	ALTERNATIVE 4:	VEGETATION
"No Grazing"	Resource Concepts, Inc. (RCI) Proposal	
		Riparian Communities
		Streams
0% utilization.	Maximum 45% utilization. Not based on condition of stream.	Use levels
Most streams should show improvement. This alternative should provide the most rapid improvement.	Maintain current status. Streams in less than desired condition may not trend towards desired condition.	Health or Functioning Level
Considerably reduced from "Current Management"	Unchanged from "Current Management"	Bare Ground
		Seeps, springs, meadows
0% utilization.	Maximum 65% utilization.	Use levels
This alternative should result in the most rapid improvement initially. Trends should be upward however long term increases in herbage production may not occur.	The higher utilization levels on these communities would have the greatest impact. Herbage production would be reduced and trends would be downward.	Health or Functioning Level
Considerably reduced from "Current Management"	Unchanged to slight increase from "Current Management"	Bare Ground
		Aspen communities
0% utilization.	Maximum 65% utilization on herbaceous vegetation. Maximum 35% utilization on current year's aspen growth associated with streams.	Use levels
Sufficient regeneration to maintain stand. Most rapid regeneration.	Reduced in smaller stands.	Regeneration
		Upland Vegetation
0% utilization.	Maximum 65% utilization on herbaceous vegetation.	Use levels
Cover and density of grass should increase. Cover and density of sagebrush should also increase but at the slowest rate as compared to "Current Management/No Action" and "Proposed Action."	Some localized increases in sagebrush cover and density due to livestock grazing.	Vegetative Composition
Considerably reduced from "Current Management"	Unchanged from "Current Management"	Bare Ground



COMPARISON OF ALTERNATIVES - EFFECTS OF IMPLEMENTATION			
		ALTERNATIVE 1:	ALTERNATIVE 2:
VEGETATION		“Current Management / No Action”	“Proposed Action”
	Noxious Weeds		
	Trend in number of affected acres	Continued expansion.	Continued expansion but slower than “Current Management/No Action.”

COMPARISON OF ALTERNATIVES - EFFECTS OF IMPLEMENTATION			
		ALTERNATIVE 1:	ALTERNATIVE 2:
SOCIO-ECONOMIC FACTORS		“Current Management / No Action”	“Proposed Action”
	Individual economic effect	No change. Current annual value \$611,226 (approximate).	Similar to “Current Management / No Action.” Some allotments may have changes in management or early removal due to resource concerns.
	Humboldt County, NV, economic effect	No change. Current annual value \$1,222,452 (approximate).	Similar to “Current Management / No Action.” Current annual value may be reduced.

COMPARISON OF ALTERNATIVES - EFFECTS OF IMPLEMENTATION			
		ALTERNATIVE 1:	ALTERNATIVE 2:
LIVESTOCK MANAGEMENT		“Current Management / No Action”	“Proposed Action”
	Permittees affected and type of effect	No change.	Some change. May require additional riding and possible early removal.

COMPARISON OF ALTERNATIVES - EFFECTS OF IMPLEMENTATION			
		ALTERNATIVE 1:	ALTERNATIVE 2:
HERITAGE RESOURCES		“Current Management / No Action”	“Proposed Action”
	Effects to historic and prehistoric properties	Implementation of the Rangeland MOU will address adverse impacts to sites. Proposed developments or other ground disturbing actions will be addressed under NHPA, Section 106.	Implementation of the MOU to continue. Any future developments will be addressed under Section 106. Impacts to cultural resources expected to be reduced due to reduction in erosion and livestock use.



EFFECTS OF IMPLEMENTATION - COMPARISON OF ALTERNATIVES			
ALTERNATIVE 3:	ALTERNATIVE 4:		
"No Grazing"	Resource Concepts, Inc. (RCI) Proposal	VEGETATION	
		Noxious Weeds	
Continued expansion but slower than both "Current Management/No Action" and "Proposed Action."	Continued expansion.	Trend in number of affected acres	

EFFECTS OF IMPLEMENTATION - COMPARISON OF ALTERNATIVES			
ALTERNATIVE 3:	ALTERNATIVE 4:		
"No Grazing"	Resource Concepts, Inc. (RCI) Proposal	SOCIO-ECONOMIC FACTORS	
		Individual economic effect	
Annual loss of \$611,226 (approximate).	Similar to "Current Management / No Action." May involve additional costs to permittees due to more intensive management practices.		
Annual loss of \$1,222,452 (approximate).	Similar to "Current Management / No Action."	Humboldt County, NV, economic effect	

EFFECTS OF IMPLEMENTATION - COMPARISON OF ALTERNATIVES			
ALTERNATIVE 3:	ALTERNATIVE 4:		
"No Grazing"	Resource Concepts, Inc. (RCI) Proposal	LIVESTOCK MANAGEMENT	
		Permittees affected and type of effect	
Twelve permittees would no longer have permits for project area.	No change.		

EFFECTS OF IMPLEMENTATION - COMPARISON OF ALTERNATIVES			
ALTERNATIVE 3:	ALTERNATIVE 4:		
"No Grazing"	Resource Concepts, Inc. (RCI) Proposal	HERITAGE RESOURCES	
		Effects to historic and prehistoric properties	
Implementation of MOU to continue until livestock removed from allotments. Sites will no longer be impacted by rangeland management practices.	Implementation of MOU to continue. Proposed developments will be addressed under Section 106. May require additional monitoring.		



COMPARISON OF ALTERNATIVES - EFFECTS OF IMPLEMENTATION		
RECREATION & TRAILS	ALTERNATIVE 1:	ALTERNATIVE 2:
	"Current Management / No Action"	"Proposed Action"
Recreational experience (as represented by complaints)	No change. Slight diminished experience resulting in increased numbers of complaints.	Less of a diminished experience resulting in fewer complaints when compared to "Current Management." However, the "Adaptive Management" nature of the alternative may result in new types of conflicts due to season(s) or other management changes.
Trail damage	Some damage to trails and trailheads.	Impacts to trails and trailheads similar to slightly less than "Current Management/No Action."



EFFECTS OF IMPLEMENTATION - COMPARISON OF ALTERNATIVES		
ALTERNATIVE 3:	ALTERNATIVE 4:	RECREATION & TRAILS
"No Grazing"	Resource Concepts, Inc. (RCI) Proposal	
No diminished experience, resulting in no complaints regarding livestock. However, some trails may become overgrown due to lack of impacts.	Similar to "Current Management." "Adaptive Management" nature of the alternative may result in new types of conflicts due to season(s) or other management changes.	Recreational experience (as represented by complaints)
No damage to trails or trailheads.	Trail tread damage will be greater with early season grazing. There will be more conflict with hunters with late season grazing.	Trail damage

