

ENVIRONMENTAL ASSESSMENT

Hubbard Vineyard Allotment Multiple Use Decision

February 2008**4130****BLM/EK/PL-2008/001**

It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

**HUBBARD VINEYARD ALLOTMENT
 MULTIPLE USE DECISION
 ENVIRONMENTAL ASSESSMENT
 FEBRUARY 2008
 BLM/EK/PL-2008/001**

TABLE OF CONTENTS

I. Introduction/Purpose and Need	1
A. Introduction	1
B. Need For and Purpose of Action	1
C. Land Use Plan Conformance Statement	1
II. Proposed Action and Alternatives	3
A. Proposed Action	3
B. Alternative 1	8
C. No Action Alternative	10
D. Alternatives Eliminated from Detailed Analysis	10
III. Affected Environment/Environmental Effects	11
A. Critical Elements Not Affected	12
B. Elements and Resources Brought Forth for Further Analysis	12
1. Cultural Resources	12
2. Native American Religious Concerns	13
3. Soils	15
4. Water Quality, Surface/Ground	16
5. Wetlands/Riparian Zones/Fisheries/Floodplains	19
6. Wildlife	21
7. Migratory Birds	23
8. Special Status Species	25
9. Vegetation	34
10. Invasive, Non-Native Species	35
11. Livestock Grazing	36
12. Recreation	38
13. Visual Resource Management	39
14. Wilderness Study Areas	39
C. Cumulative Impacts	40
IV. Consultation and Coordination	45
A. Persons and Agencies Consulted	45
B. List of Preparers	47
C. Literature Cited/References	47

Attachment1- Map Packet

Appendix 1- Standard Operating Procedures Common to All Projects

Appendix 2- Migratory Bird Habitat Table

Appendix 3- 2005-2007 Bird Survey conducted by Boies Ranches

Appendix 4- Response to Public Comments on the Preliminary Environment Assessment

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I. INTRODUCTION/PURPOSE AND NEED

A. Introduction

The Bureau of Land Management (BLM), Elko Field Office proposes to issue a multiple use decision to provide area-specific direction and management actions for the Hubbard Vineyard Allotment in the northeastern portion of Elko County, Nevada (see Map A). In 1997 the BLM issued an allotment evaluation (AE) for this allotment that analyzed monitoring data collected between 1986 and 1997, drew conclusions about attainment of multiple use objectives and the Standards and Guidelines for Rangeland Health, and suggested five options for future management of the allotment. On 3 May 2007 the BLM re-issued the AE with new data collected through 2006 and revised conclusions about management objectives attainment.

This Environmental Assessment (EA) has been prepared for compliance with the National Environmental Policy Act (NEPA). This EA tiers to the Environmental Impact Statement (EIS) for the 1985 Wells Resource Management Plan (RMP), and incorporates by reference relevant portions of the Allotment Evaluation (AE) and resulting Allotment Evaluation Summary Report. These documents are available for review at the BLM Elko Field Office, 3900 E. Idaho Street, Elko, NV 89801, telephone 775-753-0200.

B. Need for and Purpose of Action

Action is needed to define the terms and conditions under which a livestock grazing permit may be issued that will continue to achieve, or make significant progress toward achieving, the standards for Rangeland Health for the Northeastern Great Basin Area of Nevada and multiple use objectives for the allotment. All proposed management actions, including issuance of a new 10-year grazing permit are derived from the analysis in the AE and subsequent Allotment Evaluation Summary Report for the Hubbard Vineyard Allotment.

C. Land Use Plan Conformance

The proposed action and alternatives conform to the following decisions and objectives of the Wells Resource Management Plan (RMP), as approved 19 July 1985, and its amendment for elk management, approved 14 February 1996. They are further consistent with allotment specific objectives from the Wells Rangeland Program Summary dated 15 September 1986 and the September 1986 O'Neil/Salmon Falls Habitat Management Plan.

Wells Resource Management Plan

1. Livestock Grazing (Wells RMP Record of Decision, page 17)
 - a. Provide for livestock grazing consistent with other resource uses.

- b. Livestock grazing will continue in all allotments.
- c. Monitor and adjust grazing management systems and livestock numbers as required.
- 2. Terrestrial Wildlife Habitat (Wells RMP Record of Decision, pages 19-22)
 - a. Conserve and/or enhance wildlife habitat to the maximum extent possible.
 - b. Eliminate all of the fencing hazards in crucial big game habitat, most of the fencing hazards in non-crucial big game habitat.
 - c. Eliminate all of the high and medium priority terrestrial riparian habitat conflicts in coordination with other resource uses.
- 3. Riparian/Stream Habitat
 - a. Improve high and medium priority riparian/stream habitat to at least good condition.
 - b. Prevent undue degradation of all riparian/stream habitat due to other uses.

Wells Rangeland Program Summary

- 1. Livestock Grazing
 - a. Improve livestock distribution in the Lower Hubbard Basin, Big Devils Table, Boies Reservoir, Cow Basin, and the West side of Cold Springs Mountain.
 - b. Improve ecological status in the eastern third of the allotment, particularly the lower elevation of Hubbard Basin.
 - c. Maintain the existing ecological status of the Mountain, Upper Hubbard Basin, Bull Camp, and Coon Creek Pastures.
 - d. Develop an AMP to be signed in FY86.
 - c. Periodically evaluate the monitoring data for the allotment to reinstate suspended non-use AUMS when they become permanently available.
- 2. Terrestrial Wildlife Habitat
 - a. Improve or maintain all seasonal big game habitat in the Hubbard Vineyard Allotment to good or excellent condition to provide forage and habitat capable of supporting the following reasonable numbers:

804 mule deer;	1,407 AUMS
252 antelope;	293 AUMS
10 bighorn sheep;	24 AUMS
 - b. Facilitate big game movements by modifying 35.1 miles of existing fences to Bureau standards.
 - c. Reintroduce bighorn sheep into the Badlands.
- 3. Riparian/Stream Habitat
 - a. Improve 10 springs to good or better condition.
 - b. High and Medium Priority Streams- Improve riparian/stream habitat conditions to good or excellent on Dry Creek, Jakes Creek, and Salmon Falls Creek (9.1 miles).
 - c. Prevent undue degradation of all riparian/stream habitat due to other uses.

O'Neil/Salmon Falls Habitat Management Plan

- a. Improve to or maintain in at least good condition all deer use areas in the O'Neil/Salmon Falls Resource Conflict Area.
- b. Modify or reconstruct up to 140 miles of fence (including 35.1 miles in the Hubbard Vineyard Allotment) emphasizing, in priority order (1) migration routes, (2) winter ranges, (3) spring ranges, and (4) other use areas.

- c. Achieve reasonable numbers (90, yearlong, including 10 in the Hubbard Vineyard Allotment) of bighorn sheep in the vicinity.
- d. Improve 43 springs and wet meadows (including 10 in the Hubbard Vineyard Allotment), presently in poor or fair condition, to good or excellent condition (seven of the 50 spring projects identified by the Wells RMP are "allocated" to the Badlands bighorn sheep).

The proposed action and alternatives would also continue to or provide for attainment or significant progress towards attaining the following Standards for Rangeland Health for the Northeastern Great Basin Area of Nevada approved on February 12, 1997.

1. Upland Sites: Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and land form.
2. Riparian and Wetland Sites: Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.
3. Habitat: Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.
4. Cultural Resources: Land use plans will recognize cultural resources within the context of multiple use.

The proposed action and alternatives, as described below, are also consistent with other Federal, State and local laws, regulations and plans to the maximum extent possible.

II. PROPOSED ACTION AND ALTERNATIVES

A. Proposed Action

Under this alternative, the Holistic Management planning process currently in place on the Hubbard Vineyard Allotment would be formally adopted.

- 1. Renew Boies Ranches grazing permit for a term of 10 years.**
- 2. Formally implement the Holistic Management planning process on the Hubbard Vineyard Allotment**

Holistic management (HM) is a process that strives to optimize biodiversity and health of the land in order to achieve ecological, economic and social goals. All future management actions are tested in relationship to their effectiveness in moving the community as a whole toward the holistic goal. The practice of HM is collaborative and requires the participation of affected parties. A team member is any person who wishes to participate in the management of the public lands in the Hubbard Vineyard project area. The steps of the Holistic Management process are:

a. Holistic Goal -- Define a three part holistic goal for the area, which is a broad description of the landscape and how four ecosystem processes (community dynamics of living things, water cycle, mineral and nutrient cycle, and energy flow) must function to sustain indefinitely production and quality of life.

b. Biological Plan - Prior to any grazing year, a biological plan is prepared by the HM team. The plan outlines the annual operation, and is submitted to the BLM for approval in the form of a grazing application. Each plan would be based on monitoring, evaluation, and the previous year's actual use. The plan defines the grazing process and includes forage utilization guidelines, period of use and livestock numbers, and maintenance and/or construction of rangeland improvements.

Grazing Process –

- The grazing plan would be designed to rotate livestock through the use areas on the allotment in accordance with the following conditions:
 - All pastures will be deferred for all or substantial portions of the growing season at least two years out of four.
 - Jakes Creek Mountain, Dry Creek Mountain, and Bull Camp Mountain pastures will each be used one year in three, with two years of rest.
 - Coon Creek and Middle Pastures will be grazed during the hot season (typically July 1 to September 15) no more than one year in four.
- Livestock use shall be planned around resource concerns and ranch operational needs and capabilities. Resource factors to be accounted for in each year's plan include, but are not limited to: periodically resting and/or deferring livestock use in pastures known to provide sage grouse breeding areas; scheduling seasons of use designed to improve both lotic and lentic riparian area conditions; accounting for other wildlife habitat needs and other land uses such as recreation; and minimizing late season use on woody browse species.
- The calculated carrying capacities for each pasture would be used as the basis for planning annual grazing use. Authorized use may exceed these numbers so long as the utilization limits outlined below are met and annual authorized use does not exceed permitted use.
- AUMs associated with rested pastures or otherwise not applied for will be placed into non-use for that year.
- At times, livestock may be concentrated through the use of herding and/or supplements such as protein and mineral blocks, and water hauling to accomplish specific objectives set by the HM group, such as to press native seed into the soil and/or cover seed during surface disturbance, reduce excessive shrub canopy cover to promote an increase in grass and forb production and cover, and to round streambanks. Supplements may also be used to reduce livestock use of bitterbrush, especially during the late summer and fall when grasses are dormant, and to reduce/decrease the adverse effects of grazing poisonous plants. All such supplements must be placed at least ¼ mile away from any live water sources unless specifically authorized by the BLM.
 - Concentrated livestock use on saturated stream banks would be limited to specific designated areas to avoid negative impacts to aquatic habitats.
 - Cultural resource inventories would be conducted as necessary prior to approval and implementation of any of the preceding livestock concentration measures.
 - Concentrated livestock herding would not occur on sage grouse strutting and nesting sites during strutting and nesting periods.

Utilization Guidelines -- Target utilization levels for plants on the allotment are set as follows:

- Native grass species will be an average of 50% of current year's growth
- Bitterbrush will be 45% combined use by livestock and big game of current year's leader growth.

- Riparian browse species (aspen and willows) will be 35% of current year's growth. Should these utilization target levels be exceeded in any area of the allotment, the team will assess the impacts based on the degree of use, period of use, and duration of use relative to past use and future plans for grazing use, and the affects on the standards for rangeland health. Future plans for grazing will be adjusted as warranted.
- BLM would continue to monitor utilization levels at the end of the grazing and/or growing season or within other timing constraints consistent with maintaining specific habitat guidelines for wildlife species such as the Nevada sage grouse management guidelines.

Season of Use, Livestock Type and Numbers -- Livestock numbers and periods of use on public land managed by the BLM will be applied for on an annual basis. Livestock types are cattle and horses.

- It is anticipated that most grazing on public lands would be scheduled during spring, summer and fall, but winter grazing could be allowed to meet the goals and objectives.
- The number of livestock will be defined through the annual biological planning process.
- Any use in excess of permitted AUMs on lands administered by the BLM would require approval by BLM as a "Temporary Non-Renewable" (TNR) use, and would require additional review for compliance with NEPA.
- Additional NEPA analysis would also be required if the team proposes that grazing by a different type of livestock (from the permitted use by cattle and horses) is needed to accomplish the goals and objectives.

Construction of Rangeland Improvements – The HM team may deem from time to time that additional range improvements beyond those outlined for this decision are needed. Any such improvements would be subject to NEPA analysis. See Map 2 for locations of proposed improvements on the allotment.

c. Monitoring -- Holistic management theory takes the attitude that much of what is done to our ecosystem may lead to unanticipated effects. A monitoring plan for each grazing year would be developed by the team prior to initiation of the grazing process.

- Monitoring, including photo points, ecological condition ratings, proper functioning condition assessments for riparian areas, stream survey, wildlife habitat condition, quadrat frequency readings for trend in condition and cover, and utilization at established agency key areas would continue. Additional studies may be established as needed.
- The permittee will monitor livestock grazing to avoid exceeding target utilization levels.
- Regarding cultural resources, employ historic grazing use-records to determine which areas within the allotment have been subject to the least grazing. A sample of the archaeological sites in these areas would be examined to assess their condition. Should parts of the allotment be determined to contain archaeological resources that could be impacted by an annual grazing application, an archaeological site monitoring program would be established. This would involve monitoring the condition of artifacts and features in one or more artificial or existing archaeological sites in comparison to those in control site(s) over one or more grazing seasons. In accordance with SOPs for cultural resources, measures to mitigate any adverse effects would be determined in consultation with the permittee and the State Historic Preservation Office.

- Nevada Department of Wildlife/BLM will continue to monitor sage grouse population trends in relation to the Hubbard Vineyard Allotment by using trend ground counts, lek counts, and sage grouse harvest composition data.

d. Replanning – If monitoring of the annual plan indicates that HM goals and objectives are not being met or the plan needs to be revised due to other circumstances, then the team would re-plan.

- 3. Issue a year-round (3/1-2/28) grazing permit with after the fact billing.**
- 4. Retain permitted use of 13,031 AUMs.**
- 5. As funding and priorities allow, construct the following range improvements in accordance with the Standard Operating Procedures contained in Appendix 1.**

Name	# of Units	Description
Spring Enclosures	Approx. 15	Provide enclosures around certain springs; re-develop existing developments; move existing troughs out of spring areas; construct pipelines and/or pit tanks to make water available away from spring areas. Springs in the Hubbard Basin, Cold Springs Mountain, and Coon Creek Pastures that are in Functional at Risk with a Downward Trend or Non-Functioning condition will be the first priorities.
Cold Springs Fence	5 Miles	Divide Cold Springs Mountain from Hubbard Basin
Devils Table Fence	7 Miles	Divide Devils Table from Hubbard Basin
Flat Division Fence	6 Miles	Split Flat Pasture into East and West Flat Pastures
Bull Camp/Schoer Fence Relocation		Relocate fence between Bull Camp Mountain and Schoer Place fields to better fit topography
Cold Springs Mntn Pipeline		Construct pipeline along O’Neil Basin Road from water source up to top of Cold Springs Mountain. Run three branches from there, including one into the Quakey Pasture of the O’Neil Allotment
Hubbard to Devils Table Pipeline		Construct pipeline from private springs in Hubbard Basin pasture to two troughs in Devil’s Table

See Map 2 for the location of the proposed projects.

- 6. Establish the following carrying capacity (CC) guidelines for existing pastures (all numbers are AUMs):**

Pasture	AE Carrying Capacity**		Recommended CC from 1997 AE	Recommended CC
	Pre-CAF	Post-CAF		
D.T./H.B./C.S.M.*	2927	3415	2770	2770
Reservoir Sdng.	590	837	715	590
Hubbard Sdng.	2947	3365	2549	2549
Coon Creek	--	--	591	500
Flat	1402	1485	1060	1060

Middle	1044	1214	500	1044
Dry Crk. Sdng.	716	866	918	716
Bull Camp Mtn.	--	--	1548	1548
Triangle	511	595	3385	3385
Dry Crk. Mtn.	15,135	21,371		
Jakes Crk. Mtn.				
FFR	--	--	--	647
*Devil's Table, Hubbard Basin, and Cold Springs Mountain pastures				
**These figures are reported in Appendix 1 of the Allotment Evaluation				

The carrying capacity calculations are derived from the following formula:

$$\frac{\text{Actual Use}}{\text{Recorded Utilization}} = \frac{\text{Carrying Capacity}}{\text{Desired Utilization}}$$

The Climatic Adjustment Factor (CAF) mathematically corrects the Carrying Capacity calculations to what would be expected in a "normal" year based on precipitation received during the growing season. Please see Map 2 for the location of the pastures within the allotment.

Devil's Table/Hubbard Basin/Cold Springs Mountain: The 1997 evaluation recommended a carrying capacity of 2,770 AUMs. This number will be carried forward.

Reservoir Seeding: The 1997 evaluation recommended a carrying capacity of 715 AUMs in this pasture. However, the declining crested wheatgrass production in this pasture suggests a lower rating, and the unadjusted figure of 590 AUMs will be adopted.

Hubbard Seedings: The 1997 recommendation of 2,549 AUMs will be carried forward.

Coon Creek: The 1997 recommendation of 591 AUMs was based on the highest recorded actual use. The BLM recommends a more conservative capacity of 500 AUMs, as most of the use on this pasture tends to occur along the bottoms.

Flat: Static to downward ecological condition trends caused the BLM to recommend a carrying capacity of 1,060 AUMs for this pasture in the 1997 evaluation. The BLM recommends staying with this number.

Middle: The 1997 evaluation recommended 500 AUMs for this pasture based solely on a proportion of the pasture as part of the larger Devil's Table/Hubbard Basin/Cold Springs Mountain pasture. Carrying capacity calculations from the two key areas established in this pasture tend to indicate that 1,044 AUMs are available, and as such this number will be adopted.

Dry Creek Seeding: The 1997 evaluation recommended 918 AUMs for this pasture. Data collected since the evaluation indicates that 716 AUMs is a more reasonable number.

Bull Camp Mountain: The 1997 recommendation of 1,548 AUMs will be carried forward.

Dry Creek Mountain/Jakes Creek Mountain/Triangle: The 1997 evaluation treated all of these as the Mountain Pasture. The calculated carrying capacities based on use pattern mapping and actual use result in greatly inflated numbers, as most of the use in this pasture as a whole occurs along the riparian bottoms. The Mountain Pasture has now been split into the Dry Creek Mountain, Jakes Creek Mountain, and Triangle Pastures. The recommendation of 3,385 AUMs for these three pasture will be carried forward

Fenced Federal Range (FFR): The Fenced Federal Range parcels include the Schoer and Purebred fields along with public ground included inside fenced private fields at Dry Creek Ranch, Jakes Creek, Boies Reservoir, and the Hubbard and Vineyard ranch properties. The current rated capacity of 647 AUMs will be carried forward.

B. Alternative 1

Under this alternative, the Holistic Management process currently in place on the Hubbard Vineyard Allotment would be discontinued. Livestock grazing use would be authorized in accordance with a grazing schedule.

- 1. Adopt points 1, 5, and 6 from the Proposed Action.**
- 2. Implement the following grazing system on an interim basis:**

Pastures	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Flat	7/1-9/30	4/1-6/30 10/1-12/31	4/1-6/30 10/1-12/31	7/1-9/30	4/1-6/30 10/1-12/31	Rest
W. Hubbard Sdng	4/1-6/30 10/1-12/31	7/1-9/30	Rest	4/1-6/30 10/1-12/31	4/1-6/30 10/1-12/31	7/1-9/30
E. Hubbard Sdng	4/1-6/30 10/1-12/31	7/1-9/30	4/1-6/30 10/1-12/31	4/1-6/30 10/1-12/31	7/1-9/30	Rest
Reservoir Sdng	7/1-9/30	4/1-6/30 10/1-12/31	Rest	7/1-9/30	7/1-9/30	4/1-6/30 10/1-12/31
Dry Creek Sdng	Rest	4/1-6/30	7/1-9/30	4/1-6/30	4/1-6/30	7/1-9/30
Middle	4/1-6/30 10/1-12/31	7/1-8/15	Rest	4/1-6/30 10/1-12/31	8/15-10/15	4/1-6/30 10/1-12/31
Triangle	7/1-8/15	Rest	4/1-6/30	8/15-10/15	4/1-6/30	4/1-6/30
Coon Creek	8/15-10/15	4/1-6/30	4/1-6/30	7/1-8/15	Rest	4/1-6/30
Devils Table*	4/1-6/15 10/1-12/31	Rest	4/1-6/15 10/1-12/31	Rest	4/1-6/15 10/1-12/31	Rest
Hubbard Basin*	6/15-8/15	Rest	6/15-8/15	Rest	6/15-8/15	Rest
Cold Spring Mtn*	8/15-10/15	Rest	8/15-10/15	Rest	8/15-10/15	Rest
Jakes Creek Mtn.	Rest	Rest	7/1-9/30 10/1-11/30	Rest	Rest	7/1-9/30 10/1-11/30
Dry Creek Mtn.	Rest	7/1-9/30 10/1-11/30	Rest	Rest	7/1-9/30 10/1-11/30	Rest
Bull Camp Mtn.	7/1-9/30 10/1-11/30	Rest	Rest	7/1-9/30 10/1-11/30	Rest	Rest
FFR**	3/1-2/28	3/1-2/28	3/1-2/28	3/1-2/28	3/1-2/28	3/1-2/28

* No fences exist to separate Devil’s Table, Hubbard Basin, or Cold Springs Mountain pastures. The use dates for these use areas are approximate; in reality, livestock may be present in all use areas through the entire season.
 ** FFR includes the Purebred and Shoer Field pastures

3. Following completion of the Cold Springs, Devil’s Table, and Flat Division Fences and the two pipeline projects identified in point 5 of the Proposed Action, transition management to the following final grazing system:

Pastures	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
West Flat	7/1-9/30	4/1-6/30 10/1-12/31	4/1-6/30 10/1-12/31	7/1-9/30	4/1-6/30 10/1-12/31	Rest
East Flat	Rest	4/1-6/30 10/1-12/31	7/1-9/30	4/1-6/30 10/1-12/31	7/1-9/30	4/1-6/30 10/1-12/31
W. Hubbard Sdng	4/1-6/30 10/1-12/31	7/1-9/30	Rest	4/1-6/30 10/1-12/31	4/1-6/30 10/1-12/31	7/1-9/30
E. Hubbard Sdng	4/1-6/30 10/1-12/31	7/1-9/30	4/1-6/30 10/1-12/31	4/1-6/30 10/1-12/31	7/1-9/30	Rest
Reservoir Sdng	7/1-9/30	4/1-6/30 10/1-12/31	Rest	7/1-9/30	7/1-9/30	4/1-6/30 10/1-12/31
Dry Creek Sdng	Rest	4/1-6/30	7/1-9/30	4/1-6/30	4/1-6/30	7/1-9/30
Middle	4/1-6/30 10/1-12/31	7/1-8/15	Rest	4/1-6/30 10/1-12/31	8/15-10/15	4/1-6/30 10/1-12/31
Triangle	7/1-8/15	Rest	4/1-6/30	8/15-10/15	4/1-6/30	4/1-6/30
Coon Creek	8/15-10/15	4/1-6/30	4/1-6/30	7/1-8/15	Rest	4/1-6/30
Devils Table	4/1-6/15 10/1-12/31	Rest	4/1-6/15 10/1-12/31	Rest	4/1-6/15 10/1-12/31	Rest
Hubbard Basin	6/15-8/15	Rest	6/15-8/15	Rest	6/15-8/15	Rest
Cold Spring Mtn.	8/15-10/15	Rest	8/15-10/15	Rest	8/15-10/15	Rest
Jakes Creek Mtn.	Rest	Rest	7/1-9/30 10/1-11/30	Rest	Rest	7/1-9/30 10/1-11/30
Dry Creek Mtn.	Rest	7/1-9/30 10/1-11/30	Rest	Rest	7/1-9/30 10/1-11/30	Rest
Bull Camp Mtn.	7/1-9/30 10/1-11/30	Rest	Rest	7/1-9/30 10/1-11/30	Rest	Rest
FFR*	3/1-2/28	3/1-2/28	3/1-2/28	3/1-2/28	3/1-2/28	3/1-2/28

*FFR includes Purebred and Schoer Place fields.

3. The following standards or terms and conditions would apply to both the interim and final grazing systems:

- a. The permittee shall meet with the BLM annually to design a specific grazing system for each pasture.
- b. All grazing use will take place within the date ranges specified in the schedule.
- c. The carrying capacity figures for each pasture will be used to guide planning annual grazing use. Those numbers may be exceeded so long as utilization objectives and total permitted use are not exceeded.
- d. Grazing fees and bills will be based on actual use collected at the end of the year.
- e. Permitted use dates will run from 1 April to 31 December annually except for the Fenced Federal Range pasture, which will be licensed from 1 March to 28 February.

4. Permitted use will remain at 13,031 AUMs, with those AUMs associated with rested pastures placed into non-use on an annual basis.

C. No Action Alternative

The No Action Alternative would result in a new 10-year grazing permit issued with the same grazing use and terms and conditions as are currently in effect. Cattle would continue to be authorized on the allotment from 1 April through 15 December annually, with horses authorized from 1 April to 28 February annually. Permitted use would remain at 13,031 AUMs. No formal management plan would exist to govern livestock use on the allotment.

D. Alternatives Eliminated from Detailed Analysis

Alternative D1- No Grazing Alternative

Under this alternative, livestock grazing would be eliminated from the Hubbard Vineyard Allotment. The no grazing alternative was analyzed in the Environmental Impact Statement for the Wells RMP. Although riparian areas and streams would likely be enhanced under a scenario of no livestock use, the BLM is required to authorize only those actions that conform to the RMP as approved in the Wells Record of Decision (ROD). The Wells RMP establishes, among other things, that the Hubbard Vineyard Allotment is to provide for livestock grazing use, and that livestock grazing use is to be managed so that resource management objectives will be achieved. The 1985 Wells RMP and Rangeland Program Summary (RPS) established objectives for livestock grazing and provides for the establishment of a rangeland monitoring program to determine if management objectives are being met and to adjust grazing management systems and livestock numbers as required. Elimination of livestock grazing in lieu of making changes to the grazing systems and adjusting livestock numbers through monitoring is an action not in conformance with the RMP and RPS and is not considered by BLM to be a reasonable alternative for analysis in this EA. In addition, monitoring data shows that significant progress towards achieving the Standards and Guidelines for Rangeland Health is being made with livestock grazing present on the allotment. This alternative is dropped from further consideration.

Alternative D2- Substantial Reductions in Livestock Numbers

Under this alternative, authorized cattle use would be reduced to 25% of the average actual use for those pastures where there are riparian areas not expected to improve in the absence of other management practices (e.g. exclosures or pasture fences needed to exclude cattle access to the riparian areas). The only change would be a reduction in the number of AUMs authorized with no change in the period of use. This would translate into a 75% reduction in the number of cattle.

For example, average actual use in the Devils Table/Hubbard Basin/Cold Springs Mtn. area between 1992 and 2004 was about 1,200 AUMs or approximately 200 cattle for six months. A 75% reduction in the number of AUMs authorized would allow for about 300 AUMs of use or 50 cattle for 6 months. The period of use for this area is spring/summer/fall. There are no fences that separate these three use areas therefore the springs/riparian areas would continue to receive cattle use impacts throughout the use period. Based on the knowledge and experience of Elko BLM personnel, meaningful reductions in impacts to or significant improvement in spring/riparian conditions would not be expected to occur in the Devils Table/Hubbard Basin/Cold Springs Mtn. area with a 75% reduction in cattle numbers. Generally, Elko BLM

personnel have not found substantial reductions in cattle AUMs/numbers to result in meaningful reductions in impacts to or significant improvement in spring/riparian conditions. In addition, a 75% or greater reduction in cattle numbers on the public land pastures would result in substantial adverse financial impacts to the existing livestock permittee and is considered unnecessary and unreasonable when other management practices are available to improve riparian conditions. Therefore, this alternative is not considered a reasonable alternative for analysis in this EA. This alternative is dropped from further consideration.

Alternative D3- Requiring active herding of livestock

Under this alternative, the permittee would be required to actively herd livestock in lieu of constructing planned fences. BLM's experiences have been that herding to control livestock distribution- especially when trying to keep livestock from spending too much time on riparian areas during the hot summer months- is ineffective. Livestock permittees in the Elko district that have seriously attempted to introduce herding practices have found only very limited success, and the limited success with herding was facilitated by fencing that created relatively small pastures, and short duration use of only a few weeks or less in a pasture. In addition, Tanaka et al (Tanaka 2007) conducted an economic analysis based on an eastern Oregon ranch model comparing herding to several other methods of controlling livestock distribution found the practice to be the most expensive and least cost effective out of the alternatives evaluated (fencing, changing season of use, off stream water development and salting, early weaning, and strategic supplementation). The scenario evaluated herding every other day for 2.5 months (mid-July through September). The Elko Field Office has also evaluated the cost of herding compared to constructing fences with no herding within the East and West Big Springs Allotments and found that herding can be 7 times more costly compared to the cost of constructing and maintaining the fences over the projected 50 year life span of the fences. The BLM considers this alternative impractical to implement and therefore will not evaluate it further.

Other management practices such as shortening the period of use, and/or changing the season of use, and/or incorporating periodic rest, and/or installing pasture fences, and/or exclosures, can result in significant improvement in riparian conditions and are considered in the alternatives being analyzed in detail.

III. AFFECTED ENVIRONMENT/ENVIRONMENTAL EFFECTS

The Hubbard Vineyard Allotment lies in the northeastern part of Elko County, approximately 30 miles north of Wells, Nevada. See Map 1. The eastern portion of the allotment consists of low rolling hills and alluvial plains, with the topography transitioning to the mountains of the Snake Range on the western portion of the allotment. Elevations range from approximately 5500' at Salmon Falls Creek to 8500' at the crest of the Snake Range. Currently, the Hubbard Vineyard Allotment is divided into twelve pastures, with one of those pastures containing three used areas. See Map 2 for use area boundaries. Vegetation types within the allotment include Wyoming big sagebrush/grass, low sagebrush/grass, mountain browse, and aspen/riparian communities. The allotment lies within the Salmon Falls Creek sub-basin. Salmon Falls Creek flows along a portion of the northern boundary, with Cold Springs Creek, Bull Camp Creek, Dry Creek, and Jakes Creek draining other parts of the allotment.

A. Critical Elements Not Affected

The following critical elements of the affected environment have been examined and are determined to be either not present or not affected:

- Air Quality
- Areas of Critical Environmental Concern
- Environmental Justice
- Farmlands (Prime or Unique)
- Wild & Scenic Rivers
- Wastes, Hazardous or Solids

B. Elements and Resources Brought Forth for Further Analysis

The following critical elements and resources are brought forth for analysis.

1. Cultural Resources

a. Affected Environment

Few cultural resource inventories have occurred within the Hubbard Vineyard Allotment and those that have been completed have mostly been linear surveys or small block surveys, typically under 300 acres. Both prehistoric and historic sites are present within the allotment.

The Brown's Bench Obsidian Source Area (BBOSA) is located in the northeastern portion of Elko County and extends into Utah and Southern Idaho. The BBOSA is the only large obsidian source area in the county and was important prehistorically for the procurement of a welded tuff obsidian called ignimbrite. This obsidian occurs as cobbles on the landscape and does not require quarrying. Brown's Bench overlaps into the Hubbard Vineyard allotment although it is relatively sparse. Areas within the allotment are well watered by Nevada standards and consequently contained plant and animal resources. These resources and the proximity of a tool stone source resulted in the creation of a variety of site types such as camps, fire affected rock features, and hunting related sites. While site density is lower in the Hubbard Vineyard allotment than in the areas further to the north, it contains a higher percentage of data rich sites, which could be adversely affected by ground disturbing activities.

The majority of historic sites located within the allotment are related to homesteading and ranching. Examples of expected and known site types within the Hubbard Vineyard include homesteads, line camps, trash scatters, and ranching related features such as corrals and spring developments. As with the prehistoric sites, many of these sites are near water since water is crucial to the livestock business. Historic sites are also concentrated near historic roads. The Oregon Shortline Railroad runs along the eastern boundary of the Hubbard Vineyard allotment. It ran from Twin Falls, Idaho to a junction with the Southern Pacific and Western Pacific railroads in Wells, Nevada. The railroad was officially opened in February 1926 and it remained in operation until the early 1970's. Sites associated with the railroad may include section camps, siding stations, and the original railroad grade.

b. Effects of Alternatives

1. Proposed Action

Installation of the proposed fences, spring enclosures, pipelines and other range development projects can damage or destroy cultural resources. The potential for cultural resource impacts will be analyzed case by case and inventories conducted as needed. Project effects would usually be mitigated through avoidance or project modification.

Several studies have demonstrated that intensive livestock trampling can churn archaeological deposits, displace or break artifacts, and create edge damage to artifacts (Kozoil et al. 2003, Broadhead 1993, U.S Army 1990, Roney 1977). In most cases, impacts would be restricted to the upper few inches of the soil; however, rounding of embankments through livestock trampling can impact even deeply buried sites. Areas scheduled for livestock concentration or bank rounding would be inventoried for cultural resources and measures to mitigate adverse impacts would be in place prior to implementing these procedures.

2. Alternative 1

Effects under Alternative One would be very similar to the effects under the Proposed Action. The same fences, spring enclosures, and pipelines are proposed under both alternatives and in both cases the effects will be analyzed and inventories will be conducted as needed. Other than artificial livestock concentration through supplements or water, HM grazing as practiced on the Hubbard Vineyard appears to have had little impact on cultural resources beyond what would be expected using standard grazing techniques.

3. No Action Alternative

Under the no action alternative, no range development projects would be constructed and consequently cultural resources would not be affected by the associated ground disturbance. However, cultural resources would still be adversely affected by artificial livestock concentration. These areas would still be inventoried for cultural resources and mitigation measures would still be put in place before implementing these procedures.

2. Native American Religious Concerns

a. Affected Environment

Many Native Americans consider certain religious and/or traditional practices to be vital for maintaining cultural identity and cohesiveness. These practices are often closely tied to the land, features on the land and to plants and animals. Generally, all land is considered to be sacred, but some areas are more important than others. For example, some locations or features are considered to have healing powers or other religious significance. Other areas provide traditional foods, such as roots and seeds, or manufacturing material for traditional crafts, such as basket making. Religious and traditional use areas are widely scattered across Elko County and are not usually readily apparent to the non-practitioner. Some public uses of religious areas may be disruptive of traditional religions. Traditional use areas are not usually as sensitive as religious areas but use by non-practitioners during the gathering period may interfere with the

prescribed method of resource procurement. No specific religious or traditional use areas are known to occur in the Hubbard Vineyard Allotment.

Past efforts to coordinate with the local Native American communities to identify Traditional Cultural Properties or areas of religious or cultural concern within the Hubbard Vineyard Allotment have been unsuccessful.

b. Effects of Alternatives

1. Proposed Action

During project activities, if any cultural properties, items, or artifacts (stone tools, projectile points, etc...) are encountered, it must be stressed to those involved in fencing/exclosure/pipeline or spring development work that such items are not to be collected. Cultural and Archaeological resources are protected under the Archaeological Resources Protection Act (16 U.S.C 470ii) and the Federal Land Management Policy Act (43 U.S.C 1701). Also, though the possibility of disturbing Native American gravesites is extremely low, inadvertent discovery procedures must be noted. Under the Native American Graves Protection and Repatriation Act, section (3)(d)(1), it states that the discovering individual must notify the land manager in writing of such a discovery. If the discovery occurs in connection with an authorized use, the activity, which caused the discovery, is to cease and the materials are to be protected until the land manager can respond to the situation.

A cultural resources inventory must be completed before any project implementation and it is highly recommended that identified artifacts and sites be avoided. Regarding those sites that cannot be avoided, a data recovery plan will be complete before project implementation. Depending on the type of site(s) or artifacts to be recovered or impacted, data recovery efforts most often involve complex and lengthy negotiations and requested tribal participation. Gates should also be constructed at all existing access points into any fenced area, including spring enclosures. BLM does not wish to limit or block access to any traditional/cultural/spiritual use sites and activities, which often are associated with water sources (springs).

Any monitoring plan should also include opportunities for cultural and traditional resources monitoring. Previously recorded sites should be revisited during and after project implementation. It must be noted that the term "cultural resources" does not merely describe archaeological sites or artifacts. Traditional use resources such as edible/medicinal plant harvesting areas, basket and cradle board making materials (willow), spring and water source locations, and wildlife are also considered "cultural resources."

2. Alternative 1

The impacts of this alternative would be the same as the proposed action.

3. No Action Alternative

The impacts of this alternative would be the same as the proposed action.

3. Soils

a. Affected Environment

There are several soils in the project area which exhibit various characteristics based on differences in soil forming factors. Most of the soils in the project area are shallow over bedrock, rhyolite or welded tuffs and have a large percentage of coarse fragments throughout the soil. Hazard of erosion by wind and water is slight when these soils are disturbed. Soils that are shallow over a duripan have few coarse fragments and textures ranging from silt loam to clay. These soils have a moderate water erosion hazard and a slight wind erosion hazard. Soils on steep slopes ranging from 15-50% have rapid runoff with moderate to high erosion hazard by water and slight erosion hazard by wind. Other soils may be deep and very gravelly with sandy clay textures predominating. Hazard of erosion by wind and water is slight when these soils are disturbed.

Soils along drainage ways are deep and medium textured with few coarse fragments in the upper layers. Hazard of erosion by wind and water is slight when these soils are disturbed. Most of the soils exhibit weak to moderate surface crusting. This crusting impedes water infiltration, seed penetration, and seedling emergence.

Biological soil crusts are likely to be present within the allotment. In general, presence of these crusts increases soil cohesiveness and reduces the hazard of erosion by wind and water. The extent and influence of biological soil crusts within the Hubbard Vineyard allotment is not known.

b. Effects of Alternatives

Grazing and related activities can potentially impact soil resources within the Hubbard Vineyard Allotment by altering its physical properties, and through removal of vegetation. Direct impacts include compaction, hoof shear, and other physical impacts which cause soils to lose cohesiveness increasing the likelihood of erosion by wind and water. Similar impacts occur indirectly as a result of vegetation removal. A decrease in vegetative cover grazing can increase exposure of soils to erosion from rainfall impact. A decrease in vegetative vigor due to grazing stress and increased susceptibility to weed establishment can increase the hazard of erosion.

Direct impacts also occur to biological soil crusts if present. The effects of these impacts are similar to those described above with the addition that affected biological soils would take longer to recover.

Impacts to upland soils are monitored using the protocol outlined in TR1734-6. A summary of impacts for the Hubbard Vineyard Allotment can be found in BLM 2007.

1. Proposed Action

Implementation of the proposed action would likely result in little change in impacts to soil resources. Although the net carrying capacity for the allotment increases slightly under this alternative, impacts to soils are expected to be less concentrated due to construction of range improvements and livestock rotation. It is impossible to quantify impacts as a result of this

change; however, it is unlikely that this would result in an undesirable condition which is not easily reversed due to the good soil conditions that generally exist within the allotment.

Formal implementation of the Holistic management process would result in continued planning and execution of practices which limit impacts to soils. As detailed under the description of the proposed action, the management team would use monitoring data to determine future levels of use. Based on interdisciplinary analysis of resource impacts, the Holistic management team may decide to change use in uplands which would reduce impacts to soils.

Construction of range improvements such as fences and pipelines would result in temporary as well as permanent impacts to soil resources. If the permittee creates new two track roads, soil compaction would increase along the vehicle routes. There could also be disturbance to biological soil crusts, and local destruction of soil structure. Livestock trails may also occur along the proposed fence lines causing compaction and increasing erosion.

2. Alternative 1

Actions implemented under Alternative 1 would likely lead to impacts similar to or more severe than those described under alternative one. Construction of range improvements and effects of less concentrated use would result in impacts similar to those described under alternative one. The inflexibility imposed on the operator, however, would not allow for a shift in use whenever harmful impacts are observed.

3. No Action Alternative

Impacts of the no action alternative would vary depending on whether or not the holistic management process is followed. If the operator chooses to continue with the holistic management process impacts to soils would be similar to those described under alternative one. Discontinuation of the holistic management process under this alternative would likely cause a harmful impact to soils due to decreased dialogue and coordination toward resource protection. Other impacts to soil resources as describe above for alternative one and two would not occur under the no action alternative.

4. Water Quality, Surface/Ground

a. Affected Environment

Water resources in the Hubbard Vineyard allotment include springs/seeps, ephemeral/intermittent streams, perennial streams, stockponds, underground water wells, and Boies Reservoir.

There are several streams in the Hubbard Vineyard Allotment which is primarily located within the Salmon Falls Watershed. The largest perennial stream is Salmon Falls Creek which averages discharges around 15 cubic feet per second (cfs). Portions of Jakes Creek, Dry Creek, Bull Springs Creek, and Bull Camp Creek are also perennial. These streams and ephemeral/intermittent streams within the allotment discharge to Salmon Falls Creek only during spring snowmelt and extreme weather events. Information regarding water quality for these sources is available in the 2007 Hubbard Vineyard Allotment Evaluation (BLM 2007).

Springs/seeps within the Hubbard Vineyard Allotment are present in several different pastures and exhibit a variety of characteristics. There are about 55 sources on public land mainly in the western portion of the allotment. Most of these sources are expressed as isolated areas riparian vegetation growth and exhibit little if any surface discharge (<1gpm). A few sources discharge enough water to maintain surface flow for a few hundred feet or even connect with perennial streams. About 20% of spring/seep sources have been developed to provide surface water for stock and wildlife. Development was usually accomplished by piping a portion of spring/seep water a short distance from the source into troughs or by constructing an earthen dam for water collection. Monitoring data for some of these springs/seeps is available in BLM 2007.

Stockponds and underground water wells have been placed throughout the allotment to support livestock and wildlife needs. Stockponds are located in ephemeral/intermittent drainages primarily in the western portion of the allotment. There are a few water wells in the Southeast portion of the allotment.

Boies Reservoir is a large reservoir in the Middle Pasture of the Allotment. This reservoir stores discharge from a 29 square mile area in the Salmon River watershed through Jakes Creek. Normal storage is 472 acre feet behind a 22 foot dam. Stored water is used primarily for irrigation on private land within and downstream of the Hubbard Vineyard Allotment.

b. Effects of Alternatives

Grazing can potentially impact water quality for water resources within the Hubbard Vineyard Allotment. In general, impacts to water quality occur when soils lose cohesiveness and are eroded by moving water through rainfall events and normal stream flow. These impacts to soils are described in the soils section of Environmental Effects in this document. Affected Soil solids become suspended in water increasing turbidity and several other water quality parameters. Sedimentation can also occur negatively impacting stream habitat, and decreasing storage in reservoirs. Grazing along stream banks and in other riparian areas can increase stream width to depth ratio and cause gulying which affects water quality and quantity by decreasing alluvial buffering, storage capacity, and base discharge. These impacts are also described in the section for environmental effects for riparian/wetlands.

Spring development within the allotment can directly affect water quality and quantity. Piping a portion of water away from the spring can result in a decrease of riparian area and concentration of impacts to water quality. Water quality criteria as outlined in NAC 445A.121 apply to these sources.

Impacts to water quality are monitored through water quality sampling and are implied by Proper Functioning Condition Assessment and stream survey. A summary of these impacts for the Hubbard Vineyard Allotment can be found in BLM 2007.

1. Proposed Action

Actions implemented under the proposed action as described in this document would likely lead to continued improvement of water quality within the Hubbard Vineyard Allotment. Holistic management would allow managers to recognize potential problems and adjust livestock use to

optimize resource conditions. Other actions as outlined in the explanation of this alternative would address specific resource concerns.

Reduction of carrying capacity in Coon Creek and Dry Creek Seeding would reduce impacts to water resources within and downstream of these pastures. Reduced utilization of uplands and riparian areas could improve bank stability, allow riparian buffers to grow and reduce sediment discharge from upland areas improving water quality in dry creek. Impacts to springs/seeps in the area would also decrease.

Proposed fences and spring enclosures would not directly affect water resources but may reduce impacts to water quality by increasing control of grazing and excluding access. Construction of fences along with holistic management practices would enable the operator to monitor factors which influence water quality and shift use when necessary. Spring enclosures would reduce impacts on water quality and quantity as described above.

Impacts of spring development and/or repair would be minimized through proper design and construction of these developments. Proper design of water diversions such as implementation of float valves would leave sufficient water at the source to maintain most if not all riparian vegetation. This along with installation or repair of spring enclosures would reduce or eliminate the likelihood of gulying and concentrated impacts to water quality. In most cases, development would improve spring water quality and quantity. The permittee has agreed to procedures described above to minimize impacts from development of springs on private land under the proposed action. The springs being developed on private land are for construction of The Hubbard to Devils Table Pipeline and the Cold Springs Mountain Pipeline.

Formal implementation of the Holistic management process would result in continued planning and execution of practices which would improve water quality. As detailed under the description of the proposed action, the management team would plan future use based on monitoring of riparian areas, stream survey, and other evaluations. Based on interdisciplinary analysis of resource impacts, the Holistic management team may decide to change use in uplands and along streams, or construct rangeland improvements. The ability to make these types of management decisions may result in improvement of water quality within the allotment.

Under the proposed action, water quality would likely improve due to hot season rest in most years. A reduction in hot season grazing would allow riparian areas to grow or sustain the necessary vigor which positively impacts water quality.

2. Alternative 1

Actions implemented under alternative 1 would likely lead to improvement in water quality that are similar to those described under the proposed action due to a reduction of utilization near water resources, and implementation of a grazing system. The decrease in utilization under this alternative would likely result in decreased impacts to water quality, however, the inflexibility imposed on the operator would not allow for a shift in use whenever harmful impacts are observed. This lack of flexibility would likely decrease some or all of the benefits of decreased utilization.

3. No Action Alternative

Impacts of the no action alternative would vary depending on whether or not the holistic management process is followed. If the operator chooses to continue with the holistic management process impacts to water resources would be similar to those described under alternative one. The exception would be that benefits of fences, exclosures, and other developments would not occur. Discontinuation of the holistic management process under this alternative would likely cause a harmful impact to water quality due to decreased dialogue and coordination toward resource protection.

5. Wetlands/Riparian Zones/Fisheries/Floodplains

a. Affected Environment

The Hubbard/Vineyard Allotment has five perennial streams. Salmon Falls Creek runs through part of the northeastern corner of the allotment; three forks of Jakes Creek form high in the Snake Range and flow eastward, all joining together at the middle of the allotment; Dry Creek and Bull Camp creeks originate in the southeastern part of the allotment and flow northeast; and Cold Springs Creek originates on the HD Allotment to the south and flows northeasterly into the Hubbard/Vineyard Allotment. Salmon Falls Creek is the only stream with a perennial flow through the entire allotment; the rest have segments of perennial flow in the mountains that are reduced to intermittent flows on the flats on the eastern edge of the allotment after spring runoff. All these streams are habitat for the native redband trout. The allotment also has numerous springs and seeps, mostly located in the Snake Range.

New stream survey and proper functioning condition (PFC) assessment data was collected in 2006 on Jakes Creek, Dry Creek, and Bull Camp Creek (see Allotment Evaluation). No new data was collected on Salmon Falls Creek. A new baseline objective was set in 2001 with the change in livestock management practices on the Hubbard/Vineyard Allotment, and the 2006 data provides an analysis capability to determine in the new livestock management system is making progress towards meeting short-term and long-term objectives identified in the Rangeland Program Summary (RPS). Previous stream survey data showed that RPS objectives were being met on Salmon Falls River, partially met on Jakes and Dry creeks, and not met on Bull Camp Creek.

BLM stream survey showed a decline in stream riparian habitat condition and stream habitat condition occurred between 1980 and 1990, but improvements in stream riparian habitat condition were observed on Jakes Creek, Dry Creek, and Salmon Falls Creek by 2001. On Dry Creek 93% of all stream survey parameters were equal to or improved in 2001 and Salmon Falls Creek stations 86% were improved in 2001. On Jakes Creek 46% of all parameters for all stream survey stations improved between 1990 and 2001. For Bull Camp Creek 40% of all parameters for all stream survey stations improved between 1990 and 2001. Twelve stations on the Jakes, Dry, and Bull Camp creeks were dry in 2001 compared to 11 stations in 1990. In 2006, only four stations were dry and one station was intermittent dry.

Stream habitat condition showed improvement on Dry Creek and Salmon Falls River in 2001 compared with 1990. Bank cover and bank stability improved between 1990 and 2001 on all streams except Bull Camp Creek where bank cover decreased slightly. Bull Camp Creek was the

most heavily used by livestock in 2001, while Jakes Creek and Dry Creek were showing evidence of riparian recovery taking place. Pool/riffle ratio, streambottom percent desirable material, and width/depth ratio generally improved between 1990 and 2001.

The 2006 stream survey data documents a general improvement in riparian condition percent optimum, habitat condition percent optimum, and functionality rating on Jakes and Bull Camp creeks, and a decline on Dry Creek. The streams showed general improvement on mountainous stream segments, and less improvement on the lower elevation flats. Generally the dry segments were on the flats, and the intermittent segment was in the headwater.

Lentic PFC assessment on springs and seeps completed in 2003 indicated that a large percentage of the springs are either nonfunctional (NF) or Functional-at-risk (FAR). A total of 35 lentic springs and seeps were assessed in 2003, and 10 were FAR with an upward trend (FAR↑) (29%), 22 were FAR with a downward trend (FAR↓) (63%), and 3 were nonfunctional (NF) (8%).

In the Allotment Evaluation for the Hubbard/Vineyard Allotment we made an assumption that because the lotic Proper Functioning Condition (PFC) analysis were improving for the streams within the Hubbard/Vineyard allotment within the mountain pastures (Jakes Creek Mountain, Triangle, Dry Creek Mountain, and Bull Camp Mountain), that we would probably see similar improvements in lentic PFC condition. In 2007 we revisited most of the springs within the Hubbard/Vineyard Allotment that had been evaluated in the 2003 lentic PFC analysis, plus additional sites to include more data.

The 2007 assessments evaluated 51 springs, seeps, and reservoirs, with 24 rated as Proper Functioning Condition (PFC) (47%), 3 rated at Functional-at-risk (FAR) with an upward trend (FAR↑) (6%), 4 rated as Functional-at-risk with no apparent trend (FARN) (8%), 7 rated as FAR↓ (downward trend) (14%), and 11 rated as non-functional (NF) (21%). Two of the sources did not receive any rating (4%). Three of the areas rated non-functional are livestock reservoirs. Please see the Allotment Evaluation Summary Report for a more detailed comparison between the 2003 and 2007 assessments.

Table 1: 2007 Hubbard/Vineyard Allotment Lentic Proper Functioning Condition Assessment by Pasture. See Map 10.

Pasture	NF	FARD	FARN	FARU	PFC
Hubbard Basin, Cold Springs Mountain, Devil's Table	9	3		1	5
Middle				2	5
Triangle		1			
Coon Creek	2	2			
Flat					1
Jakes Creek Mountain			2		8
Dry Creek Mountain		1	2		2
Bull Camp Mountain					3
Totals	11 (21%)	7 (14%)	4 (8%)	3 (6%)	24 (47%)

b. Effects of Alternatives

1. Proposed Action

The proposed action, to continue the HM process to manage the Hubbard/Vineyard Allotment, would continue to reduce livestock effects on the streams, springs, and riparian areas within the allotment and provide for improvement riparian condition of streams, springs, seeps, and riparian areas, especially in the mountain pastures. Livestock use within the riparian areas would be managed in such a way as to be conducive to improvement or maintenance of herbaceous and woody riparian vegetation, which would allow for better infiltration, filtration, stability, and water storage capabilities of floodplains and other riparian areas. Improvement of floodplain/riparian/fisheries habitat is expected with continued use of the HM process.

The Columbia spotted frog (federally listed candidate species) is known to occur within the allotment. Attainment of riparian standards and objectives is expected to provide for the biological needs of the spotted frog and Interior redband trout. Improvement of quality pools, pool:riffle ratio, desirable stream bottom, streambank cover, and other parameters will continue to improve conditions for this species, and for Interior redband trout (BLM sensitive species). Most of the habitat for these two species occurs in the mountain pastures, which have the improving stream segments identified in the 2006 stream survey and lotic PFC analysis. Approximately 50 percent of the stream segments were rated PFC in 2006.

2. Alternative 1

Under this alternative, the Holistic Management process currently in place for the Hubbard/Vineyard Allotment would be discontinued. Livestock grazing use would be authorized in accordance with a grazing schedule. This grazing system has been developed as an alternative that should provide for continued recovery of floodplain/riparian/fisheries habitat. The mountain pastures would be rested four out of six years with a three month season of use in the two years the mountain pastures are used. The middle elevation pastures have less rest, but have alternating seasons of use. The drier north basin pastures would be rested on alternate years with a two month season of use. Some springs would need to be fenced in the north basin pastures to enhance their recovery.

3. No Action Alternative

The No action alternative would result in a new 10 year grazing permit issued with the same grazing use and terms and conditions as currently in effect. Since the allotment is currently being used in a HM process, this practice would continue. We would expect to see continued improvement in floodplain/riparian/fisheries resources with this alternative.

6. Wildlife

a. Affected Environment

The Hubbard Vineyard Allotment provides habitat for a diversity of wildlife species which include: mule deer, elk, antelope, and upland game birds including sage grouse. Specifically, the Hubbard Vineyard Allotment provides approximately 46,000 acres of mule deer summer, 2,883

acres mule deer “crucial summer”, 8,567 acres of mule deer ‘crucial’ winter, 65,952 acres of mule deer intermediate and 973 acres of mule deer yearlong range. There are approximately 107,300 acres of antelope summer and 15,521 acres of antelope “crucial” winter within the allotment. The majority of the allotment is being used by elk yearlong and there is occupied bighorn sheep range in the northern portion of the allotment. The Hubbard Vineyard Allotment provides sage grouse nesting, summer, and winter habitat for sage grouse. See Maps 3-7.

The allotment provides habitat for, small mammals, passerine birds, waterfowl and raptors as well as amphibians, reptiles, and invertebrates. Approximately 100 bird species and 70 mammal species can be found in the Great Basin in habitat types present within the Hubbard Vineyard Allotment. (Braun et al. 1976; Trimble 1989).

Within the last six years fire impacts have been minimal in the allotment with two fires, the Cold Springs Fire (2000) and the Deer Fire (2006) impacting approximately 4,358 acres of wildlife habitat. The fires primarily impacted mule deer summer range and sage grouse nesting, summer, and winter range. The fires improved vegetative structure and forage quality for species such as antelope and elk, by shifting the vegetation type from a predominant shrub community, to a community composed of primarily grasses and forbs, which antelope and elk prefer. This trend was evident based on information provided by NDOW that showed antelope and elk using the burn as wintering grounds in 2006. This trend is expected to moderate and begin a slow decline in the long term if progress continues toward reestablishing the original shrub component.

The fires negatively impacted mule deer and sage grouse habitat in the short to mid term (5-15 years), due to the loss of appropriate sagebrush canopy cover and vertical structure. Habitat conditions for mule deer and sage grouse would expect to improve over time as sagebrush canopy cover and vertical structure returns.

b. Effects of Alternatives

1. Proposed Action

The proposed management action provides the flexibility to rest specific pastures as well as to provide early use and deferment within the system. The goal is to use each pasture during the critical growing season two out of four years through deferment and rest. This flexibility allows the ability to address specific wildlife needs (nesting, cover, and breeding areas) so that livestock impacts are minimized over the majority of the allotment during critical periods.

Utilizing the holistic process, the diversity and abundance of grasses, forbs and shrubs would be expected to be maintained or increased where the potential exists. This should maintain or increase nesting cover for most game and non-game birds as well as provide habitat, cover and forage for big game animals, small mammals, amphibians, reptiles, and invertebrates.

Monitoring data collected since the inception of Holistic Management on the Hubbard Vineyard Allotment shows that significant progress is being made toward the attainment of riparian habitat objectives and would be expected to continue under this process.

The utilization criteria on browse species (bitterbrush) of 45% combined wildlife and livestock should provide for the health and viability of this critical browse species for big game. In addition, by providing rest and deferment, wildlife habitat parameters should be enhanced.

Specific Standard Operating Procedures (SOPs) and Resource Protection Measures have been incorporated to reduce impacts to wildlife from the proposed fences and water developments. These SOPs and Resource Protection Measures can be found in Appendix 1.

2. Alternative 1

The proposed system would provide rest, early use and deferment on a rotational basis, without the flexibility allowed within the Holistic Management System. Impacts to wildlife species would be similar as to the proposed action. Under Alternative 1 the majority of the pastures would be used during the growing season three out of six years except for the mountain pastures (Jakes Creek, Dry Creek, and Bull Camp), which are always rested or deferred. The grass, forb and shrub diversity as well as cover would expect to be at least maintained under this system. This habitat diversity would continue to provide existing desirable habitat or enhance wildlife species habitat for nesting, brood rearing, hiding, foraging, and prey base habitat for most game and nongame species including sharp-tailed grouse, sage grouse, bats, migratory birds, mammals, and birds of prey.

The combination of rested pastures and the utilization objectives should allow for an adequate amount of residual cover and forage for wildlife species in those pastures that are used, as well as enhance the prey base habitat for raptor and bat species. Alternative 1 is also expected to continue to make significant progress toward meeting riparian objectives within the Hubbard Vineyard Allotment.

Under Alternative 1, the HM process would not be incorporated. Annual meetings which currently incorporate NDOW input into establishing the yearly grazing plan would not occur. The flexibility currently in place with the HM system would not exist. This could negatively impact wildlife as additional monitoring data is collected which establishes or shifts existing use patterns or identifies key nesting areas, or critical use areas for wildlife within the allotment.

3. No Action Alternative

Under the No Action Alternative, the HM process currently in place on the allotment could be expected to continue. The impacts would be similar to those described for the proposed action. However, should the HM process cease the permittee would not be held to any specific pasture use dates or grazing schedule, which could lead to a return of the historic grazing patterns and associated detrimental impacts to wildlife habitat.

7. Migratory Birds

a. Affected Environment

On January 11, 2001, President Clinton signed the Migratory Bird Executive Order. This executive order outlines the responsibilities of Federal agencies to protect migratory birds and directs executive departments and agencies to take certain actions to further implement the

Migratory Bird Treaty Act. A list of the migratory birds affected by the President's executive order is contained in 50 CFR 10.13. References to "species of concern" pertain to those species listed in the periodic report "Migratory Nongame Birds of Management Concern in the United States", priority migratory bird species as documents by established plans (such as Bird Conservation Regions in the North American Bird Conservation Initiative or Partners in Flight physiographic areas), and those species listed in 50 CFR 17.11.

The Proposed Action is located within or adjacent to riparian, montane shrub, sagebrush/grass and cliffs/talus habitat types. A table addressing those migratory bird species (protected under the Migratory Bird Executive Order) identified within the Nevada Partners in Flight Bird Conservation Plan that are associated with each of these ecotypes and likely to occur within the allotment, as well as migratory bird species identified in a bird survey conducted within the Hubbard Vineyard Allotment (both private and BLM lands) in May of 2005, can be found in Appendix 3.

b. Effects of Alternatives

1. Proposed Action

The flexibility provided by the HM process results in decreased conflicts with migratory birds by reducing direct disturbance of livestock during critical periods such as nesting over a large portion of the allotment.

In addition, by providing rest and deferment habitat parameters should be enhanced.

Monitoring data collected since the inception of Holistic Management on the Hubbard Vineyard Allotment shows that significant progress is being made toward the attainment of riparian habitat objectives and would be expected to continue under this process.

The improvement and/or attainment of upland and riparian habitat standards and objectives would improve nesting, brood rearing, and feeding habitats for migratory birds and is consistent with the conservation measures listed in Section 3 (e) of the Presidents Migratory Bird Executive Order, specifically:

(1) support the conservation intent of the migratory bird conventions by integrating bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions;

(2) restore and enhance the habitat of migratory birds, as practicable;

(5) within established authorities and in conjunction with the adoption, amendment, or revision of agency management plans and guidance, ensure that agency plans and actions promote programs and recommendations of comprehensive migratory bird planning efforts such as Partners-in-Flight....

(6) ensure that environmental analyses of Federal actions required by the NEPA or other established environmental review processes evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern.

The construction and maintenance activities associated with the proposed improvements could result in temporary disturbance of migratory bird species and/or potentially destroy nest sites that might occur along fence lines. However, the impacts to migratory birds associated with the grazing of livestock are expected to be minimal and are expected to have no measurable effect on migratory bird populations. Project construction activities would be planned to occur during non-critical time periods to migratory birds whenever practical in order to minimize impacts. If it is not feasible to avoid nesting season, nesting surveys will be conducted along the proposed fence line and modifications may be made to the fenceline based on the results of the surveys. The future completion of projects to enhance riparian areas would improve habitat for obligate species as well as benefit other migratory bird species which utilize riparian habitats. Specific SOPs such as requiring bird escape ladders in water developments and Resource Protection Measures such as leaving water at the source included in Appendix 1 would minimize impacts to migratory birds from spring development and new pipelines/troughs.

Increased impacts could be realized to ground nesting birds in areas where cattle are concentrated during critical periods; however, as a result of rest and deferment within the system these areas would be minimal in proportion to the entire allotment. No concentrated livestock herding would occur on active sage grouse strutting and nesting sites (Feb – June).

2. Alternative 1

See Wildlife Section, Alternative 1.

3. No Action Alternative

The effects of the No Action alternative would be the same as those for the proposed action.

8. Special Status Species

a. Affected Environment

Special Status Species are identified as those listed or proposed for listing as threatened or endangered under the Endangered Species Act (ESA), species that are candidates for listing under the ESA, species that are on BLM's list of Sensitive Species and State of Nevada Listed Species. Nevada BLM policy is to provide Nevada BLM Sensitive Species and State of Nevada Listed Species with the same level of protection as is provided for candidate species in BLM Manual 6840.06C. Nevada protected animals that meet BLM's 6840 policy definition are those species of animals occurring on BLM-managed lands in Nevada that are: (1) "protected" under authority of Nevada Administrative Codes 501.100 - 503.104; (2) have been determined to meet BLM's policy definition of "listing by a State in a category implying potential endangerment or extinction," and (3) are not already included as a federally listed, proposed, or candidate species.

At this time, there are no federally listed endangered species thought or known to occur within the Hubbard Vineyard Allotment. The Columbia spotted frog (CSF) (*Rana luteiventris*), a

candidate species, does occur within the allotment. As these species are associated with riparian and stream habitats, they will be discussed in those sections. The bald eagle has been de-listed as a Federally threatened species by the U.S. Fish & Wildlife Service effective August 8, 2007. BLM is coordinating with the Nevada Department of Wildlife (NDOW) to ensure compliance with State regulations regarding the bald eagle, any status re-designation as a BLM sensitive species is pending as of August 8, 2007. Bald eagles (*Haliaeetus leucocephalus*), are a winter resident throughout the Elko District, including the Hubbard Vineyard Allotment. There are no known specific habitat areas such as roosting, nesting or foraging sites within the allotment.

Many special status animal species are thought or known to occur within the allotment, and are listed in Table 2. This table was created based on information provided by the U.S. Fish and Wildlife Service, Nevada Department of Wildlife, Nevada Natural Heritage Program and BLM Biologists. There are no known special status plant species within the Hubbard Vineyard Allotment.

Table 2. Special Status Species

COMMON NAME	SCIENTIFIC NAME
Federally Endangered Species	
(None)	(None)
Federally Threatened Species	
(None)	(None)
Federally Proposed Threatened or Endangered Species	
(None)	(None)
Federal Candidate Species	
Columbia spotted frog	<i>Rana luteiventris</i>
Nevada BLM Sensitive Species	
Birds	
Golden Eagle	<i>Aquila chrysaetos</i>
Western Burrowing Owl	<i>Athene cucularia hypugea</i>
Ferruginous Hawk	<i>Buteo regalis</i>
Swainson's Hawk	<i>Buteo swainsoni</i>
Northern Goshawk	<i>Accipiter gentiles</i>
Greater Sage Grouse	<i>Centrocercus urophasianus</i>
American Peregrine falcon	<i>Falco peregrinus anatum</i>
Loggerhead shrike	<i>Lanius ludovicianus</i>
Vesper sparrow	<i>Poocetes gramineus</i>
Short-eared owl	<i>Asio flammeus</i>
Long-eared owl	<i>Asio otus</i>
Prairie falcon	<i>Falco mexicanus</i>
Black-rosy finch	<i>Leucosticte atrata</i>
Bobolink	<i>Dolichonyx oryzivorus</i>

Long -billed curlew	<i>Numenius americanus</i>
Yellow-breasted chat	<i>Icteria virens</i>
Lewis' woodpecker	<i>Melanerpes lewis</i>
Mammals	
Pygmy rabbit	<i>Brachylagus idahoensis</i>
Spotted bat	<i>Euderma maculatum</i>
Small-footed myotis	<i>Myotis ciliolabrum</i>
Long-eared myotis	<i>Myotis evotis</i>
Fringed myotis	<i>Myotis thysanodes</i>
Long-legged myotis	<i>Myotis volans</i>
Yuma myotis	<i>Myotis yumanensis</i>
Pacific Townsend's big-eared bat	<i>Plecotis townsendii townsendii</i>
Prebles shrew	<i>Sorex pleblei</i>
Invertebrates	
Idaho viceroy	<i>Limenitis archippus idaho</i>
Plants	
Elko rockcress	<i>Arabis falcifracta</i>
Mollusks	
California floater	<i>Anodonta californiensis</i>
Nevada Natural Heritage Program Sensitive Species	
Invertebrates	
Dark sandhill skipper	<i>Polites sabuleti nigrescens</i>
Mollusks	
upper Thousand Spring springsnail	<i>Pyrgulopsis hovinghi</i>

Based on the diversity of habitats present in the Hubbard Vineyard Allotment, including sagebrush/grass, mountain shrub, aspen, meadows and stream systems, the area likely supports sensitive species of raptors, bats, pygmy rabbits, Preble's shrew, as well as known populations of sensitive bird species, including sage grouse.

The sagebrush/grass habitat type is the most prevalent within the Allotment and can be found at all elevation ranges. Representative sagebrush include: Basin big sagebrush, Wyoming big sagebrush, black sage, low sage, and mountain big sagebrush. Associated grass species include: Idaho fescue, bluebunch wheatgrass, Thurbers needlegrass, Sandberg's bluegrass, bottlebrush squirreltail, western wheatgrass, and basin wildrye.

The Mountain shrub habitat type can be found in the mid-upper elevations within the allotment. Representative sagebrush species include: mountain big sagebrush, low sagebrush, basin big sagebrush, and black sagebrush. The pre-dominant browse species is bitterbrush, with occasional scattered snowberry and serviceberry. Associated grass species are bluebunch wheatgrass and Idaho fescue.

Riparian habitats are generally delineated into lentic (standing water) and lotic (running water) areas. Lentic riparian areas include springs, seeps, wet and mesic meadows. A lotic riparian zone is the transition zone between the stream and the upland habitats. Vegetation in both lentic

and lotic areas generally include: sedges, rushes, aspen, willow species, alder, and cottonwood species.

The stream habitat is that area included within the active stream channel, specifically as a live stream.

Cliffs and Talus habitat types occur as a result of uplift and erosion within erosion resistant rock types such as silica and carbonate-rich materials. Talus occurs as result of fallen rock which collects at the base of the cliffs. In general, plants are absent from the rock faces. Cliffs and Talus comprise a small portion of habitat within the allotment. Because of their inaccessibility livestock grazing has little impact if any on these habitats.

There are aquatic species of concern known to occur on and/or near the Hubbard/Vineyard Allotment. These species are not afforded any protection under the Endangered Species Act (ESA); however, the BLM treats these as “candidate” species to prevent future listing as threatened or endangered. These include the interior redband trout (*Oncorhynchus mykiss gairdneri*) and California floater (*Anodonta californiensis*).

The federal candidate species Columbia spotted frog (*Rana luteiventris*) has been found on the allotment. The spotted frog is typically found in clear, slow-moving water, such as beaver ponds, springs, and seeps. Another frog, the Northern leopard frog (*Rana pipiens*) (BLM Sensitive species), is likely to occur within the allotment. Federal agencies are required by law to complete Section 7 consultation with the U.S. Fish and Wildlife Service for species listed as either threatened or endangered under the Endangered Species Act of 1973, as amended. No section 7 consultation is required for candidate, BLM sensitive, state sensitive, or species of concern, although Federal agencies should take positive actions to preclude the need for listing these species in the future.

Eleven sage grouse strutting grounds and six wintering grounds are known to exist within the Hubbard Vineyard Allotment (see Map 7). Four other strutting grounds are known to exist on adjacent lands within a two-mile radius of the Hubbard Vineyard Allotment boundary.

Sage grouse are considered sagebrush “obligates” because they feed almost exclusively on sagebrush and continue to feed on sagebrush throughout the late fall and winter until forbs reappear the following spring. Sage grouse are also dependent on healthy and diverse age structures of sagebrush to provide habitat for successful nesting, brood-rearing and winter use areas. During the spring, sage grouse utilize forbs, which are high in calcium, phosphorous and protein, to prepare them nutritionally for breeding. Sage grouse chicks rely heavily on forbs and insects in their diets. Habitats that provide a diversity of plant species also support a wide diversity of insects, which are essential to chicks. Riparian areas are critical to sage grouse during late brood rearing; as habitats start to dry up hens usually move their chicks to moister sites where more succulent vegetation is available.

Habitat components that fulfill yearly life requirements for sage grouse are summarized by Dynamec Corp. (2004) as follows:

1. Lek: strutting grounds found in open areas surrounded by sagebrush where males display in late February through early May to attract females for breeding. Leks and approximately a

two-mile radius around the lek are the focal point of the breeding and nesting complex. Areas larger than the two-mile radius may be necessary where sagebrush communities are heavily fragmented.

2. Nesting and early brood rearing habitat: Used in late March through June. Suitable habitat requires nesting cover and food availability and sagebrush stands with a robust understory of grasses and forbs. Bluebunch wheatgrass is preferred because of its growth form. An ample variety, distribution and abundance of forbs, and insects such as ants and beetles, are needed as food for chicks.

3. Late brood-rearing habitat: late June through October. Preferred habitat includes healthy riparian areas, wet meadows, and upland plant communities with available food, primarily forbs such as:

- Yarrow (*Achillea*)
- Buckwheat (*Eriogonum*)
- Dandelion (*Taraxicum*)
- Prickly lettuce (*Lactuca*)
- False Dandelion (*Agoseris*)
- Paintbrush (*Castilleja*)
- Salsify (*Tragopogon*)
- Hawksbeard (*Crepis*)

Forb abundance, diversity and availability are crucial. Close proximity to escape cover (sagebrush) is also important.

4. Winter habitat: November to early March. South-facing and/or wind-swept gentle slopes. Sagebrush (for cover and food) must be available during periods of deep snow

The majority of the Hubbard Vineyard Allotment is located within the Snake PMU; with only a small portion of the O’Neil Basin PMU located within the allotment boundary. Sage grouse population estimates in the Northeast Nevada Sagebrush Ecosystem Management Plan range from 8,305 to 9,967 for the O’Neil Basin PMU and 2,636 to 3,163 for the Snake PMU. Population trend estimates for both PMUs are static with a long term downward trend. There is an established trend lek within the allotment in the Snake Mountain PMU which NDOW has monitored continuously since 1999; population monitoring data for this trend lek is displayed in Table 3.

Table 3. East Hubbard Well Trend Lek Summary

East Hubbard Well Trend Lek Monitoring Results								
	Year							
	1999	2000	2001	2002	2003	2004	2005	2006
Number of birds in Attendance	70+	86	65	48	58	123	120	103

Primary breeding areas (lekking and nesting) within the Hubbard Vineyard Allotment include the Flat, Middle, Hubbard Basin and Coon Creek Pastures. In June and July, as sagebrush habitats dry up and herbaceous plants mature in these lower pastures, hens within the Hubbard Vineyard

Allotment are likely to move their broods into the mountain pastures which contain numerous riparian areas.

Moderate risks for sage grouse populations identified in the “Elko County Sagebrush Ecosystem Conservation Strategy” (Northeastern Nevada Stewardship Group, 2003) for the Snake PMU include the following: habitat fragmentation (fire impacts, cheatgrass invasion, etc) changing land uses, fire ecology and predation. Livestock grazing was identified as a low risk for this PMU. Sage grouse habitat evaluation conducted during this ecosystem conservation process included evaluating sagebrush habitat condition for all PMUs within the Field Office, including the Snake and O’Neil Basin PMUs. Sagebrush habitat condition was evaluated by using regional cover data from the SAGEMAP GIS database. This database made available a map depicting the current distribution of 10 sagebrush cover types generated from data on vegetation, elevation and soil characteristics. Using this regional sagebrush cover type information as the starting point, additional local information (i.e. fire history, soil survey data, land treatment records, current ecological data, and professional judgement) was added to assess and categorize habitat into an appropriate R-Value category. (See Map 7) 72% of the habitat within the Hubbard Vineyard Allotment was assessed as an R-0 Category, 21% as an R-1, and 7% as an R-2 as described below:

R-0 :Habitat areas with desired species composition that have sufficient, but not excessive, sagebrush canopy cover and sufficient grasses and forbs in the understory to provide adequate cover and forage to meet the seasonal needs of sage grouse.

R-1 (burned Areas and seedings)

Habitat areas which currently lack sufficient sagebrush and are currently dominated by perennial grasses and forbs yet have the potential to produce sagebrush plant communities with good understory composition of desired grasses and forbs

R-2: Existing sagebrush habitat areas with insufficient desired grasses and forbs in the understory to meet seasonal needs of sage grouse.

“Pygmy rabbits are sagebrush obligates, most often associated with Basin big sagebrush. However, stands of Wyoming big sagebrush (often in proximity of riparian areas) also are used. Pygmy rabbits dig their own burrows and are usually found close to their burrow systems. Their primary food source is sagebrush, particularly in the winter. Grasses are more important in the summer.” (BLM, 2003) No pygmy rabbits have been documented within the allotment; however, they have been documented in surrounding areas within vegetative types which are present in the Hubbard Vineyard Allotment.

“Burrowing owls are associated with areas of short grasses or shrubs, open sites and the availability of below-ground burrows for nesting. Primary prey for burrowing owls consists of vertebrates (mainly rodents) and invertebrates (mainly beetles)”.(Belthoff, et. al. 1995) No burrowing owls have been documented in the allotment; however, they have been documented in surrounding areas within vegetative types which are present in the Hubbard VineyardAllotment.

“Preble’s shrews are found in Nevada primarily in streamside sagebrush, rabbitbrush, bitterbrush, bunchgrass and forbs; willow and greasewood meadows, and sagebrush, aspen and willow riparian habitat. They feed primarily on insects and other small invertebrates”. (Univ. of

WY). No Preble's shrews have been documented within the allotment; however, they have been documented in surrounding areas within vegetative types which are present in the Hubbard Vineyard Allotment.

Columbian sharp-tailed grouse were historically thought to be present within this area. In coordination with Idaho Fish and Game, University of Nevada Reno, Nevada Department of Wildlife and Idaho State University, a total of 226 sharp-tails have been released in the Dry Creek area of the Snake Range, starting in 1999. These releases were located within approximately 10-12 miles southeast of the Hubbard Vineyard Allotment in similar habitat. "Sharp-tail habitat is characterized as bunchgrass and sagebrush steppe communities. The sagebrush communities are important for nesting and brood rearing. Riparian zones and mountain browse communities are required for successful over-wintering. Mountain browse species such as serviceberry, chokecherry, and snowberry are valuable food and cover sources as well as riparian species such as aspen and willow".(Dynamac Corp. 2004)

Eighteen sensitive species of birds, (including raptors) are thought or known to occur within the Hubbard Vineyard Allotment on a seasonal basis. These species use a variety of habitats. Healthy upland and riparian habitats are essential to provide suitable nesting habitat, foraging areas and cover. Raptor species are dependent on these habitats to provide habitat (cover and forage) for their prey base.

In general, bats use water between night-time foraging bouts. They utilize all of the habitat types for foraging and feed on a variety of nocturnal insects. Bat species within this area are primarily migratory; no winter roost sites for hibernating bats have been documented within the Hubbard Vineyard Allotment. However, there are known Townsend's big-eared bat winter roost sites within the general vicinity.

No special status plant species are known to occur within the Hubbard Vineyard Allotment.

b. Effects of Alternatives

1. Proposed Action

The grass, forb and shrub diversity as well as cover would expect to be maintained or be increased (where the potential exists) under HM. This habitat diversity would continue to provide existing desirable habitat or enhance sensitive species habitat for nesting, brood rearing, hiding, foraging, and prey base habitat for most sensitive game and nongame species including sharp-tailed grouse, sage grouse, bats, migratory birds, mammals, and birds of prey.

The seasons of use restriction in the Grazing Process section should allow for an adequate amount of residual cover and forage for special status species, as well as enhance the prey base habitat for raptor and bat species.

In addition, significant progress is being made toward meeting riparian objectives under the HM process within the Hubbard Vineyard Allotment. These objectives include the presence of healthy stands of woody riparian vegetation (aspen and willows), diverse herbaceous riparian vegetation and stable systems capable of supporting dependent special status species such as the spotted frog as well as other sensitive species. The improvement in riparian condition is

expected to benefit sage grouse late brood-rearing habitat by providing moist sites with a diversity of succulent vegetation for sage grouse broods.

Stream and riparian habitat will continue to improve, especially in the mountain pastures with the HM process. These improved conditions will benefit all aquatic species. In the long-term, with improved riparian herbaceous and woody vegetation communities, there will be more cover and shade provided for these species and the streams which will maintain lower water temperatures and help maintain flows within the streams and lentic areas.

Timing and intensity of livestock grazing may affect sage grouse nesting and brood rearing success. The peak of sage grouse hatch is the last week in May and the first week in June, depending on weather conditions. Livestock and grazing could directly compete with sage grouse for food (primarily forbs) and nesting cover during this time, or could physically disturb the nests (Beck and Mitchell, 2000, Gregg et al. 1994, and DeLong et al.) However, direct competition for forbs between cattle and sage grouse would be expected to be minimal based on the fact that cattle primarily utilize grass species during spring/summer grazing (Vallentine, 1990). Persistent and excessive early spring and summer grazing could reduce plant vigor and cover of herbaceous species causing undesirable long-term changes in the vegetative composition (Laycock, 1979).

The pygmy rabbit and Preble's shrew may be affected by livestock grazing if upland herbaceous species are heavily utilized. Alteration of the shrub component (livestock trampling, vegetative manipulation) of their habitat may also affect these species by reducing forage availability and destruction of burrows (pygmy rabbit) and quality of prey habitat (Preble's shrew).

Potential impacts to the burrowing owl from livestock grazing could include destruction of burrow entrances and negatively affecting the quality of foraging habitat.

When land treatments that are likely to affect burrows are planned, such as concentrating livestock to reduce shrub cover, an inventory of the treatment area will be conducted to determine if burrows are present. Any burrows identified will be avoided during the proposed treatment to avoid causing damage.

Utilizing the HM process, timing and intensity can be manipulated to address the needs of special status species, including sage grouse, during critical time periods to continue to provide for or enhance nesting and brood rearing success over the majority of the allotment.

Since 2002 under the current Holistic Management process, pastures which contain the primary breeding habitat within the allotment have been rested during the critical breeding period (March through May) three to four years out of the five. The mountain pastures, which contain potential late brood rearing habitat (Bull Camp Mt., Dry Creek Mt., Jakes Creek Mt., Triangle and Cold Springs), have been rested two to three years out of the five.

A utilization criteria of 50% in pastures that are used for livestock grazing would ensure that significant residual vegetative cover would remain in place to meet nesting needs and hiding cover as well as reducing direct competition for forage for all species.

In addition, rest, early, and late use provided for in the system allows large areas to either be rested/deferred or to be used early, which provides areas of no livestock competition and allows the opportunity for re-growth to occur which enhances residual cover availability for nest concealment in the spring. A combination of rest, early use, and deferment promotes plant vigor and health and alleviates the concerns of season long grazing.

Proposed range improvements should have minor impacts to sensitive species based on incorporating standard SOPs and Resource Protection Measures as outline in Appendix 1. The proposed fences could result in some mortality to sage grouse as a result of their collision with newly constructed fences; however, the SOPs for fence construction in sage grouse habitat would make the fences more visible and reduce the potential for these types of mortality. No fences will be constructed within ½ mile of known sage grouse leks and fences constructed within .50 mile to .62 mile (1 km) will incorporate visibility measures described in the SOPs to reduce the potential for collision. The proposed fences would allow shorter periods of use in each pasture and are expected to further riparian improvement for both lentic and lotic areas within the allotment, which would enhance habitat for sensitive species. Fences could result in increased prey efficiencies by raptors on sage grouse by providing increased perches from which to hunt. Incorporating perch deterrents as outlined in the SOPs would significantly reduce the possibility of occurring.

2. Alternative 1

See discussion under Wildlife Section, Alternative 1. Under Alternative 1; pastures which contain the primary breeding habitat for sage grouse within the allotment would be rested during the critical breeding period (March through May) three years out of six. Approximately 1/2 of the late brood rearing habitat (Bull Camp Mt., Dry Creek Mt., Jakes Creek Mt., Triangle and Cold Springs) would be rested four out of six years.

The Holistic Management process currently in place for the Hubbard/Vineyard Allotment would be discontinued. Livestock grazing use would be authorized in accordance with a grazing schedule. This grazing system has been developed as an alternative that should provide for continued recovery of floodplain/riparian/fisheries habitat. The mountain pastures would be rested four out of six years with a three month season of use in the two years the mountain pastures are used. The middle elevation pastures have less rest, but have alternating seasons of use. The drier north basin pastures would be rested on alternate years with a two month season of use. Some springs would need to be fenced in the north basin pastures to enhance their recovery. These improved conditions will benefit all aquatic species.

3. No Action Alternative

The No action alternative would result in a new 10 year grazing permit issued with the same grazing use and terms and conditions as currently in effect. Since the allotment is currently being used in a HM process, this practice would continue. We would expect to see continued improvement in floodplain/riparian/fisheries resources with this alternative. These improved conditions will benefit all aquatic species.

9. Vegetation

a. Affected Environment

Vegetation in the Hubbard Vineyard Allotment can be grouped into three elevation zones. The major vegetation types in the upper elevations of the allotment are mountain big sagebrush/Idaho fescue, low sagebrush/Idaho fescue/bluebunch wheatgrass, and bitterbrush/Idaho fescue, all intermixed with mountain mahogany and mountain big sagebrush. Other vegetation at other upper elevations includes sagebrush/Idaho fescue/Bluebunch wheatgrass and black sagebrush/Bluebunch wheatgrass, intermixed with curlleaf mountain mahogany and mountain big sage. Pockets of winterfat are also appearing at numerous places on the crest of the Snake Range.

The dominant vegetation types in the mid-elevation zones are basin big sagebrush/bluebunch wheatgrass/Thurber's needlgrass, bitterbrush/Idaho fescue, low sagebrush/Idaho fescue/bluebunch wheatgrass and black sagebrush/bluebunch wheatgrass, all intermixed with curlleaf mountain mahogany, Wyoming big sagebrush and mountain big sagebrush.

The dominant vegetation types in the lower elevation zones are basin big sagebrush/basin big sagebrush/bluebunch wheatgrass, black sagebrush/bluebunch wheatgrass and low sagebrush/bluebunch wheatgrass. Shadscale, greasewood, and other salt desert vegetation types can be found in pockets, especially on the eastern edge of the allotment.

Other important plant species in the project area are needle and thread grass, Sandberg's bluegrass, bottlebrush squirreltail, western wheatgrass, basin wildrye, Indian ricegrass, rabbitbrush and serviceberry. The key forage species monitored in the most of the allotment are bluebunch wheatgrass and Thurber's needlgrass.

Invasive species present in the allotment includes approximately 18,000 acres seeded to crested wheatgrass. Scattered stands of cheatgrass and halogeton are also present, with the highest concentrations found around the areas of the allotment affected by mining and other human activities and in areas of heavy livestock concentrations.

b. Effects of Alternatives

1. Proposed Action

Generally, upland ecological conditions have remained relatively stable over the past 20+ years. Measurable changes in upland plant community conditions and trends occurred largely in response to variations in the amount of precipitation available to plants during the growing season. Declines in plant presence and production occurred during the years when precipitation was below the long-term median with increases in plant presence and production during the years when precipitation was above the long-term median. Livestock use was not identified as a significant factor affecting the variations in conditions and trends.

The proposed action is expected to benefit vegetation in the allotment. Under Holistic Management, season-long grazing of plants has been eliminated in favor of periodic resting and deferment of pastures, which has given the plants both rest and recovery periods and has allowed

the plants to periodically complete their growth and reproduction cycles prior to the onset of grazing. The resting and varying seasons of use on the pastures has also allowed for improvement in riparian vegetation communities, especially in the mountain pastures.

Some loss of vegetation can be expected during construction of the fence and pipeline projects. Additional impacts could be expected from livestock trailing on fencelines and periodic inspections and maintenance of those projects. These projects could also serve as new entry points for invasive species. However, the increased management and control of livestock that these projects would afford would have a positive impact to the plant communities as a whole. Adherence to the special project procedures in Appendix 1 would help to minimize some of the direct impacts of these projects to vegetation resources.

2. Alternative 1

The grazing system proposed in this alternative provides for years of rest or deferred use until after the critical growing season intermixed with years of use during the critical growing season. The rest and deferred use periods should allow plants sufficient recovery time to re-grow and replenish root reserves between grazing use periods. Continuously grazing the same plants at the same time frames may also lead to the same species or individual plants getting continually selected, which may lead to long-term decline in preferred forage species and subsequent increase in low forage value plants. However, these changes are expected to be minimal.

3. No Action Alternative

Under this alternative all parts of the allotment could be open to grazing at any time within the current season of use limits. If the Holistic Management process continues further improvements in the vegetation communities could be expected. However, a return to pre-HM grazing strategies would prove to be very detrimental to the vegetation communities, especially on the eastern portions of the allotment.

10. Invasive, Nonnative Species

a. Affected Environment

According to Elko Field Office data, the following Nevada designated noxious weed species are found within the Hubbard Vineyard Allotment. One infestation of Canada thistle (*Cirsium arvense*) covers less than ¼ acre. There are two infestations of hoary cress (*Cardaria draba*) of less than ¼ acre each. Russian knapweed (*Acroptilon repens*) also exists along Highway 93 near the entrance the Boies Ranch. This site is less than .1 acre in size. Both Canada thistle and hoary cress are Nevada designated Category C noxious weed species. Russian knapweed is a Nevada designated Category B noxious weed species.

b. Effects of Alternatives

1. Proposed Action

The proposed deferred rotation grazing system should help to maintain the native vegetation and rangelands in a healthy condition which would minimize the potential for new or larger noxious weed infestations.

Fence construction and pipeline development both are ground disturbing activities that have the potential for invasion and/or spread of noxious weeds. Adherence to the special project procedures in Appendix 1 would help to minimize some of the direct impacts of these projects.

2. Alternative 1

The impacts of this alternative would be the same as the proposed action.

3. No Action Alternative

The impacts of this alternative would be the same as the proposed action.

11. Livestock Grazing

a. Affected Environment

Historical records indicate that livestock first entered Elko County's northeastern corner in the 1870's. What is today the Hubbard Vineyard Allotment was part of the vast Sparks and Harrell holdings that encompassed almost all of northeastern Nevada and parts of Idaho and Utah. These early livestock operations saw tens of thousands of cattle and sheep on the ranges almost year round; in 1882 the Sparks operations ran somewhere in the neighborhood of 175,000 cattle on these ranges, with 38,000 calves branded in 1885. These lands later passed to the Utah Construction Company, which held the ranches until World War I when the process of breaking the land up into individual ranches and allotments began. By the turn of the century drought and a series of harsh winters forced the ranches to start raising alfalfa and native hay on the stream bottoms and scattered homesteads. The turn of the century also saw the first fences erected to demark private property boundaries.

Boies Ranches is the sole permittee on the Hubbard Vineyard Allotment. The Boies Family purchased the first part of the ranch from U.C. Land & Cattle Company, successor to the Utah Construction Company, in 1945. In 1966 the Boies Family completed the current ranch by purchasing additional private lands and associated public Animal Unit Months (AUMs) in the southern part of the allotment. Total permitted use stood at 14,061 AUMs until 1973, when a Range Adjustment Agreement placed 965 AUMs into suspended non-use. The Mary's River Reverse Land Exchange completed in 1992 further reduced active use to the current level of 13,031 AUMs.

In 1952 the BLM and the permittees seeded slightly over 15,000 acres of land to a combination of crested wheatgrass and/or bulbous bluegrass. Controlling the spread of halogeton west from the highway and relieving grazing pressures from the native ranges were the primary intent of

these seedings. The first pasture fences were erected around these seedings, creating the Dry Creek and Hubbard Seeding pastures. The 1960's saw additional pasture fencing erected to create the Bull Camp Mountain, Mountain, Coon Creek, and Reservoir Seeding pasture, with the Reservoir Seeding enclosing a new crested wheatgrass seeding intended to stabilize an area of high erodibility. More recent fencing projects include the Middle Pasture fence (constructed in 1992), the Hubbard Seeding division fence (constructed in 1991), and the fences splitting the Mountain Pasture into the Dry Creek Mountain, Triangle, and Jakes Creek Mountain pastures (completed in 2001).

Boies Ranches is currently permitted cattle from 1 April to 15 December annually and horses from 1 April to 28 February annually. Livestock are normally fed hay and held on private land through the winter. Until the early 1990's livestock were turned out on the eastern parts of the allotment every spring, with the livestock allowed to drift into the mountains by early summer. The cattle would remain in the mountains until late fall, when the cattle would be gathered and returned to the flats. The completion of the fence projects allowed the permittee to start managing grazing use for the first time, which allowed for the periodic resting and/or deferment on some pastures.

In 2000 Boies Ranches formally formed a collaborative ranch management team using the Holistic Management (HM) planning principles. Since that time annual grazing plans have been formulated by the HM team, with the team's recommendations submitted to the BLM in a grazing application. These grazing plans have typically rested between one third and one half of the allotment each year.

b. Effects of Alternatives

1. Proposed Action

Formal implementation of Holistic Management on the Hubbard Vineyard Allotment would continue the current process of having a diverse group of agencies and interests plan ranch management. The input and participation of the members of the team would continue to help find common ground among the various viewpoints and opinions and would allow for continued improvement in livestock management and grazing strategies.

The proposed action would implement after the fact billing, which defers payment of grazing fees until after the end of the grazing season, which will allow the BLM to issue one bill a year instead of the current practice of issuing several bills through the year before grazing use is made. A 10-year grazing permit will also be issued, which will provide for long-term stability of the livestock operation.

The proposed fences and pipelines would allow the permittee to improve livestock control, especially across the northern portions of the allotment. Enabling better control would continue to enhance progress towards attaining the Standards and Guidelines for Rangeland Health and the allotment specific multiple use objectives.

2. Alternative 1

Under this alternative, a structured grazing system would be put in place for the first time on the Hubbard Vineyard Allotment. The permittee would be given specific season of use ranges during which livestock could be present in each pasture of the allotment. The season of use ranges would allow the permittee some flexibility in creating an annual grazing system in a manner that would still ensure progress towards attaining the Standards and Guidelines for Rangeland Health.

The permittee would lose a lot of the flexibility that is enjoyed now. The discontinuance of the Holistic Management team would also mean the loss of the opportunity for the diverse involvement in the ranch management process.

The proposed fences and pipelines would allow the permittee to improve livestock control, especially across the northern portions of the allotment. Enabling better control would continue to enhance progress towards attaining the Standards and Guidelines for Rangeland Health and the allotment specific multiple use objectives.

3. No Action Alternative

Under the No Action Alternative, a 10-year grazing permit with the existing terms and conditions would be issued. The Holistic Management process currently in place could continue but would lack a formalized existence. No management plan would exist to govern livestock use in the allotment.

12. Recreation

a. Affected Environment

The Hubbard Vineyard Allotment is used for a wide variety of dispersed forms of recreation activities including camping, hiking ,photography, big game and upland game bird hunting, and fishing. There are no designated recreational facilities located in the allotment.

b. Effects of Alternatives

1. Proposed Action

Existing dispersed recreation uses should not be affected by the proposed action. One indirect impact of the proposed project is the continued improvement of the wetland/riparian zones leading to better quality of recreational experience for hunters, fishermen and bird watchers.

2. Alternative 1

The impacts of this alternative would be the same as the proposed action.

3. No Action Alternative

The impacts of this alternative would be similar to the proposed action.

13. Visual Resource Management

a. Affected Environment

The general landscape in the lower elevations is flat to gentle rolling hills with gray-green sagebrush. Other features include linear lines of pasture fences and straight and curved lines in the form of ephemeral creeks and dirt roads. The upper elevations are rolling gentle hills intersected by both low and steep gradient drainage courses. Other features include linear lines of pasture fences and straight and curved lines in the form of dirt roads.

The north half of the allotment (north of Cold Spring Road) is in a Class III visual resource management (VRM) area. The objective of a Class III VRM area is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer.

The south half of the allotment (south of Cold Spring road) is Class IV VRM area. The objective of a Class IV VRM area is to provide for management activities that require major modification of the existing character of the landscape. management activities may dominate the view and be the major focus of the viewer attention.

b. Effects of Alternatives

1. Proposed Action

The proposed action would result in minimal impacts by leaving the posts in the ground permanently and coloring the fence tops white as a wildlife protection design. These minor impacts would not alter the characteristic landscape. The visual resources of BLM lands should improve as the ground cover improves. The visual resource management objectives for Class III and IV areas would be met.

2. Alternative 1

The impacts of this alternative would be the same as the proposed action.

3. No Action Alternative

The impacts of this alternative would be the same as the proposed action.

14. Wilderness Study Areas

a. Affected Environment

Approximately 218 acres of the 9,164-acre Badlands Wilderness Study Area (WSA) are located within the extreme northern boundary of the Hubbard Vineyard Allotment. Of these, approximately 176 acres are considered as suitable for Wilderness Areas while the other approximately 42 acres are not. The remainder of the Badlands WSA is located north of the

Hubbard Vineyard Allotment. No range improvements are proposed within the boundaries of the Badlands WSA.

b. Effects of Alternatives

1. Proposed Action

According to the Interim Management Policy for Lands Under Wilderness Review H-8550-1, Rel. 8-67, grazing is authorized as a grandfathered use in the Badlands WSA so long as the impacts of that use do not increase. Grazing is an established use in the WSA, and as such wilderness values are already affected by the presence and evidences of cattle. These effects include cattle trails, tracks, manure, grazed and trampled vegetation and associated surface disturbance in concentrated use areas. The proposed action would not increase or substantially change livestock grazing management in the area of the WSA.

2. Alternative 1

The affects of this alternative would be similar to the impacts of the proposed action.

3. No Action Alternative

Livestock use would not change from the current system under this alternative. Livestock would continue to use the portion of the Badlands WSA as allowed under the Interim Management Policy for Lands Under Wilderness Review H-8550-1.

C. Cumulative Impacts

NEPA regulations define cumulative impacts as the impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The Elko Field office reviewed its records to identify past present and reasonably foreseeable actions which have or are likely to occur within the O'Neil Basin area, within which the Hubbard Vineyard allotment occurs. The following is a summary of applicable actions which may have cumulative impacts to the proposed action.

1. Livestock Grazing management to include issuance of grazing permit issuance, and scheduling of use.
2. Project development including spring developments and other water developments, exclosures and other fences.
3. Noxious and Invasive Species treatments/Wildfire
4. Mining Activities
5. Recreational Activities
6. Utility and transportation corridors

The effects of past, present, and reasonably foreseeable future actions on the proposed action and no action alternatives on resource uses and conditions are as follows:

Soils

Cumulative impacts to soils can occur as a result of several natural conditions and human caused actions which affect watershed processes. Natural conditions that affect watershed processes within this area include flooding, fire and drought. Human caused actions include agriculture, grazing, recreation, and mining. Indirect effects such as impacts of soil disturbance on vegetation are described in the appropriate section of this document. For the Hubbard Vineyard Allotment, the affected area of analysis for cumulative impacts is the Salmon Falls Creek Area of the Snake River Watershed.

Implementation of the alternatives outlined in this document would not likely affect soils within the Cumulative impacts area. The alternatives would change little when compared to other actions and processes which impact soil resources within the area of analysis.

Water Quality

Cumulative impacts to water quality can occur as a result of several natural conditions and human caused actions which affect watershed processes. Natural conditions that affect watershed processes within this area include flooding, fire and drought. Human caused actions include agriculture, grazing, recreation, and mining. These impacts can be expressed through impacts to water quality and quality downstream of affected watersheds. For the Hubbard Vineyard Allotment, the affected area of analysis for cumulative impacts is the Salmon Falls Creek Area of the Snake River Watershed. Water quality for this watershed is summarized in the Hubbard Vineyard Allotment Evaluation (BLM 2007).

Implementation of the alternatives outlined in this document would not likely affect water quality within the Cumulative impacts area. The alternatives would change little with respect to the actions which impact water quality most as described in BLM 2007.

Livestock Grazing Management

Livestock grazing has occurred in the Hubbard Vineyard Allotment for over 130 years, beginning in the 1870s. Livestock grazing has taken place in various forms throughout this period. Prior to 1950s, livestock grazing occurred in wholesale fashion generally over the entire area on a season-long basis. Incremental changes in livestock management have taken place throughout the allotment since this time to address various resource concerns. In most cases improvements in conditions were realized for many resources, however not all resources were addressed.

In 2000 the permittee formed a Holistic Grazing Management planning team. This plan resulted in the installation of several additional range improvements and continuation of changes in livestock grazing management practices first set in place by the permittee in the mid-1990's. Substantial improvements in resource conditions have been realized.

The continuation of changes in livestock management and installation of range improvements throughout the Hubbard Vineyard Allotment, including those presently proposed, will result in continued improvement of conditions throughout the O'Neil Basin.

In summary, the impacts of past, present, and reasonably foreseeable future actions within the O'Neil Basin over the past century and into the future are expected to prevent overgrazing and soil deterioration, and manage the land on a sustained yield basis for multiple uses. The actions have been and would be expected to continue to be compatible with maintaining stable soils and maintaining or improving native vegetation and habitat conditions on upland and riparian areas and improved water quality, to achieve the landscape goals and objectives important for supporting a thriving network of life including microorganisms, insects, amphibians, fish, birds, terrestrial wildlife, and livestock production as well as providing other amenities such as picnicking, fishing, hunting, wildlife viewing, etc.

Project Development

Within the O'Neil Basin, there are allotment boundary fences, including those between allotments, interior allotment pasture fences as well as fences around and within private ranch fields. Some springs and segments of streams are also fenced to exclude livestock use within them. There are approximately 60 miles of barbed wire fence enclosing the Hubbard Vineyard Allotment, with an additional approximately 100 miles of interior pasture fences, including private fences around private land. The fence projects contained in the proposed action for the Hubbard Vineyard Allotment would add approximately 18 miles to this total and result in the relocation of one existing fence. Additional fences are planned to be constructed within the East Buckhorn Allotment located to the northwest. Some additional enclosures around springs and aspen stands are proposed for installation within the O'Neil Allotment to the west of the Hubbard Vineyard Allotment. There is a likelihood that a few additional pasture fences and spring/riparian enclosures would be proposed for installation within the O'Neil Basin in the foreseeable future.

In general, fences can be, to some degree, an obstacle to the passage of big game and a potential source of collisions when sage grouse are in flight. Fence posts also provide perches that allow aerial predators such as raptors and ravens to focus their look for prey while taking a rest which increases their chances of taking prey in the vicinity of the fence. This is a benefit for the aerial predators but can reduce the prey base in the vicinity of the perches. The project construction stipulations that would apply to all new projects would minimize many of these direct impacts.

For at least the past 25 years, new fences and the modification and reconstruction of fences authorized on lands administered by the Elko Field Office, including the fences authorized in the O'Neil Basin, have been designed to minimize impacts to big game by being more compatible with the movements while retaining their ability to control livestock grazing to achieve resource management objectives (BLM, 1985).

In conclusion, the incremental effect of construction of the proposed fences on the Hubbard Vineyard Allotment, is insignificant. Impacts of existing fences, while continuing, are mitigated by their long term presence and the adjustments to wildlife behavior which has already taken place. Some low level impacts would be expected to continue.

Within the O'Neil Basin, most of the water for livestock and wildlife use is provided by natural flowing streams and springs; however, water wells, pipelines and pit reservoirs have been installed within the O'Neil Basin, including the Hubbard Vineyard Allotment, to provide more watering sources on the uplands to improve livestock distribution and management, and to divert livestock use away from sensitive areas. Continued construction of these types of improvements would be expected to continue, although at the present time, few proposals are formally under consideration in the O'Neil Basin. Most water development result in creation of isolated areas of negative impacts. However, the net improvements in resource conditions which result from increasing water availability and dispersing use far outweigh these impacts.

The BLM and the permittees jointly seeded approximately 15,000 acres of the eastern part of the allotment to crested wheatgrass and bulbous bluegrass in the 1950's, with additional acreage seeded in the 1960's. Controlling the spread of halogeton, taking grazing pressure off of native ranges, and vegetating areas of high soil erodibility were the primary intents of these seedings. Native species are re-colonizing most of these seedings. Re-seeding some of these areas with primarily native grasses is one possible future action, but no firm proposals for any seeding projects are presently being considered. Any maintenance of existing seedings would incorporate Nevada Sage Grouse Management Guidelines.

Mining

The area around the Hubbard Vineyard Allotment has been the scene of much mining activity. The old copper mines of Contact are located a short distance north of the allotment boundary, which caused a lot of exploration work in the 1920's.

The most intensive mining impacts in the Hubbard Vineyard Allotment involve barite. Several companies operated large mines to recover this mineral up and down the Snake Range in the 1970's and early 1980's. One large open pit mine operated at the head of Dry Creek, with a big truck to small truck reload station established immediately above Dry Creek Ranch and a mill and residential facilities located on the extreme eastern fringe of the allotment. This project has been abandoned for many years.

The mining activities also resulted in the creation of many roads. These included a haul road passing up Dry Creek to reach the mine there as well as additional roads built through the Coon Creek and Bull Camp Mountain pastures to reach mines on the west side of the Snake Range. These roads have seen little if any maintenance since the mines closed, and the failure of a culvert on one of these roads on Dry Creek has compromised the Dry Creek riparian system. These roads have caused some accelerated erosion in some other parts of the allotment.

The recent spike in mineral prices and the difficulties of obtaining barite from foreign sources has prompted a renewed interest in mining in the vicinity. Spirit Minerals L.P. has received approval from the BLM and the Nevada Department of Environmental Protection (NDEP) to conduct exploration activities and preliminary work on resuming mining activities on one of the mines located on private land outside the Hubbard Vineyard Allotment boundaries. The company does plan to place a new mill at the old reload site located above Dry Creek Ranch. Spirit Minerals has done some road maintenance on the old mining roads that it is using. Impacts of this new mining activities on the Hubbard Vineyard Allotment will be minimal since all new disturbance will be in areas previously disturbed by mining activities.

Utility and Transportation Corridors

Several utility and transportation corridors pass through the Hubbard Vineyard Allotment. U.S. Highway 93 runs along a part of the eastern boundary of the allotment. A Union Pacific Railroad branchline running from Twin Falls, Idaho, to Wells, Nevada, paralleled the highway, with the railroad built in the 1920's and abandoned by the mid-1970's. Portions of the grade are used as ranch roads. A high voltage power line passes through the southern part of the allotment. There is little potential for any further major transportation corridors to affect the allotment, but construction of additional power lines is a reasonably foreseeable future action, especially if regional wind energy developments continue.

Recreation

The Hubbard Vineyard Allotment has long provided many dispersed recreational opportunities, with most recreational use occurring during hunting season. The widespread introduction of all terrain vehicles has dramatically expanded recreational use of the area, and this is expected to continue. Impacts from this could include continued use of existing roads and pioneered creation of new roads. Recreational users have also created occasional livestock management problems through failure to close gates. These actions would be expected to continue and expand as reasonably foreseeable future actions.

Invasive, Nonnative Species/Fire

Invasive non-native species such as cheatgrass and halogeton, and noxious weeds such as Canada thistle are known to occur. These species have the capacity to expand dramatically following disturbance and have done so in the past. Within the Hubbard Vineyard Allotment the past disturbance of historic heavy livestock grazing, railroad and highway construction and maintenance, mining activities, and other disturbances such as the Hubbard Civilian Conservation Corps camp, and the present and reasonably foreseeable future disturbance associated with continued livestock grazing and installation of the few proposed range improvements would incrementally have very little cumulative impact on the level of threat or the likelihood of the increase in either the distribution or abundance of noxious or invasive species.

Noxious weed seeds and plant parts may be transported into the Hubbard Vineyard Allotment by numerous means. Noxious weeds seed may be brought into the Allotment on automobile and ATV tire treads. Birds, wildlife species and livestock species may transport weed seeds on hooves, coats and digestive systems.

Wildfire, which is not an action planned or carried out by the Bureau would continue to represent the single biggest disturbance threat to the Hubbard Vineyard Allotment. Past wildfires have impacted small portions of the allotment. The Bureau has and would be expected to continue to aggressively suppress wildfire in the O'Neil Basin and conduct subsequent post-fire rehabilitation actions to reduce the likelihood of increases in noxious and invasive species occurrence. The continuation of Holistic management with the development of range improvements would be an incrementally positive effect to the threat posed by invasive and

noxious weed species, as vegetative understories improve and communities become more resilient to fire disturbance.

Cultural Resources

The concentration of livestock in an area over time can have negative effects on cultural resources. Specifically, livestock trampling and bedding can break artifacts, destroy features such as hearths, and move artifacts around as the soil is churned. Grazing has occurred throughout the Elko District since the late nineteenth century and the intensity of grazing was generally greater before the passage of the Taylor Grazing Act. However, additional impacts to sites would occur if range improvement projects and active management led to livestock being moved into areas that never received intensive grazing. Examples of this include developing pipelines that would bring water into previously dry areas. Continued assessment of cultural resource conditions and monitoring of livestock effects would be undertaken to assess the risks and if necessary implement measures to alleviate impacts.

D. Monitoring

The monitoring described in the Proposed Action and in Appendix 1 is sufficient for this action.

IV. CONSULTATION & COORDINATION

A. Persons and Agencies Consulted

In May of 2007, the BLM mailed the completed Allotment Evaluation document to all members of the public interested in livestock grazing management on the Hubbard Vineyard Allotment. Members of the public interested in Wilderness Area management also received copies of the evaluation due to the presence of the Badlands Wilderness Study Area. The BLM requested input from the public to help develop management strategies and alternatives. The BLM received four comment letters, from Leta Mae Collord, Boies Ranch, Sierra Club- Toiyabe Chapter, and Nevada Department of Water Resources.

In October 2007, this preliminary EA was posted on the Elko Field Office NEPA webpage (http://www.blm.gov/nv/st/en/fo/elko_field_office/blm_information/nepa.html), and copies were sent to those on the interested party list. The BLM received a letter from Boies Ranch, State of Nevada Department of Administration (Nevada Clearinghouse) and three letters from Western Watersheds Project .

All letters are available review upon request. Below is a summary of the scoping letters. BLM's responses to a total of 75 comments from the preliminary EA review are in Appendix 4 to this EA. This EA, which includes changes made as a result of substantive comments, will again be mailed to the interested parties, and will be available from Elko Field Office NEPA webpage, at http://www.blm.gov/nv/st/en/fo/elko_field_office/blm_information/nepa.html

Commenter	Date Received	Summary of Comments	Notes
Leta Mae Collord	25 May	Document reflects trends; Speculative language in Water Quality section	Comments Noted
Boies Ranches	31 May	Irrigation impacts some streams and makes comparing upper and lower reaches problematic	Comment noted
		Significant improvement in forage and riparian values in Middle Pasture	Comment noted
		Leo Spring used by Elk and sheep	Comment noted
		Antelope spring enclosure rated as FARD	Comment noted
		Horses in Dry Creek Enclosure	Comment noted
		Cannot determine spring trends with one reading	Addressed in EA
		Needed range improvements and recommendations for grazing strategies	Addressed in EA
Sierra Club- Toiyabe Chapter	1 June	Links between grazing systems/history and resource conditions could have been better defined	Comment noted
		Describe changes in grazing operations through time	Addressed in EA
		Include effectiveness monitoring in EA	Addressed in EA
		Clarify impacts of other resources	Addressed in EA
		Incorporating HM elements and flexibility into the allotment management	Addressed in EA
		Need to accommodate wildlife needs	Addressed in EA
		Eliminate and rehabilitate un-needed roads	Beyond scope of this EA
State of Nevada- Department of Water Resources	1 June	Supports document as written	Comment noted

B. List of Preparers

Tamara Hawthorne – Recreation, Visual Resources, Wilderness Study Areas
Kathryn Fuell- Wildlife, Migratory Birds, Special Status Species
Jeff Moore- Lead Preparer, Livestock Grazing, Vegetation
Mark Coca- Invasive, Non-native Species
Pat Coffin- Wetlands/Riparian Zones/Fisheries/Floodplains, Special Status Species
Tim Murphy, Danielle Storey- Cultural Resources
Gerald Dixon- Native American Religious Concerns
Mark Dean- Water Quality (surface/ground), Soils

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**Attachment 1
Hubbard Vineyard Allotment Map Packet**

Map 1	General Location
Map 2	Pastures and Proposed Range Improvements
Map 3	Mule Deer Habitat
Map 4	Antelope Habitat
Map 5	Bighorn Sheep Habitat
Map 6	Elk Habitat
Map 7	Sage Grouse Habitat
Map 8	Wildlife and Range Key Areas
Map 9	Lotic Proper Functioning Condition Assessments
Map 10	Lentic Proper Functioning Condition Assessments