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United States Department of the Interior

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OCT -2 2003

PROPOSED MULTIPLE USE DECISION FOR THE SPANISH RANCH AND SQUAW VALLEY ALLOTMENTS

Dear Mr. Hall:

The Rock Creek (Spanish Ranch and Squaw Valley) and Andrae Allotment Evaluations as well as the 2003 Management Action Selection Report (MASR), analyzed monitoring data from 1983 through 2003. Monitoring was conducted to determine if current management practices and grazing systems are meeting the Land Use Plan (LUP), Rangeland Program Summary (RPS), Resource Management Plan (RMP), Standards and Guidelines for Rangeland Health for Northeastern Nevada, and allotment specific multiple use objectives. A 30-day comment period was provided for the interested public to submit written comment and concerns regarding the evaluation.

Following the 30-day public comment period after the evaluation as sent out in April 1997, the Elko Field Office carefully considered the comments received which prompted changes to the evaluation and the proposed management actions. Upon completion of these changes, management actions to be implemented on the Squaw Valley and Spanish Ranch allotments were selected. The actions selected for implementation are described in the "Spanish Ranch and Squaw Valley Allotments MASR". The MASR also provides responses to public comments on the evaluation, describes the changes made to the evaluation, includes additional monitoring data and proposed management actions.

In order to ensure progress towards and achieve the standards for rangeland health and multiple use objectives, changes in current livestock and wild horse management are required. ***Therefore, my proposed decision is to implement the management actions identified below for livestock, wild horse, and wildlife management in the Spanish Ranch and Squaw Valley allotments.*** These management actions will become effective upon issuance of the Final Multiple Use Decision and subsequent appeal period.

LIVESTOCK GRAZING MANAGEMENT DECISION

SELECTED MANAGEMENT ACTIONS FOR LIVESTOCK GRAZING WITHIN THE SPANISH RANCH AND SQUAW VALLEY ALLOTMENTS

The following management actions have been determined appropriate to establish significant progress toward attainment of the multiple use objectives for the Squaw Valley and Spanish Ranch Allotments and the Standards for Rangeland Health approved for the Northeastern Great Basin Area of Nevada. These actions will be implemented through the issuance of a Final Multiple Use Decision.

Implement all of the following selected management actions for the Spanish Ranch and Squaw Valley allotments:

CARRYING CAPACITY RECOMMENDATIONS

1. Establish carrying capacities for the Spanish Ranch and Squaw Valley Allotments by proposed or existing pastures.

Table 1. Estimated Carrying Capacity by Proposed Pasture for the Spanish Ranch Allotment

SPANISH RANCH ALLOTMENT (see map 1)		
Pastures (see map 2)	% of Allotment Carrying Capacity from Adjudication Maps (using public and private lands for % calculation)[1]	Pro-rated Carrying Capacity[2] (AUMs)
Burner Hills	19.6	5,399
Winters Creek	9.7	2,672
Red Cow	24.7	6,803
Cornucopia	9.4	2,589
Big Cottonwood Upland	31.2	8,594
Big Cottonwood Riparian	1.9	523
Hot Creek	3.5	964
TOTAL	100%	27,544

[1]Grazing use is licensed based on public land capacity expressed as a percentage of the total capacity (public and private). The Spanish Ranch Allotment is licensed at 74% public land. However, the total number of Animal Unit Months (AUMs) of specified livestock grazing shown in this table reflects only those AUMs from public lands. An AUM is the amount of forage a cow and her calf consume during a 30 day period.

[2]Calculated AUMs may change based on the design and location of proposed pasture fences.

Table 2. Estimated Carrying Capacity by Proposed Pasture for the Native Pastures in the Squaw Valley Allotment.

SQUAW VALLEY ALLOTMENT (see map 1)		
Pastures (see map 2)	% of Allotment Carrying Capacity from Adjudication Maps (using public and private lands for % calculation) [1]	Pro-rated Carrying Capacity [2] (AUMs)
Horseshoe	8.5	3,041
Indian Springs	5.7	2,039
Upper Clover	0.4	143
Lower Squaw Field	4.9	1,753
Lower Gorge Pathway	1.7	608
Frazer Creek Riparian	7.1	2,540
Soldier Field	6.4	2,289
Trout Creek Riparian	22.1/TBD	7,905/TBD[3]
Toe Jam Riparian	TBD	TBD[3]
Rock Creek Riparian	9.7	3,470
Willow Creek Reservoir	Before split 30.9	11,053
Nelson Field	2.6	930
Total	100%	35,771

TBD = To be determined

[1] Grazing use is licensed based on public land capacity expressed as a percentage of the total capacity (public and private). The Squaw Valley Allotment is licensed at 80% public land. However, the total number of AUMs of specified livestock grazing shown in this table reflects only those AUMs from public lands. An AUM is the amount of forage a cow and her calf consume during a 30 day period.

[2] Calculated AUMs may change based on the design and location of proposed pasture fences.

[3] The AUMs for the Trout Creek and Toe Jam Pastures will be determined once the fence line is constructed.

Rationale: Although data indicated that there is sufficient carry capacity to support an increase in total numbers of Animal Unit Months (AUMs) of specified livestock grazing on both the Spanish Ranch and Squaw Valley Allotments, not all of the multiple use objectives have been met on both allotments. Failure to meet some of these objectives can be attributed to livestock grazing. Until those objectives that are directly related to livestock management are met, no increase in total number of specified livestock grazing is recommended.

The estimated carrying capacity figures for the Native Pastures of the Spanish Ranch and Squaw Valley Allotments were pro-rated to the new pastures based on the relative carrying capacity of each pasture. For the native pastures within the Squaw Valley and Spanish Ranch Allotments, an

additional step was required. From 1983 through 1990, actual use was reported for the entire Rock Creek Native Pasture. From 1991 through 1995, actual use was reported separately for each allotment. Therefore, the average estimated carrying capacity for the Rock Creek Native Pasture was pro-rated to the Squaw Valley and Spanish Ranch Allotments based on the total number of AUMs of specified livestock grazing outlined in the Elko Resource Management Plan.

Note: The average estimated carrying capacity for the **Native Pasture** of each allotment (for the period 1990-1995) was then averaged with the pro-rated average for the Rock Creek Native Pasture (for the period 1983-1990). The relative carrying capacity for each pasture was calculated from the Tuscarora, Taylor, and Owyhee Adjudication Maps. The total number of AUMs of specified livestock grazing for the Squaw Valley Allotment outlined in the RMP included the three seeded pastures. Carrying capacities for the seeded pastures in the Squaw Valley Allotment were calculated using the utilization levels observed and the actual use recorded, and are displayed in the appendix of the MASR. Calculations and explanation of the methods used to derive carrying capacity are also displayed in the MASR.

TOTAL NUMBER OF AUMS OF SPECIFIC LIVESTOCK GRAZING AND TERM PERMIT CONDITIONS

2. Establish the total number of AUMs of specified livestock grazing for Ellison Ranching Company at 22,201 AUMs for Spanish Ranch Allotment and 26,518 AUMs for Squaw Valley Allotment. Maintain permitted use on the Elevenmile Flat Allotment at 1,542 AUMs. Modify term grazing permits for Ellison Ranching Company as shown below:

Note: The season of use for Elevenmile Flat Allotment is outlined to incorporate this allotment into the management of the Squaw Valley Allotment and implementation of the grazing system.

Ellison Ranching Company's term permit for the Spanish Ranch Allotment and Barrick Goldstrike's term permit on Squaw Valley and Elevenmile Flat (when/if the permit reverts back to them, or if there is a new permittee) will be modified as shown below:

Issue new ten-year grazing permits for the Squaw Valley, Spanish Ranch, and Elevenmile Flat Allotments as follows:

Allotment/ Pasture	Livestock Number & Kind[1]	Begin Period	End Period	%PL	Type Use	AUMs
Spanish Ranch						
Native	3,818 Cattle	3/25	11/15	74	active	21,643
Native	950 Sheep[2]	6/10	7/15	74	active	166
Native	640 Sheep[2]	10/05	10/31	74	active	84
FFR	3 Cattle	3/1	2/28	100	custodial	308
Total						22,201
Squaw Valley						
Native	2,766 Cattle	3/16	11/30	80	active	18,914
Native	17 Horses	5/1	11/30	80	active	96
Midas Sdg.	105 Cattle	3/16	11/20	85	active	733
Rock Ck Sdg.	84 Cattle	3/16	11/20	100	active	690
Horseshoe Sdg.	226 Cattle	3/16	11/20	100	active	1,861
Horseshoe Sdg.	10 Horses	3/16	11/20	100	active	82
FFR	12 Cattle	3/1	2/28	100	custodial	142
Native	Sheep[2]	3/16	11/30	80	active	4,000
Total						26,518
Elevenmile Flat	1,720 Cattle	3/16	4/30	39	active	1,014
	844 Sheep	4/1	11/30	39	active	528
Total						1,542

1 The total active use is based on the maximum number of AUMs allowed during any one year of the four year grazing cycle. Therefore, depending on the year and pasture being rested, the active use will vary annually. Those AUMs scheduled for rest will be placed in suspension each year.

2 Sheep will not be allowed to bed on the same bedding grounds more than two nights in a row. Sheep will not graze or trail along streams, springs, or aspen stands. Each band will use alternate trailing routes and different bedding areas. Sheep, ***when trailing***, will be trailed at least five miles per day. Movement to and from bedding sites will be random to avoid the creation of trails. Sheep bands would not occupy the same bedding sites used in the summer during the fall.

Terms and Conditions:

"Authorized grazing use will be in accordance with the Final Multiple Use Decision for the Spanish Ranch and Squaw Valley Allotments dated_____."

ALLOTMENT	CATTLE AUMS	SHEEP AUMS	TOTAL ACTIVE USE	TOTAL PREFERENCE
Spanish Ranch	21,951	250	22,201	22,201
Squaw Valley	26,518	4,000	26,518	26,518
Elevenmile Flat	1,014	528	1,542	1,542

Squaw Valley and Spanish Ranch:

The grazing system will be performance driven: if criteria, standards, objectives are not met, then additional rest or adjustments in livestock numbers will be required in subsequent year. This may also include a 40% utilization restriction in the native pastures during the active growing season. If objectives and standards for rangeland health are being met, potential does exist for consideration of an increase in livestock use.

The permittee is responsible for ongoing observations to ensure that utilization criteria associated with livestock use are not exceeded. The BLM will provide information and or training to the permittee on the standard methodology used to monitor utilization if necessary or requested. The BLM will continue to monitor to ensure that the permittee complies with the criteria. If problems are identified, the BLM and the permittee will work together to find solutions that address the problems and the annual grazing system will be adjusted the following years as needed.

Livestock numbers identified in this permit are a function of seasons of use and the total number of animal unit months of specified livestock grazing. Deviations from those livestock numbers and seasons of use may be authorized on an annual basis where such deviations would not prevent attainment of multiple use objectives. The terms and conditions of the permit (or lease) may be modified if additional information indicates that revision is necessary to conform with 43 CFR 4180.

Flexibility – Spanish Ranch and Squaw Valley Allotments: The livestock permittee will have the flexibility to adjust his livestock numbers within the grazing system outlined as long as the total number of AUMs of specified livestock grazing for the allotment and target AUMs for each pasture are not exceeded. Moves between pastures can vary by five days before or after the scheduled dates, except for the riparian pastures listed below. Because of riparian concerns, no flexibility in off dates for early or hot season use grazing treatments will be permitted for the following pastures, unless monitoring demonstrates on extension in off dates will not jeopardize attainment of objectives:

Squaw Valley Allotment

- Frazer Creek Riparian Pasture
- Soldier Creek Riparian Pasture
- Trout Creek Riparian Pasture

- Toe Jam Riparian Pasture
- Rock Creek Riparian Pasture

Spanish Ranch Allotment

- Winters Creek Riparian Pasture
- Red Cow Riparian Pasture
- Big Cottonwood Riparian Pasture

Permittees on the Spanish Ranch, Squaw Valley and Elevenmile Flat Allotments will have "after the fact" billing privileges. Prior to the grazing season, the livestock permittee will apply for grazing use in conformance with their term permit and any multiple use decisions or allotment management plans. The livestock permittee will submit accurate actual use records by pasture to the Elko District within 15 days after closure of the authorized grazing season. One billing notice, based on the actual use report, will be issued within two weeks of receipt of the actual use report. Payment of grazing fees must be made within 15 days of the bill due date. Failure to pay the grazing bill within 15 days of the due date specified in the bill shall result in a late fee assessment of $25.00 or 10 percent of the grazing bill, whichever is greater, but not to exceed $250.00. Repeated delays in payment of "after the fact" billings or noncompliance with the terms and conditions of the permit (including failure to submit actual use report within 15 days) shall be cause to revoke "after the fact" billing privileges (43 CFR 4130.8-1(f)).

Pursuant to 43 CFR 10.4(G), the holder of this authorization must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(C) and (D), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.

Supplemental feeding is limited to salt, mineral and/or protein supplements in block, granular or liquid form. Such supplements must be placed at least ¼ mile from live waters (springs, streams), troughs, wet or dry meadows, and aspen stands.

All riparian exclosures, including spring development exclosures, are closed to livestock use unless specifically authorized in writing.

Rationale: An evaluation of current grazing management practices has indicated that some of The Standards for Rangeland Health approved for The Northeastern Great Basin area of Nevada, as well as some of the multiple use objectives, have not been achieved and changes in grazing management are necessary.

Modifications of term grazing permits, including dates and numbers of livestock and terms and conditions, will allow implementation of the grazing system(s) outlined to meet multiple use objectives and rangeland health standards on the Spanish Ranch and Squaw Valley Allotments, therefore a new ten year permit will be issued for the Spanish Ranch, Squaw Valley, and Elevenmile Flat Allotments.

Ellison Ranching Co. current livestock use within the seeded pastures on the Squaw Valley Allotment has been limited to 2,088 AUMs in the Horseshoe seeding, 735 AUMs in the Midas Seeding, and 821 AUMs in the Rock Creek Seeding. Livestock use in the Native Pasture was limited to 23,010 AUMs. Based on monitoring data collected from 1983 to 2000, use on the seeded pastures should be changed to the capacities outlined in Appendix 4 within the MASR. Although carrying capacity calculations show an increase in total number of AUMs of specified livestock grazing, no increase would be made in the existing Native Pasture due to multiple use objectives not being met.

The Elevenmile Flat Allotment is used in conjunction with the Squaw Valley Allotment and to trail cattle and sheep from wintering areas to the spring range. Modifying the date of entry on the Elevenmile Flat Allotment to coincide with the on-date for Squaw Valley simplifies management and recognizes the suitability for early spring use on Elevenmile Flat Allotment.

Due to the size of the pastures and the complex terrain of the allotments, five days flexibility on either side of the move dates between pastures (except for spring and hot season grazing treatments in riparian pastures) is permitted to ensure the removal of all livestock from the pastures. The permittees are allowed flexibility in their operations in order to adjust for climatic conditions and annual fluctuations in their livestock operation. However, flexibility must be limited in the riparian pastures to maintain short-duration or reduction of hot season grazing to achieve multiple use objectives.

Ellison Ranching Company and Barrick Goldstrike have requested "after the fact" billing privileges. Ellison has annually provided actual use reports in a timely manner, have paid their grazing fees on time, and closely coordinated management on their allotments with the BLM. They are in compliance with the terms and conditions of their grazing permit. Based on grazing regulations which allow "after the fact" billing and compliance with terms and conditions, Ellison Ranching Company on the Spanish Ranch and Barrick Goldstrike on Squaw Valley and Elevenmile Flat (when/if the permit reverts back to them, or if there is a new permittee) should be granted this privilege for those allotments managed under an allotment management plan or multiple use decision. In additions, the administrative time required for billing for the permittees on those allotments will be reduced. Their annual billings are complex and require a great deal of administrative time. Issuing one bill based on actual use for their allotments will shorten this time.

This management selection would implement Guidelines 1.1, 2.1, 2.4, 3.1, 3.2, and 3.3 which have been developed for the Northeastern Great Basin Area of Nevada to establish significant progress toward conformance with the Standards for Rangeland Health for Upland Sites, Riparian and Wetland Sites, and Habitat.

GRAZING SYSTEMS

3. Implement the grazing system on the Spanish Ranch Allotment outlined in the table below and with the following grazing stipulations:

Table 3. Spanish Ranch Allotment Grazing System.

PIPELD (see map 2)	YEAR 1	YEAR 2	YEAR 3	YEAR 4
Burner Hills (4,346 AUMs)	3/25-6/30c	3/25-6/30c	3/25-6/30c	3/25-6/30c
Winters Creek (2,151 AUMs)	3/25-6/30c	Rest	3/25-6/30c	3/25-6/30c
Red Cow (5,476 AUMs)	3/25-7/15c[1] (2,753 AUMs)	3/25-7/15c	3/25-7/15c	3/25-7/15c
Cornucopia (2,084 AUMs)	3/25-5/31c	3/25-5/31c	3/25-5/31c	3/25-5/31c
Big Cottonwood Uplands (6,917 AUMs)	7/1-11/15c **sheep use	7/15-11/15c **sheep use	7/15-11/15c **sheep use	7/15-11/15c **sheep use
Big Cottonwood Riparian (421 AUMs)	Limited fall gather[2]	Limited fall gather[2]	Limited fall gather[2]	Limited fall gather[2]
Hot Creek[3] (776 AUMs)	4/15-6/15 10/1-10/31 *sheep use	4/15-6/15 10/1-10/31 *sheep use	4/15-6/15 10/1-10/31 *sheep use	4/15-6/15 10/1-10/31 *sheep use

[1] All livestock will be removed by 6/30 from the Red Cow Pasture if monitoring conducted by or around 6/15 shows any of the following: streambank trampling in excess of 5%, willow utilization in excess of 10%, or riparian herbaceous stubble heights of less than 4".

[2] Stocking rates and/or timing and duration of grazing will be adjusted downward in subsequent years if monitoring in year 1 shows streambank trampling in excess of 10%, willow utilization in excess of 20%, or riparian herbaceous stubble heights of less than 4".

[3] The public land portion of Hot Creek may be fenced depending on the results of monitoring.

Limited trailing will be authorized in Red Cow Pasture during year 1 to get cattle from Winters Creek and Burner Hills Pasture to the Upland Pastures. Trailing will be from Winters Creek Pasture to a private holding field on Fourmile Creek in one day, and the private holding field on Fourmile Creek to the upland pastures the next day.

*Refer to the following dates for authorized sheep use:

6/10-6/28
7/9-7/15
10/5-10/31

Sheep will not be allowed to bed on the same bedding grounds more than two nights in a row. Sheep will not graze or trail along streams, springs, or aspen stands. Each band will use alternate trailing routes and different bedding areas. Sheep, *when trailing*, will be trailed at least five miles per day. Movement to and from bedding sites will be random to avoid the creation of trails. . Sheep bands would not occupy the same bedding sites used in the summer during the fall.

AUM calculations may change pending the design and location of pasture fences.

Rationale: On high priority stream habitats, implementation of the grazing system outlined above will eliminate hot season use on riparian areas and will allow for regrowth in all years. A combination of short duration grazing coupled with rest and removal dates which allow for regrowth has been shown to be an effective strategy for improving riparian areas (Myers 1989). Implementation of this grazing system will allow improvement in riparian conditions and

enhancement of fisheries habitat conditions on high priority streams, particularly for redband trout, a State of Nevada BLM sensitive species. Improvement in riparian conditions will also enhance mule deer and sage grouse habitat. The upland conditions are expected to be maintained or to improve with this proposed grazing system in all of the Spanish Ranch Allotment. On upland pastures, utilization restrictions will provide residual forage for the following year, enough ground cover for soil stability during runoff, and prevent over grazing of critical seeps, springs, wildlife forage, and sage grouse habitat.

Exclosures around important riparian habitats on public lands (seeps, springs, aspen stands, and possibly stream segments) may be built to protect these areas in the Big Cottonwood Uplands Field. Additional preliminary field work, survey, and design are needed before specific locations are identified.

Pastures that receive continuous use during the active growing season will be required to have one year of rest during a four-year cycle. These pastures are Burner Hills, Winters Creek, and Cornicopia. This will provide plants with one year of deferment during the critical growing season and will allow plants to set seed. If standards and objectives are not met within these pastures, then additional rest or adjustments in livestock numbers will be required in subsequent year. This may also include a 40% utilization restriction in the native pastures during the active growing season.

Sheep trail from the Squaw Valley Allotment through the Spanish Ranch Allotment to the summer range on the Forest. As shown on the permit, spring sheep use is from mid-June until mid-July. In the fall, sheep trail through for approximately one week total (about one-half to one day per band).

This management selection would implement Guidelines 1.1, 2.1, 2.4, 3.1, 3.2, and 3.3 which have been developed for Northeastern Great Basin Area of Nevada, to establish significant progress towards conformance with the Standards for rangeland health for Upland Sites, Riparian and Wetland Sites, and Habitat.

4. Implement the grazing system on the Squaw Valley Allotment outlined in the table 4. below and with the following grazing stipulations:

TABLE 4. SQUAW VALLEY GRAZING SYSTEM

FIELD	ACRES	AUM's[1]	KEY ISSUES	MANAGEMENT STRATEGY SHORT-TERM (2004-2006)[2,3]	MANAGEMENT STRATEGY LONG-TERM (2007-2014)[2,3]
Horseshoe	27,101	1,532	Poor ecological condition Crucial deer winter range Cheatgrass domination Protection of seeded species Wildfire Severe-extreme drought (1999-03; ***applies to all pastures***)[4]	**Grazing:** March-April Fall use would be limited to alternate year trailing[3] with Indian Springs with utilization restrictions of 50% of the current year's growth on crested wheatgrass and forage kochia[5] See sheep grazing footnote	**Grazing:** Flexible with following restrictions: If grazing during active growing season when apical meristem can be harvested (est. May 1st – June 30th), then no grazing during active growing season the following year; fall use would be limited to alternate year trailing with Indian Springs with utilization restrictions of 50% of the current year's growth on crested wheatgrass and forage kochia[5] Follow-up monitoring will be completed to ensure that seeded species and soils/soil hydrology on seedings are not impacted. If seeded species are being impacted, carrying capacities and stocking rates may be adjusted accordingly or the pasture will receive one of two years rest or a rotation with Indian Springs Pasture. See sheep grazing footnote. **Improvements:** Evaluate potential for water developments and additional seedings for fuelbreaks, wintering big game, and improvement of ecological sites.
Indian Springs	15,973	1,026	Same as above	Same as above	**Grazing**: Same as above and if fall grazing (after September 15th), then utilization restrictions of 50% of the current year's growth on crested wheatgrass and forage kochia[5] See sheep grazing footnote **Improvements**: Same as above
Horseshoe Seeding	4,447	1,943	Low biodiversity	**Grazing:** Flexible	**Grazing:** Flexible **Improvements:** Evaluate the need for mosaic-pattern vegetative manipulation of shrub species and seeding of forb species[6]
Midas Seeding	1,189	733	Low plant species diversity	**Grazing**: Flexible	**Grazing:** Flexible **Improvements:** Same as Horseshoe Seeding above[6]
Rock Creek Seeding	1,358	690	Same as above	**Grazing:** Flexible	**Grazing:** Flexible **Improvements:** Same as Horseshoe Seeding above[6]
Upper Clover Seeding	668	92	Same as above	**Grazing**: Flexible	**Grazing:** Flexible **Improvements:** Same as Horseshoe Seeding above[6]
Rock Creek Riparian (existing fire fence)	35,964	2,233	Riparian values-Rock Creek Protection of seeded species	**Cattle Grazing**: Rest **Sheep Grazing:** See sheep restrictions footnote	**Grazing**: Early off (by June 15th) annually or alternate with fall use (after Sept. 30th) with the following restriction: If grazing during active growing season when apical meristem can be harvested (est. May 1st – June 30th), then no grazing during active growing season the following year. Provide for sage grouse nesting cover and other seasonal use cover values–see footnote. See sheep grazing footnote **Improvements**: Evaluate the potential for water developments and fencing selected areas along Rock Creek.
Lower Rock Creek Gorge Pathway		304	Manage area, including that portion affected by 2001 Hot Lake Fire burn area, to help restore site dynamic and to prevent cheatgrass domination	**Grazing**: Flexible although AUMs justify consideration primarily as trailing route. See sheep grazing footnote	**Grazing**: Flexible although AUMs justify consideration primarily as trailing route. In concert with management of above pasture, restrict use during native perennial grass critical growth period. See sheep grazing footnote

FIELD	ACRES	AUM's[1]	KEY ISSUES	MANAGEMENT STRATEGY SHORT-TERM (2004-2006)[2,3]	MANAGEMENT STRATEGY LONG-TERM (2007-2014)[2,3]
Willow Creek Reservoir	63,754	5,565 This also includes the portions of the UWCHEA	Riparian values-Willow Creek and springs Mule deer intermediate range High sage grouse values	**Grazing:** Flexible with progress to consider restriction of active growing season use and other criteria as shown for the long term. See sheep grazing footnote	***Pending any final NEPA approval to construct fences to create pastures:*** **Grazing:** Flexible. If grazing during active growing season when apical Meristem can be harvested (est. May 1st – June 30th), then no grazing during active growing season the following year. Utilization of current year's growth of bitterbrush will not exceed 50% (25% livestock during 5/1 to 10/14 and 25% big game during 10/15 to 5/1). Provide for sage grouse nesting cover and other seasonal use cover values– see footnote. See sheep grazing footnote **Improvements**: Fence selected key riparian habitats as necessary.
Willow Creek South (Proposed long-term field)	TBD[6]	TBD		NA	**Grazing:** Alternate active growing season use with other Willow Creek fields with the following restrictions: -Utilization of the current year's growth of bitterbrush will not exceed 50% (25% by livestock during 5/1 to 10/14 and 25% big game during 10/15 to 5/1) Provide for sage grouse nesting cover and other seasonal use cover values (see footnote). See sheep grazing footnote **Improvements:** Evaluate the following potential actions: Fencing to divide Willow Creek Reservoir Field into two units to create this field; prescribed burning; mechanical vegetation treatments; water developments; fence selected riparian habitats as necessary
Willow Creek NW (long-term field)	TBD	TBD		NA	**Grazing:** Same as above per evaluation **Improvements**: Evaluate the need to split the North Field into two separate pastures
Willow Creek NE (long-term field)	TBD	TBD		NA	**Grazing:** Same as above **Improvements**: Same as above
Lower Squaw Creek	15,846	882	Poor ecological conditions 1999 Squaw Valley Fire area imperiled as a result of potential cheatgrass domination	**Grazing:** June-July **Improvements**: Construct pasture fence segment	**Grazing**: Flexible with caveat that if grazed during active growing season when apical meristem can be harvested (est. May 1st – June 30th), then no grazing during active growing season the following year. Provide for sage grouse nesting cover and other seasonal use cover values– see footnote. See sheep grazing footnote **Improvements:** Evaluate the potential following actions: water developments; fence selected non-stream riparian habitats as necessary.
Upper Willow Creek Habitat Enhancement Area [7]	12,300	TBD	Lahontan cutthroat trout Riparian-streams, springs Sage grouse nesting and brood rearing	Rest until criteria defined in the Upper Willow Creek Habitat Enhancement Plan (UWCHEP) are met See sheep grazing footnote	***Once Stream and Riparian Habitat Criteria defined in UWCHP are met:*** **Grazing**: No grazing after July 1st and before September 16th with the following restrictions: -The UWCHEA shall be rested following any year of livestock use

FIELD	ACRES	AUM's[1]	KEY ISSUES	MANAGEMENT STRATEGY SHORT-TERM (2004-2006)[2,3]	MANAGEMENT STRATEGY LONG-TERM (2007-2014)[2,3]
			Mule deer summer range	**Improvements:** Fence west side of Upper Willow Creek with mitigation for sage grouse concerns.	-The following conditions would be met following removal of livestock: 4 inch herbaceous stubble height Utilization would not exceed 20% on willows and 10% on aspen Streambank trampling would not exceed 10% -If above conditions are not met, the UWCHEA would be rested from livestock grazing for two consecutive years and future grazing use would be adjusted to ensure criteria for stubble height, utilization, and trampling conditions are not exceeded. -No flexibility in July 1st off date allowed. See sheep grazing footnote **Improvements**: Prescribed burning
Frazer Creek Riparian	20,443	1,633	Lahontan cutthroat trout Riparian-streams, springs Sage grouse nesting and brood rearing Mule deer summer range	**Cattle Grazing:** Rest **Sheep Grazing:** See sheep restrictions footnote	**Cattle Grazing**: Hot season use [(use between June 16th and October 20h, (depending on climatic conditions)] cannot occur more than one time each in a four year grazing cycle. A minimum of one year of rest is required in a four year cycle. Two consecutive years of hot season use will not be allowed. **Sheep Grazing:** See sheep restrictions footnote
Trout Creek	TBD	3,989 before split with Toe Jam	Lahontan cutthroat trout recovery habitat Riparian-streams, springs Sage grouse nesting and brood rearing Mule deer summer range	**Cattle Grazing**: Rest **Sheep Grazing:** See sheep restrictions footnote	**Cattle Grazing**: Hot season use [(use between June 16th and October 20h, (depending on climatic conditions)] cannot occur more than one time each in a four year grazing cycle. A minimum of one year of rest is required in a four year cycle. Two consecutive years of hot season use will not be allowed. **Sheep Grazing:** See sheep restrictions footnote **Improvements**: Construct Trout Creek/Soldier Field pasture fence; evaluate the potential for prescribed burning and water developments
Soldier Field	19,965	1,156	Riparian values-streams, springs Sage grouse nesting and brood rearing Mule deer summer range	NA	**Cattle Grazing:** Hot season use [(use between June 16th and October 20h, (depending on climatic conditions)] cannot occur more than one time each in a four year grazing cycle. A minimum of one year of rest is required in a four year cycle. Two consecutive years of hot season use will not be allowed. **Sheep Grazing:** See sheep restrictions footnote
Trout Creek Field	TBD	TBD	Lahontan cutthroat trout recovery habitat Riparian-streams, springs Sage grouse nesting and brood rearing Mule deer summer range	NA	**Cattle Grazing:** Hot season use [(use between June 16th and October 20h, (depending on climatic conditions)] cannot occur more than one time each in a four year grazing cycle. A minimum of one year of rest is required in a four year cycle. Two consecutive years of hot season use will not be allowed. **Sheep Grazing:** See sheep restrictions footnote **Improvements:** Construct Trout Creek/Soldier Field pasture fence; evaluate the potential for prescribed burning and water developments
Toe Jam Field	TBD	TBD	Lahontan cutthroat trout Riparian-streams, springs Sage grouse nesting and brood rearing Mule deer summer range	NA	**Cattle Grazing:** Hot season use [(use between June 16th and October 15h, (depending on climatic conditions)] cannot occur more than one time each in a four year grazing cycle. A minimum of one year of rest is required in a four year cycle. Two consecutive years of hot season use will not be allowed. **Sheep Grazing:** See sheep restrictions footnote **Improvements:** Construct Trout Creek/Toe Jam pasture fence, not shown on map 2; evaluate the potential for prescribed burning and water developments

[1]Based on the percentage of total AUMs in the native pastures derived from adjudication maps, multiplied by the proposed permitted use for the Native Pasture of the allotment. AUM calculations for the Seeding Pastures can be found in Appendix 4 within this report.
[2]Unless noted, grazing will be limited to dates shown.
[3]Definitions: Flexible – no season of use constraints; Rest- no grazing between January and December of the same calendar year. Trailing: All livestock being trailed through the Indian Springs or Horseshoe Pastures during the fall, will enter and leave the pasture in no more than 5 days.
[4]Area represents some of the driest portions of the Elko BLM District (refer to AZ1136 for considerations for drought in general, April 28th, 2003 newspaper article, March 14, 2003 BLM Drought Letter and 2003 Drought Monitor attachments.
[4]Utilization restrictions may apply to other seeded plant species as applicable.
[5]Seeding will likely require at least two years growing season rest. Some costs will be borne by livestock permittee.
[6]To be determined once pasture fences are constructed.
[7]Conditions for livestock use of the Willow Creek Habitat Enhancement Area are defined in the Upper Willow Creek Habitat Enhancement Plan (UWCHEP) developed as part of the Final Supplemental Environmental Impact Statement Betze Project, Barrick Goldstrike Mines, Inc. (BLM 2003).

Sage Grouse Footnote: Sage Grouse Nesting Habitat; Make progress towards providing for a minimum of seven inches of lateral perennial grass herbaceous cover on an annual basis as measured at key areas during the May to early June nesting period. Herbaceous cover includes residual cover from prior year(s) and any new current year's growth. Make progress towards providing a minimum of 15% to 18% basal cover of native perennial grasses on the same areas. Note that these height and cover values are in addition to those for overstory shrubs relative to vegetation type where key area are located or proposed. Make progress towards meeting Rangeland Health Standards and Guidelines, WAFWA and Nevada BLM sage grouse guidelines for all sage grouse seasonal use areas as measured at key study transects.

Sheep Grazing Restrictions Footnote: Sheep will not be allowed to bed on the same bedding grounds more than two nights in a row. Sheep will not graze or trail along streams, springs, or aspen stands. Each band will use alternate trailing routes and different bedding areas. Sheep, *when trailing*, will be trailed at least five miles per day. Movement to and from bedding sites will be random to avoid the creation of trails. Sheep bands would not occupy the same bedding sites used in the summer during the fall.

The grazing system will be performance driven: if criteria, standards, objectives are not met, then additional rest or adjustments in livestock numbers will be required in subsequent year. This may also include a 40% utilization restriction in the native pastures during the active growing season. If objectives and standards for rangeland health are being met, potential does exist for consideration of an increase in livestock use.
2,000 of the sheep AUMs may be converted to cattle AUMs and put into active use after the first four year cycle, if progress towards meeting short-term objectives for upland and riparian habitat can be demonstrated. The Authorized Officer, accompanied with proper NEPA documentation, will determine if sheep AUMs may be converted and activated at that time. Complete conversion and activation of sheep AUMs may occur after the second four year cycle, once significant progress or achievement of short and long-term objectives have been made.

Additional range improvements will be implemented as they make sense and as funds are available.

Rationale: All five proposed riparian pastures (Rock Creek, Frazer Creek, Soldier Field, Trout Creek Field, Toe Jam) include high priority riparian habitat, with Frazer, Trout, and Toe Jam pastures also supporting high priority LCT habitat. The proposed grazing strategies, based on limiting hot season use to one in four years, are designed to improve stream and riparian habitats within the context of stream type and potential. The grazing strategy proposed for all five riparian pastures has proven to be effective elsewhere on the District and is supported by literature (Myers 1989). Limited hot season grazing would also improve seeps and springs. Improvement in riparian conditions will enhance habitat for many species of wildlife as well.

The upland conditions are expected to be maintained or to improve with this system in most of the Squaw Valley Allotment. Horseshoe and Indian Springs will be early use due to the crucial deer winter range and important forage for wildlife. This will ensure significant amount of forage for wildlife during the critical time of the year.

Sheep trail from the Elevenmile Flat Allotment through the Squaw Valley Allotment in an eastward pattern. In the spring sheep typically stay close to water while lambing. As shown on the permit, spring sheep use is from early April until mid-July. Sheep are slowly moved along the trail from the winter/spring range en route to the summer range on the Forest. In the fall, sheep trail much more quickly from the Forest to the winter range. Use in the fall is generally only three to four weeks. In the long-term sheep grazing will be required to follow the same dates as cattle as outlined above. Other restrictions on trailing will also prevent further degradation of riparian habitat.

This management selection would implement Guidelines 1.1, 2.1, 2.4, 3.1, 3.2, and 3.3 which have been developed for Northeastern Great Basin Area of Nevada, to establish significant progress towards conformance with the Standards for rangeland health for Upland Sites, Riparian and Wetland Sites, and Habitat.

RANGE IMPROVEMENTS

5. Construct the following range improvements for the proposed grazing systems as funding, feasibility, and manpower allow. These improvements are necessary for the implementation of the selected management actions. Reconstruct the Winters Creek Pasture fence to 4-wire, 16.5 foot post spacing, as necessary. Additional range improvements will be implemented as they make sense and as funds are available.

Table 5.

Range Improvements on the Spanish Ranch Allotment

Range Improvements	Units	Estimated Cost	Priority for Construction
Red Cow Pasture Fence (east end)	~ 11 miles	$55,000	1
Winters Creek Reconstruction	~15 miles	$30,000	2
Winters Creek Corridor Fence	~6	$30,000	3
Big Cottonwood Canyon Riparian Fence	~ 14 miles	$70,000	4
Cornucopia Fence	~ 8.5 miles 2 cg.	$42,500	5
Burner Hills/Winters Creek Holding Field	~ .5 miles	$2,500	6

Range Improvements on the Squaw Valley Allotment

Range Improvements	Units	Estimated Cost	Priority for Construction
SV/SR Allotment Boundary Fence	~ 28 miles	$150,000	1
Lower Squaw Creek Fence	~ 2 miles 1 cg.	$15,000	2
Upper Willow Creek Fence	~ 5 miles 2 cg.	$30,000	3
Trout Creek Fence	~ 10 miles 1 cg.	$50,000	4
Toe Jam Fence	~ 8 miles	$40,000	5
Willow Creek Division Fence	~9 miles	$45,000	6

Rationale: The range improvements listed are needed to implement the grazing systems

outlined above. The Allotment Boundary Fence between Spanish Ranch and Squaw Valley and the Lower Squaw Field Fence are first priority. These fences are needed to divide the allotments and control livestock from crossing the boundary and to allow scheduled rest periods within riparian pastures. The allotments may have different livestock operators, as well as different schedules within the pastures adjoining each other. The Trout Creek Riparian Fence, Toe Jam Fence, Big Cottonwood Riparian Fence and the Red Cow Riparian Fence are the next priority. Management of livestock and the ability to prescribe rest to these pastures will allow for achievement of riparian and fisheries objectives following construction of these fences. The second priority is construction of the Winters Creek Corridor Fence, Cornucopia Fence, and the holding pens in Burner Hills and Winters Creek. The Corridor fence will facilitate movement of livestock through Winters Creek into Red Cow during periods of rest. This fence will also allow movement of wild horses through Winters Creek to reach Red Cow. The holding pens will allow the livestock operator to adequately gather and hold livestock during moves between pastures. The Cornicopia Fence is needed for the management of livestock to achieve riparian and fisheries objectives. This would complete all of the proposed pasture fencing associated with the grazing systems.

A recent inventory in 2003 of the Winters Creek Pasture fence showed extensive damage caused by high population levels of wild horses. It is apparent that the 3-wire, 22 foot post spacing was inadequate to keep horses from going through it. In order to properly manage for livestock grazing this fence must remain intact and maintained. A 4-wire fence with 16.5 foot post spacing will better handle the pressure caused by wild horses.

Site specific EA's will be completed for all range improvement projects. Schedules for implementation of range improvements will be based on feasibility, funding, and manpower.

6. Complete vegetative treatments within the Horseshoe, Midas, and Rock Creek seedings to reduce the amount of foliar cover by big sagebrush and increase the amount of forage available to livestock. Techniques to be considered would include mechanical treatment, prescribed burning, and herbicidal treatment. Treatments will be selected based on the ability to meet management objectives. Seeding the area after treatment may also be considered.

Rationale: This action would increase forage for livestock and would help protect large blocks of rangelands from large-scale block burns. By increasing livestock forage in the seeding areas, pressure from livestock grazing in the native pastures may decrease over time.

7. Ascertain that the permittee is aware of BLM standards for fence specifications where cooperative agreements designate permittee fence maintenance of BLM projects. On an annual basis, reiterate the special conditions for fence specifications prior to grazing authorization.

Rationale: Unauthorized modifications of permittee-maintained BLM fence projects have been a problem within allotments in the Elko Resource Area; the restriction of big game movements is a concern. A major problem has been the addition of a fifth strand of barbed-wire to where the

bottom wire is six to seven inches above the ground or top wire is over 50 inches above the ground.

This management selection would implement Guideline 3.3 which as been developed for the Northeastern Great Basin area of Nevada, to establish significant progress towards conformance with the Standard for rangeland health for Habitat.

8. Within the Spanish Ranch and Squaw Valley Allotments under the proposed grazing system, identify, prioritize, fence, and develop (as necessary), selected non-stream riparian habitats as funding and manpower limitations permit. Areas considered first will include sites in pastures receiving the majority of the hot season grazing, such as Willow Creek Reservoir Field, Cottonwood Uplands, and Lower Squaw Creek. Sites for fencing and/or development may also be considered in pastures receiving stream-grazing treatments if those treatments prove ineffective for non-stream riparian habitats in upland range sites that would benefit from development projects.

Rationale: Some non-stream riparian areas may require protection or exclusion from grazing, even when grazed under a system designed to improve stream riparian habitats. Within proposed pastures including those in the wild horse herd area, livestock and wild horses would be more apt to utilize water available in troughs, which could potentially decrease direct use of undeveloped seeps/springs and stream riparian areas in a given pasture. Spring developments with water piped away from spring sources would benefit riparian areas. Increased availability of water will also increase livestock distribution and will help facilitate the implementation of the grazing system. Restoration of identified riparian areas would help to achieve multiple use objectives.

Emphasis has been placed on stream riparian habitats, particularly those that support or provide habitat for threatened Lahontan cutthroat trout. With limited funding and manpower, priorities have to be set in those areas with the most potential for improvement and/or that are most at risk for irreversible degradation or loss.

This management selection would be consistent with the Standards for Rangeland Health for Riparian and Wetland Sites and Habitat developed for the Northeastern Great Basin Area of Nevada and allow implementation of Guidelines 2.1, 2.4, 3.2, and 3.3 to establish significant progress towards conformance with the Standards for rangeland health for Upland Sites, Riparian and Wetland Sites, and Habitat.

Decision Authority

The authority for the livestock decision is contained in Title 43 of the Code of Federal Regulations; pertinent citations are below:

4100.0-8 "The authorized officer shall manage livestock grazing on public lands under the principle of multiple use and sustained yield, and in accordance with applicable land use plans. Land use plans shall establish allowable resource uses (either singly or in combination), related levels of production or use to be maintained,

areas of use, and resource condition goals and objectives to be obtained. The plans also set forth program constraints and general management practices needed to achieve management objectives. Livestock grazing activities and management actions approved by the authorized officer shall be in conformance with the land use plan as defined at 43 CFR 1601.0-5(b)."

4110.3 "The authorized officer shall periodically review the permitted use specified in a grazing permit or grazing lease and shall make changes in the permitted use as needed to manage, maintain, or improve rangeland productivity, to assist in restoring ecosystems to properly functioning condition, to conform with land use plans or activity plans, or to comply with the provisions of subpart 4180. These changes must be supported by monitoring, field observations, ecological site inventory or other data acceptable to the authorized officer.

4130.3-1(a) "The authorized officer shall specify the kind and number of livestock, the period(s) of use, the allotment(s) to be used, and the amount of use, in animal unit months, for every grazing permit or lease. The authorized livestock grazing use shall not exceed the livestock carrying capacity of the allotment.

4130.3-2 "The authorized officer may specify in grazing permits or leases other terms and conditions which will assist in achieving management objectives, provide for proper range management or assist in the orderly administration of the public rangelands.

4130.3-3 "Following consultation, cooperation, and coordination with the affected lessees or permittees, the State having lands or responsible for managing resources within the area, and the interested public, the authorized officer may modify terms and conditions of the permit or lease when the active grazing use or related management practices are not meeting the land use plan, allotment management objectives, or is not in conformance with the provisions of subpart 4180. To the extent practical, the authorized officer shall provide to affected permittees or lessees, States having lands or responsibility for managing resources within the affected area, and the interested public an opportunity to review, comment and give input during the preparation of reports that evaluate monitoring and other data that are used as a basis for making decisions to increase or decrease grazing use, or to change the terms and conditions of a permit or lease.

4160.1(a) Proposed decisions- Proposed decisions shall be served on any affected applicant, permittee or lessee, and any agent and lien holder of record, who is affected by the proposed actions, terms or conditions, or modification relating to applications, permits and agreements (including range improvements permits) or leases, by certified mail or personal delivery. Copies of proposed decisions shall also be sent certified to the interested public.

4160.2 Protests - Any applicant, permittee, lessee or other interested public may protest

the proposed decision under 4160.1 of this title in person or in writing to the authorized officer within 15 days after receipt of such decision.

4180.1 "The authorized officer shall take appropriate action under subparts 4110, 4120, 4130, and 4160 of this part as soon as practicable but not later than the start of the next grazing year upon determining that existing grazing management needs to be modified to ensure that the following conditions exist:

(a) Watersheds are in, or are making significant progress toward, properly functioning physical condition, including their upland, riparian-wetland, and aquatic components; soil and plant conditions support infiltration, soil moisture storage, and the release of water that are in balance with climate and landform and maintain or improve water quality, water quantity, and timing and duration of flow

(b) Ecological processes, including the hydrologic cycle, nutrient cycle, and energy flow, are maintained, or there is significant progress toward their attainment, in order to support healthy biotic populations and communities.

(c) Water quality complies with State water quality standards and achieves, or is making significant progress toward achieving, established BLM management objectives such as meeting wildlife needs.

(d) Habitats are, or are making significant progress toward being, restored or maintained for Federal threatened and endangered species, Federal Proposed, candidate species and other special status species.

WILD HORSE MANAGEMENT DECISION

SELECTED MANAGEMENT ACTIONS FOR WILD HORSE AND BURRO MANAGEMENT WITHIN THE SPANISH RANCH AND SQUAW VALLEY ALLOTMENTS

1. Set an Appropriate Management Level (AML) of 150-250 horses within the Rock Creek Herd Management Area (HMA).

Rationale: In accordance with 43 CFR Subpart 4700, it has been determined through the evaluation of monitoring data that a thriving ecological balance will be obtained by providing wild horses 3,000 AUMs annually within the Rock Creek HMA. This decision will result in maintaining the population so as not to exceed 250 wild horses. They will be managed within a range of 150-250 wild horses (1,800-3,000 AUMs).

This management selection would be consistent with the Standards for rangeland health for Upland Sites, Riparian and Wetland Sites, Habitat, and Healthy Wild Horse and Burro Populations developed for the Northeastern Great Basin Area of Nevada and allow implementation of Guideline 1.1, 2.1, 2.4, 3.1, 3.2, 3.3, 5.2, and 5.3 to establish significant progress towards conformance with the Standards for rangeland health.

Maintaining wild horses within the AML will result in a thriving, natural, and ecological balance between wild horses and other resource values. Continued monitoring within the allotments will show if any adjustment to AML is needed. The establishment of AML as a range is in conformance with BLM's 2001 Wild Horse Strategy, where all HMA's will be gathered over a four (4) year cycle plan to mange horses Bureau wide.

Population adjustments will occur when data indicates the population is not consistent with the established AML. The AML will remain unchanged until data indicates a change is necessary to reach HMA objectives including maintenance of a thriving natural ecological balance and multiple-use relationship in the herd area.

2. Following the attainment of AML, prepare a population management plan to guide the management of wild horses within the Rock Creek HMA.

Rationale: Population management strategies are necessary to ensure that WH&B populations maintain their free-roaming, self-sustaining, genetically viable status. All Population Management Plans would be prepared in accordance with Bureau regulations, policies, and National Program Office Guidance.

Authority

The authority for this decision is contained in Sec. 3(a) and (b) of the Wild-Free-Roaming Horse and Burro Act (P.L. 92-195) as amended and in Title 43 of the Code of Federal Regulations, which states:

4700.0-6(a)	Wild horses and burros shall be managed as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat.
4710.3-1	Herd Management Areas-...In delineating each herd management area, the authorized officer shall consider the appropriate management level for the herd, the habitat requirements of the animals, the relationships with other users of the public and adjacent private lands, and the constraints contained in 4710.4.
4710.4	Management of wild horses and burros shall be undertaken with the objective of limiting the animals' distribution to herd areas. Management shall be at the minimum level necessary to attain the objectives identified in approved land use plans and herd management area plans.

4720.1 Upon examination of current information and a determination by the authorized officer that an excess of wild horses or burros exists, the authorized officer shall remove the excess animal immediately...

WILDLIFE MANAGEMENT DECISION

SELECTED MANAGEMENT ACTIONS FOR WILDLIFE MANGEMENT WITHIN THE SPANISH RANCH AND SQUAW VALLEY ALLOTMENTS

1. Complete needed fence modifications in crucial deer winter and intermediate habitat; identify and prioritize any needed fence modifications in crucial deer summer habitat.

Rationale: Fences that are not constructed to BLM standards might pose problems for big game movement. Modifying these fences would facilitate big game movements.

This management selection is consistent with the Standard for rangeland health developed for Habitat in the Northeastern Great Basin Area of Nevada.

2. Manage critical mule deer winter range within the Squaw Valley Allotment through the use of vegetative treatments including fuel breaks to protect intact stands of sagebrush communities, and vegetative seedings to increase forage and cover for wintering mule deer. Types of vegetative treatments may include the following: disk/drill seeding, aerial seeding, shrub planting, prescribed fire, and the use of herbicides to reduce cheatgrass.

Rationale: Depending on the severity of the winter, the area provides winter range for several hundred to 2,000-3,000 mule deer. By implementing appropriate vegetative treatments, the projects would provide forage for wildlife and livestock, help restore a functioning healthy ecosystem, provide a fuels break to help reduce the fire frequency, size, and intensity in the area, and will help protect critical mule deer winter range. Seeded species will be selected based on their ability to establish under drought conditions and in marginal soils, provide aggressive competition to cheatgrass and noxious weeds, and provide forage value for wildlife and livestock.

This management selection would implement Guideline 3.4 which has been developed for Northeastern Great Basin Area of Nevada, to establish significant progress towards conformance with the Standard for rangeland health for Habitat.

3. Per management actions for the RMP wildlife habitat objective and Memorandum of Understanding with NDOW, jointly evaluate and analyze availability and condition of habitat areas identified by NDOW for the augmentation of mountain quail populations following improvement of riparian conditions through implementation of appropriate management selections.

Rationale: Native populations of mountain quail have historically inhabited suitable habitat in the allotment. Although no recent documentation of habitat use by this species has been made in the allotments, remnant populations exist in the adjoining Little Humboldt and Bullhead Allotments within the Snowstorm Mountains; use could be occurring at the present time within suitable habitat in the western portions of the Spanish Ranch and Squaw Valley Allotments. The management selection for improving riparian and range conditions would help to improve mountain quail habitat.

This management selection would implement Guidelines 3.2 and 3.3 which have been developed for Northeastern Great Basin Area of Nevada, to establish significant progress towards conformance with the Standard for rangeland health for Habitat.

4. Increase forage diversity and herbaceous cover for wildlife and herbaceous forage for livestock by creating a mosaic pattern of vegetational succession stages through vegetative manipulation practices. Prioritize and complete treatments on selected areas in the Spanish Ranch and Squaw Valley Allotments. Target vegetation types in the allotment where vegetative data have indicated that big and low sagebrush shrub cover is excessive or at upper limits that would restrict herbaceous growth, existing native herbaceous plants would respond to reduced shrub competition, and livestock utilization has been documented ranging from slight (1-20%) to moderate (41-60%). Stimulate younger age class shrub recruitment through a reduction of excessive mature or decadent shrub cover. Treatments would replicate natural small-scale disturbances. Desired Plant Community objectives for treated areas would be established based on range site potentials and response objectives. Any vegetation manipulation treatment would be coordinated with the grazing schedule to rest the subject area through the growing season following the given treatment. The treatments should not include any more than 10% of the entire allotment to be treated in any one-treatment period (approximately 10 years). Specific treatments would be determined on a case-by-case basis with full National Environmental Policy Act documentation and compliance.

Rationale: Based on comparisons with range site potentials, shrub cover has been documented as being excessive or at the upper limit where herbaceous cover is limited due to shrub competition at some key areas and are potentially excessive at other range sites in the allotment. Range sites with excessive shrub cover have generally been documented as having poor forage diversity which would not be improved through only a change in the grazing system. Recent studies have documented that shrub cover in healthy stands of Wyoming big sagebrush is generally less than 15%; as shrub cover increases over 15%, the grass and forb cover decreases. For the mountain or basin big sagebrush vegetation type, healthy stands generally have less than 20% shrub cover. For the big sagebrush-bitterbrush vegetation type, healthy stands generally have less than 30% shrub cover.

The treatment objective would be to reduce shrub canopy cover in a mosaic pattern within irregular shaped 20-40 acres blocks and allow the treated areas to replicate shrub cover in early to mid successional stages for given range sites. Denser cover would remain in the untreated areas to allow wildlife habitat diversity. A prescribed mosaic of cover on said vegetation types would

help to enhance mule deer, pronghorn and sage grouse habitat by increasing forage diversity and herbaceous cover. Shrub manipulation would release moisture to stimulate herbaceous plant and younger age class shrub growth relative to sage grouse nesting and summer use habitat. Habitats that contain 8-12% shrub cover in Wyoming big sagebrush and less than 20% shrub cover in mountain or basin big sagebrush stands coupled with the sufficient amount and type of grass cover are factors that increase sage grouse nesting success. Thinning dense stands could also increase the palatability and leader growth of sagebrush for mule deer, pronghorn and sage grouse by inducing plant physiological changes related to competition for moisture, nutrients and lower monoterpene levels. Sage grouse selection for plants with lower monoterpene levels has been observed.

Techniques to be considered would include mechanical treatment, prescribed burning, and herbicidal treatment. The treatment methodology would be tailored to the vegetative type at each specific site where stands are dominated by mature age class and decadent shrubs.

This management selection would implement Guideline 3.4 which has been developed for Northeastern Great Basin Area of Nevada, to establish significant progress towards conformance with the Standard for rangeland health for Habitat.

5. Develop two guzzlers for wildlife in the Squaw Valley Allotment. Each guzzler would be constructed to incorporate fenced water sources and separate water storage for wildlife. One guzzler would be located on Willow Creek Ridge and the other guzzler would be located between Rock Creek Ranch and Governor's Mine southwest of Ivanhoe Creek. Construct these guzzlers in phases if contributed funds for wildlife habitat improvement are available.

Wildlife Habitat Improvement	Units	Estimated Cost/each	Expected Date of Construction	Potential Funding Source
Guzzlers on Willow Creek Ridge & Ivanhoe area (2 total)	apron & 2 wildlife troughs (each)	$ 20,000	2005	Bighorns Unlimited/ Challenge Cost Share

Rationale: These guzzlers would provide water sources away from perennial stream sources that have been identified in the RMP and evaluation as priority streams that either require long-term protection or restricted livestock use to help meet resource objectives. The guzzlers would benefit wildlife species in areas where water sources are limited in suitable habitat.

This management selection would implement Guideline 3.3 which has been developed for Northeastern Great Basin Area of Nevada, to establish significant progress towards conformance with the Standard for rangeland health for Habitat.

6. Delay initiating reintroduction plans of bighorn sheep pending any future cooperative agreement with the permittee that either specifies a designated domestic sheep trail route away from potential bighorn habitat or specifies other actions that would preclude the possibility of bighorn-domestic sheep interaction.

Rationale: The Spanish Ranch and Squaw Valley Allotments have been historically licensed for domestic sheep and cattle. The RMP recognized this domestic sheep use. Current BLM guidelines state that bighorn ranges should be managed so that bighorn never come in contact with domestic sheep. Bighorn sheep should not be reintroduced into the Squaw Valley Allotment until actions to preclude domestic sheep-bighorn interactions can be developed and a cooperative agreement between the BLM and the grazing permittee is completed.

A contract study completed for the BLM in 1980 by the Nevada Department of Wildlife "*Potential Bighorn Sheep Habitat in Northern Nevada*" identified potential bighorn sheep habitat within the Squaw Valley Allotment portion of the Izzenhood Range study area. The cooperative effort between the BLM and NDOW to reintroduce bighorn sheep into suitable historic habitat is an objective in the Elko Resource Management Plan; reintroduction plans are to be accommodated through cooperative agreements. Several studies indicate bighorn are fatally susceptible to diseases contracted during interaction with domestic sheep.

This management selection would implement Guideline 3.3 which has been developed for Northeastern Great Basin Area of Nevada, to establish significant progress towards conformance with the Standard for rangeland health for Habitat.

OTHER MANAGEMENT DECISIONS

SELECTED MANAGEMENT ACTIONS FOR OTHER DECISIONS WITHIN THE SPANISH RANCH AND SQUAW VALLEY ALLOTMENTS

Through the consultation, coordination, and cooperation process (CCC), your input, as well as input from the interested public, has been considered in the allotment evaluation process. As a result of the evaluation conclusions and after consideration of input received through the CCC process, it has been determined that: 1) some of the multiple use objectives and Standards for Rangeland Health for the Spanish Ranch and Squaw Valley allotments are not being met, 2) changes in current livestock grazing management and wild horse management are required, 3) existing management of wildlife has not contributed to the non-attainment of multiple use objectives and standards for rangeland health, and 4) deletions, modifications, and/or requantification of some allotment multiple use objectives are required as follows:

1. Modify and/or requantify the allotment specific and key area objectives for the Spanish Ranch and Squaw Valley Allotments as described below. The general land use plan objectives and Standards for Rangeland Health developed for the Northeastern Great Basin Area remain unchanged.

General Land Use Plan (Elko RMP/ROD) Objectives:

1. Maintain or improve the condition of the public rangelands to enhance productivity for all rangeland values.

2. Conserve and enhance terrestrial, riparian, and aquatic wildlife habitat.

3. Manage wild horse populations and habitat in the established herd areas consistent with other resource uses.

Standards for Rangeland Health Developed for the Northeastern Great Basin Area:

1. Upland Sites: Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, and landform.

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. Land use plans will recognize cultural resources within the context of multiple use.

5. Wild horses and burros exhibit characteristics of a healthy, productive, and diverse population. Age structure and sex ratios are appropriate to maintain the long-term viability of the population as a distinct group. Herd management areas are able to provide suitable feed, water, cover and living space for wild horses and burros and maintain historic patterns of habitat use.

Allotment Specific Objectives:

Spanish Ranch and Squaw Valley Allotments:

Note: Some of the objectives listed below might not be attainable without management actions that include efforts to thin any "heavy" shrub foliar cover and increase perennial native herbaceous cover to allow a balanced understory similar to those for affected ecological sites listed in the NRCS site descriptions in late seral or better condition. [See given ecological site description - plant community dynamics for potential cause and effects.] The increase in perennial native herbaceous cover might occur by native release after vegetative manipulation, as a result of livestock grazing system, or combination of both. Otherwise, artificial seeding with native plant species-emphasis should be considered as any priority to do so arises. Follow-up livestock management would need to be completed in a manner that would help maintain the balance. This includes, in part, efforts to mitigate the effects of any livestock use on a given pasture during the critical growth period of perennial grasses and forbs during the spring period

and considerations for maintaining ecological site dynamics for any given grazing system. Any management actions would be implemented based on monitoring efforts at key areas throughout the allotment.

Terrestrial Wildlife Habitat (with emphasis on Sage Grouse Habitat and Seasonal Big Game Habitat per RMP)/Rangeland

Note: The intent of the key area objectives are to consolidate any new or former wildlife habitat and rangeland objectives. There may be cases where wildlife habitat key browse objectives are solely monitored.

1. Excerpts from Rock Creek (Spanish Ranch and Squaw Valley) and Andrae Allotment Evaluations (April 16, 1997) pages 131 and 132:

> "Manage rangelands to achieve or exceed a late seral stage of ecological condition at existing key area monitoring locations (or additional key area monitoring locations selected in consultation with affected interests) where appropriate to site potential, except where Desired Plant Community objectives have been developed to achieve multiple use objectives".

2. Squaw Valley Allotment existing/proposed key areas and key area objectives:

Squaw Valley Allotment
Existing Key Areas:

Key Area Location	Utilization Objective
All key areas on native range	Average of 50% of current year's growth on native grass key species, not to exceed 55% in any one year.
Horseshoe, Midas and Rock Creek Seedings	Average of 55%, not to exceed 60% in any one year.

Willow Creek Reservoir Field

1. **Key Area RC-07 (DI-T-88-33) - Willow Creek Ridge**. Mule deer intermediate range, pronghorn summer range and sage grouse nesting/early brood-rearing habitat. Claypan 10-12" P.Z. ecological site. Low sagebrush vegetation type. Potential vegetative composition is about 60% grasses, 10% forbs and 30% shrubs by air dry weight. 1994 (latest) composition was rated at "upper" (numerical rating at 50) mid seral status with 28% grasses, 14% forbs and 60% shrubs (over 100% due to rounding)*. 1994 followed the banner 1992-1993 winter precipitation year.

Short Term (by spring 2007) make progress towards, and Long-Term (by spring 2015) achieve the following:

- Maintain satisfactory age and form class of low sagebrush as measured by Cole Browse Method.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses**.
- Provide lateral sage grouse nesting cover***.
- % foliar canopy cover of shrubs not to exceed 20-25% with no less than 8-10%.
- % foliar canopy cover of shrubs on any shrub manipulation areas: 8-10% or less****.
- Improve to, or maintain, late seral status or better status (numerical rating at least 51) on ecological site as indicated by forage production monitoring, with at least 5-10% "allowable" native forbs*.

*The Ecological Status write-up and Ecological Site Description includes present versus allowable percentages of forbs. This helps to provide for forb diversity where percentages are allowable compared to where present percentage might only solely include disturbance-associated forbs such as Hood's phlox, as an example. Therefore, Hood's phlox would only be allowed two percentage points versus any larger percentage which would not represent a semblance of the potential diversity on the site. The allowable forb percentages sampled in 1994 was seven percent.

**An increase in "tall genera" grasses such as bluebunch wheatgrass and Thurber's needlegrass (important as nesting cover) is likely in the long term. These species were not sampled during 1994 forage production; Sandberg's bluegrass and bottlebrush squirreltail were the two perennial grass species sampled. Bluebunch wheatgrass is present in the vicinity of the key area and overall Willow Creek Ridge area with observations on September 5, 2003 varying from isolated to scattered plants, to plant densities more uniformly represented in upland areas.

*** Sage Grouse Nesting Cover: Provide for a minimum of seven inches average "droop height" of native perennial grass herbaceous cover on an annual basis as measured at key areas during the May to early June nesting period. This herbaceous cover includes residual cover from prior year(s) and any new current year's growth. Note that these height values, coupled with above mentioned basal cover values, help to provide lateral nesting cover relative to shrub foliar cover values for given vegetation type.

****Potential short and long term management actions coupled with grazing system: 1) Mosaic shrub manipulation, followed by low ground impact interseeding of native "tall genera" grasses (e.g. bluebunch wheatgrass, Snake River wheatgrass and Great Basin wildrye) and native forbs; 2) fuelbreak along west and south side of primary Willow

Creek Ridge road to slow down or stop potential block-burn wildfires.

2. Proposed Browse Utilization Transect/ Key Area on Willow Creek Ridge

Establish a browse utilization transect/key area west of Nelson Creek in the vicinity of T 39 N., R 49 E., sections 6, 7, and 18. Mule deer intermediate range, pronghorn summer range and sage grouse nesting/early brood-rearing habitat. Big sagebrush-bitterbrush vegetation type. Loamy Slope 10-12" P.Z. Ecological Site. Potential vegetation composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. Area exhibited (ocular estimate) satisfactory age and form class, and slight to light utilization on September 5, 2003. At a minimum, collect bitterbrush utilization data and age and form class condition data with the following objectives:

Browse Transect:

Short Term (by spring 2007) and Long Term (by spring 2015):

A. Utilization of current year's growth of bitterbrush will not exceed 50% (25% livestock during 5/1 to 10/14 and 25% big game during 10/15 to 5/1).

B. Maintain age and form class of bitterbrush in satisfactory condition or improve to satisfactory condition.

Note: This browse transect would represent an area where bitterbrush condition and utilization can be evaluated within intermediate (transitional) mule deer habitat and pronghorn summer habitat. Bitterbrush is fair to good forage for mule deer, pronghorn and livestock during the spring to fall period. Data collection would allow an analysis of any potential conflicts that might occur with livestock grazing.

Key area:

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

Short Term (by spring 2007) and Long Term (by spring 2015):

A. Utilization of current year's growth of bitterbrush will not exceed 50% (25% livestock during 5/1 to 10/14 and 25% big game during 10/15 to 5/1).

- B. Maintain age and form class of bitterbrush in satisfactory condition or improve to satisfactory condition.
- Provide sage grouse lateral nesting cover*.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall genera" species**.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.

- Achieve or maintain at least late seral status (numerical rating of 51) of ecological site as indicated by forage production monitoring, with at least 5-10% "allowable" native forbs*.

* See Willow Creek Reservoir Field Key Area RC-07 footnote above.

**Representation by "tall genera" grasses such as bluebunch wheatgrass and Idaho fescue (important as nesting cover) within "allowable" 25-35% range is likely (ocular estimate) in the long term and would help meet this objective.

Trout Creek Field*

1. Key Area RC-11 (CDS-T-88-35) – Pole Creek*. Deer intermediate range, pronghorn summer range and sage grouse nesting/early brood-rearing habitat. Low sagebrush vegetation type. Claypan 12-16" P.Z. Ecological Site. Potential vegetative composition is about 60% grasses, 15% forbs and 25% shrubs by air dry weight. 1994 (latest) composition at "low" late seral (numerical rating of 58) status was 31% grasses, 1% forbs (includes trace composition on several species) and 66% shrubs (under 100% due to rounding)**. 1994 followed the banner winter 1992-spring 1993 winter precipitation year.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Maintain satisfactory age and form class of low sagebrush as measured by Cole Browse Method.
- Provide sage grouse lateral nesting cover***.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall genera" species****.
- % foliar canopy cover of shrubs not to exceed 20-25% with no less than 8-10%.
- % foliar canopy cover of shrubs on any shrub manipulation areas: 8-10% or less*****.
- Maintain at least late seral status (numerical rating of 51) of ecological site as indicated by forage production monitoring, with at least 10% "allowable" native forbs**.

*Depending on any final approval and layout to create another field (Toe Jam Field), it is unknown if this existing transect would be in Trout Creek Field or any approved additional field. If so, a new key area transect would be needed with proposal on Loamy 10-12" P.Z. Site east of Trout Creek where bitterbrush or serviceberry would be the key

browse species and utilization criteria would be 50% on mule deer summer range and 25% livestock/25% big game on mule deer intermediate range (see Soldier Field below).

**The Ecological Status write-up and Ecological Site Description includes present versus allowable percentages of forbs. This helps to provide for forb diversity where percentages are allowable compared to where present percentage might only solely include disturbance-associated forbs such as Hood's phlox, as an example. Therefore, Hood's phlox would only be allowed two percentage points versus any larger percentage which would not represent a semblance of the potential diversity on the site. The allowable forb percentages in 1994 was one percent.

*** Sage Grouse Nesting Cover: (See Willow Creek Reservoir Field above)

****Representation by "tall genera" grasses such as bluebunch wheatgrass and Idaho fescue (important as nesting cover) within "allowable" (see ** above) 25-35% range is likely in the long term and would help meet this objective; the composition in 1994 was 27%.

*****Ecological site dynamics maintenance or improvement should be noted in concert with livestock grazing system proposed to improve riparian habitat. However, potential short and long term management actions coupled with grazing system could help to improve vegetative diversity: 1) Mosaic shrub manipulation, followed by low ground impact interseeding of native "tall genera" grasses (e.g. bluebunch wheatgrass, Snake River wheatgrass and Great Basin wildrye) and native forbs, could be completed as deemed necessary.

2. Proposed Key Area/Browse Transect: Establish a browse utilization transect/key area approximately 1.5 miles north of Toe Jam Creek on, or in the vicinity of, T40N, R48E, section 25 E1/2. At a minimum, collect bitterbrush utilization data and age and form class condition data within mule deer intermediate range, pronghorn summer range and sage grouse nesting/early brood-rearing habitat. Big sagebrush-bitterbrush vegetation type. Loamy Slope10-12" P.Z. Ecological Site. Potential vegetative composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. (Late 1980s ecological status inventory indicates that, at sampling points, the area was in late seral ecological status. Trend is undetermined at this time in light of present livestock management, severe to extreme fifth-year drought from 1999-2003 and wild horse issues in various states of resolve.)

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush will not exceed 50% (25% livestock during 5/1 to 10/14 and 25% big game during 10/15 to 5/1.

- Maintain age and form class of bitterbrush in satisfactory condition or improve to satisfactory condition.
- Provide for lateral sage grouse nesting cover*
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall" genera species.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" native forbs.

* Sage Grouse Nesting Cover: See Willow Creek Reservoir Field Above.

Trout Creek Field (potential option as Toe Jam Creek Field*)

1. **Key Area RC-05 (CDS-T-88-38) Toe Jam Creek** - Crucial deer summer habitat.

South Slope 14-18" P.Z. Ecological Site. Mountain big sagebrush-montane shrub vegetation type. Potential vegetative composition is about 65% grasses, 10% forbs and 25% shrubs by air dry weight. 1980s ocular ecological status inventory indicates that the area was in late seral ecological status at specified ocular/quantified sampling points. Trend is undetermined at this time in light of livestock management since this time coupled with severe to extreme drought from 1999 to 2003.

Short Term (by spring 2007) maintain, or make progress towards, and Long Term (by spring 2015) achieve the following:

- Maintain satisfactory age and form class of snowberry and chokecherry as measured by Cole Browse Method.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- % foliar canopy cover of shrubs on any shrub manipulation areas: 8-10% or less**.
- Maintain or exceed late seral status of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" native forbs***.

*This existing transect would be located in "Toe Jam Field" pending any final approval and layout to create a new field to help meet overall allotment objectives.

** Potential short and long term management actions coupled with grazing system would include shrub manipulation completed in mosaic patterns targeting any reduction of "excessive" mountain big sagebrush cover to help meet objectives.

***Ecological site maintenance or improvement should be noted in concert with livestock grazing system proposed to improve riparian habitat.

2. **Proposed Key Area/Browse Transect in Dry Creek Mountain/Rock Creek Headwater area:** Establish a browse utilization transect/key area in the vicinity of T40N, R48E, sections 5 and 8. At a minimum, collect serviceberry utilization data and age and form class condition data within mule deer crucial summer range. Mountain brush vegetation type. South Slope 14-18" P.Z. Ecological Site. Potential vegetative composition is about 65% grasses, 10% forbs and 25% shrubs by air dry weight. 1980s ecological status inventory indicates that the area was in late seral ecological status at specified ocular sampling points. Trend is undetermined at this time in light of livestock management since this time coupled with severe to extreme drought from 1999 to 2003. However, use on serviceberry has consistently been severe (81% to 100% as noted on field trips in 1990s) likely as a result of domestic sheep trailing and cattle concentrations on upper Rock Creek.

   Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve:

   - Utilization of current year's growth of serviceberry will not exceed 50%.
   - Maintain age and form class of serviceberry in satisfactory condition or improve to satisfactory condition.
   - % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
   - Provide a minimum of 15% to 18% basal cover of native perennial grasses.
   - % foliar canopy cover of shrubs on any shrub manipulation areas: 8-10% or less.
   - Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" native forbs.

   Note: Ecological site maintenance or improvement should be noted in concert with livestock grazing system proposed to improve riparian habitat. Potential short and long term management actions coupled with grazing system would include shrub manipulation completed in mosaic patterns in efforts to reduce "excessive" mountain big sagebrush foliar cover to help meet objectives.

Horseshoe and Indian Springs (ESR Seeding) Fields

Proposed Key Area Transects to be determined per site visits on Clover I and II Seeding portion of fields. Crucial deer and pronghorn winter range. Pre-disturbance Wyoming big sagebrush and salt desert shrub vegetation types that receive 5 to 8 inches to 8 to 10 inches of precipitation a year. Trend is undetermined at this time in light of recent seeding efforts, past and present livestock management, and severe to extreme drought from 1999 to 2003 on some of the driest ecological sites on the Elko District. The 1980s ecological status inventory indicated that the areas were in early to mid seral ecological status. Four-wing saltbush was seeded separately within seed drill equipment. Therefore, four-wing saltbush browse transect might be separate, but in the same area as perennial grass/forage kochia transects.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of forage kochia and perennial grasses (crested wheatgrass, Siberian wheatgrass and Russian wildrye) would not occur during the May 1 to June 30 critical active growing period*, with authorized livestock use starting no earlier than March 15.
- Maintain age and form class of forage kochia and four-wing saltbush in satisfactory condition or improve to satisfactory condition.
- Provide for a minimum of one seeded shrub or "half-shrub" (forage kochia) and three to five perennial seeded species per 10 square feet**.
- Satisfactory soil percolation tests compatible with predominate ecological site(s) measured after spring grazing period***.

* If grazing occurs during the active growing season when apical meristem can be harvested (estimated May 1st to June 30th), then no grazing would occur during the active growing season the following year; fall use would be limited to alternate year trailing with Indian Springs Field with utilization restrictions of 50% of the current year's growth on crested wheatgrass and forage kochia.

**Success of recent seeding efforts, including presence of four-wing saltbush, is pending –it could take at least four years for some species to be represented on these droughty sites.

***Follow-up monitoring will be completed to ensure that seeded species, native plant species, and soils/soil hydrology on seedings are not impacted per BLM-specified sampling protocol. If seeded species and soils are being impacted, carrying capacities and stocking rates might be adjusted accordingly or the pasture will receive one of two years rest or a rotation with Indian Springs Pasture. Small exclosures (consider satellite "pixel"-compatible size) would be constructed as

comparison areas where no grazing would occur.

Rock Creek Riparian Area Field (Portion east of Rock Creek Gorge*)

Key Area RC-14 (DI-T-88-34) – Ivanhoe Creek - Deer intermediate range and pronghorn summer range, sage grouse nesting/early brood-rearing habitat. Loamy 10-12" P.Z. Ecological Site. Potential vegetative composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. June 25, 1994 (latest) composition at mid seral status (43 numerical rating) was 14% grasses (includes 2% cheatgrass), 0.1% forbs and 86% shrubs. 1994 followed the banner 1992 fall-1993 winter precipitation year.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Maintain satisfactory age and form class of basin big sagebrush as measured by Cole Browse Method.
- % foliar cover of shrubs at 8-20%**.
- Provide sage grouse lateral nesting cover***.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall" genera species****.
- Maintain or achieve at least late seral (51 or higher numerical rating) status of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" native forbs*****.
- Management that does not result in cheatgrass over 2% composition with efforts to reduce it to 1% or less*****.
- Satisfactory soil percolation tests compatible with predominate ecological site(s) measured after any spring grazing period******.

*A second key area would be considered, as deemed necessary, on the west side of Rock Creek within the Field on a representative site.

**Key area was within 2001 Hot Lake Fire perimeter and was included in perimeter of post-fire rehabilitation seeding of Wyoming big sagebrush, basin big sagebrush, forage kochia and Western yarrow. Shrub foliar cover is expected to measure above 10% by Year 2015 with respect to recovery potential of the affected ecological site.

*** See Willow Creek Field above

****Representation by "tall genera" grasses such as bluebunch wheatgrass and Great Basin wildrye (important as nesting cover) within the "allowable" 15-25% range is likely and would help meet this objective in the long term.

*****This objective is attainable with potential flush of native perennial herbaceous vegetation after the 2001 Hot Lake Fire if key area was, indeed, burned in part, or in entirety; however, any increase in cheatgrass above 1994 composition could compromise objectives.

******Area was affected by the 2001 Hot Lake Fire. Follow-up monitoring will be completed to ensure that seeded species, native plant species, and soils/soil hydrology on seeded/burned areas are not impacted per BLM-specified sampling protocol. If seeded species and soils are being impacted, carrying capacities and stocking rates might be adjusted accordingly or the pasture will receive one of two years rest on a rotation with adjacent pasture(s). A small exclosure (consider satellite "pixel"-compatible size) would be considered as a comparison area where no grazing would occur.

Lower Squaw Creek Field

Proposed New Key Area –Deer intermediate range, pronghorn summer range, sage grouse nesting/early brood-rearing habitat. Loamy 8-10" P.Z. ecological site (approx. 80% of Field). Potential vegetative composition is about 60% grasses, 5% forbs and 35% shrubs. 1980s ecological status inventory indicates that, at ocular sampling points, the area was in mid seral ecological status. A portion of the Field was affected by the 1999 Squaw Fire where no rehabilitation was completed; consider key area within this burn area to ensure natural rehabilitation to a semblance ("upper" mid seral status)* of potential native community.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Maintain satisfactory age and form class of Wyoming big sagebrush and basin big sagebrush as measured by Cole Browse Method.
- % foliar cover of shrubs at 5-15%**.
- Provide sage grouse lateral nesting cover***.
- Provide a minimum of 15% basal cover of native perennial grasses****.
- Maintain or achieve at least "upper" (40-50 numerical rating) mid seral status of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs*.
- Management that does not result in cheatgrass domination above baseline values with efforts to reduce it to 1% or less.
- Satisfactory soil percolation tests compatible with predominate ecological site(s) measured after given grazing period*****.

* The Ecological Status write-up and Ecological Site Description includes present versus allowable percentages of forbs, grasses and shrubs. This helps to provide

for plant diversity where percentages are allowable compared to where present percentage might only solely include disturbance-associated forbs such as Hood's phlox, as an example. Therefore, Hood's phlox would only be allowed two percentage points versus any larger percentage which would not represent a semblance of the potential diversity on the site.

**Shrub foliar cover is not expected to measure above 15% by Year 2015 with respect to inherent slow recovery of the affected ecological site if key area is established within the Squaw Fire burn area; additional intensive seeding/seedling transplant efforts might otherwise help. Management that results in establishment/maintenance of perennial grasses and forbs help provide interspace areas for shrub establishment.

*** See Willow Creek Reservoir Field above.

****Sandberg bluegrass and bottleneck squirreltail was observed in the understory in summer 2001 on the Squaw Fire burn area and periphery of the burn area; however, cheatgrass was present and any moderate densities could compromise long term composition of perennial grass, forb and shrub species.

*****Area was affected, in part, by the 1999 Squaw Fire. Follow-up monitoring will be completed to ensure that native plant species, and soils/soil hydrology on burned areas are not impacted per BLM-specified sampling protocol. If seeded species and soils are being impacted, carrying capacities and stocking rates might be adjusted accordingly or the pasture will receive one of two years rest or a rotation with adjacent pasture(s). A small exclosure (consider satellite "pixel size) would be considered as a comparison area where no grazing would occur.

Willow Creek South (Proposed long-term field)

1. Key Area RC-09 – Antelope Spring - Deer intermediate range and pronghorn summer range, and sage grouse nesting/early brood-rearing habitat. Loamy 10-12" P.Z. Ecological Site. Potential vegetative composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. July 15, 1994 (latest) composition at mid seral status (46 numerical rating) was 48% grasses (includes 2% cheatgrass), 7% forbs and 45% shrubs. 1994 followed the banner 1992-1993 winter precipitation year.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Maintain satisfactory age and form class of Wyoming big sagebrush as measured by Cole Browse Method.
- Provide sage grouse lateral nesting cover*.

- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall" genera species**.
- % foliar cover of shrubs at 8-15%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs****.
- Manage in a manner that does not result in cheatgrass over 2% composition with efforts to reduce it to 1% or less.

* See Willow Creek Field above.

**Representation by "tall genera" grasses such as bluebunch wheatgrass and Great Basin wildrye (important as nesting cover) is attainable in the short and long term per 1994 monitoring.

***This objective is attainable with high mid seral rating noted during 1994; however, any increase in cheatgrass above 1994 composition could compromise objectives. See Squaw Valley Field footnote above regarding allowable forbs.

2. New Browse Transect/Key Area [DI-SV-15-(YEAR)] Between Big Butte and Hot Creek Spring – in vicinity of T38N, R48E, section 15, --Deer intermediate range and pronghorn summer range, and sage grouse nesting/early brood-rearing/winter habitat. Big sagebrush-bitterbrush vegetation type. Loamy Slope12-16" P.Z. Ecological Site. Potential vegetative composition (air dry weight) is about 60% grasses, 15% forbs and 25% shrubs. 1980s ecological status inventory indicates that, at ocular sampling points, the area was in late seral ecological status.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush will not exceed 50% (25% livestock during 5/1 to 10/14 and 25% big game during 10/15 to 5/1.
- Maintain age and form class of bitterbrush in satisfactory condition or improve to satisfactory condition.
- Provide sage grouse lateral nesting cover*.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs.

*See Willow Creek Reservoir Field above.

Soldier Field

New Browse Transect/Key Area [DI-SV-16-(YEAR)] Between Coyote Creek and Little Rock Creek in vicinity of T40N, R48E, section 16 SW or 21NW - Deer intermediate range and pronghorn summer range, sage grouse nesting/brood-rearing habitat. Consider areas higher in elevation, as deemed necessary, to select representative site in vicinity of T40N, R48E, section 8 and 9. Big sagebrush-bitterbrush vegetation type. Loamy Slope10-12" P.Z. Ecological Site. Potential vegetative composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. (1980s ecological status inventory indicates that, at ocular sampling points, the area was in late seral ecological status. Trend is undetermined at this time in light of present livestock management, severe to extreme drought from 1999-2003, and wild horse issues in various states of resolve.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush will not exceed 50% (25% livestock during 5/1 to 10/14 and 25% big game during 10/15 to 5/1 on deer intermediate range.
- Maintain age and form class of bitterbrush in satisfactory condition or improve to satisfactory condition.
- Provide sage grouse lateral nesting cover*.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall genera" species.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs.

*See Willow Creek Reservoir Field above.

Frazer Creek Riparian Field

Establish a browse utilization transect/key area on Loamy 10-12" P.Z. Ecological Site characterized by the big sagebrush/bitterbrush vegetation type. Consider area in the vicinity of Scraper Springs Creek in the vicinity of T40N, R47E, section 15. At a minimum, collect bitterbrush utilization data and age and form class condition data within mule deer summer range, pronghorn summer range and sage grouse nesting habitat. Potential vegetative composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. (1980s ecological status inventory indicates that, at ocular sampling points, the area was in mid seral to late seral ecological status. Trend is undetermined at this time in light of livestock management since the 1980s , severe to extreme fifth-year

drought from1999-2003, overall 2001 Buffalo Fire effects and livestock closure, and wild horse issues in various states of resolve.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush will not exceed 50%.
- Maintain age and form class of bitterbrush in satisfactory condition or improve to satisfactory condition.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall genera" species.
- Provide for lateral sage grouse nesting cover*
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs **.

* See Willow Creek Reservoir Field above.

**Ecological site maintenance or improvement should be noted in concert with livestock grazing system proposed to improve riparian habitat, and ongoing resolution of wild horse issues.

Upper Willow Creek Habitat Enhancement Plan (UWCHEP) area[1]

1. **Key Areas Number 1 and Number 2**

Upper Nelson Field[2]: Deer intermediate range, pronghorn summer range and sage grouse nesting habitat. Low sagebrush vegetation type. Claypan 12-16" P.Z. Ecological Site[3]. Potential vegetative composition is about 60% grasses, 15% forbs and 25% shrubs by air dry weight. 1980s ocular/quantified ecological status inventory indicated that the ecological site was in late seral ecological status at specified ocular sampling points adjoining Nelson Field with the potential for same within Nelson Field. Trend in the area is undetermined at this time in light of livestock management within the area since this time coupled with severe to extreme drought from 1999 to 2003.

Short Term (by spring 2007) maintain, or make progress towards, and Long Term -Phase I (by spring 2015) and Long Term - Phase II (summer 2015 to life of Barrick Betze Project dewatering) achieve the following:

- Maintain satisfactory age and form class of low sagebrush as measured by Cole Browse Method.

- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall" genera species with height greater than seven inches[4].
- % foliar canopy cover of shrubs not to exceed 20-25% with no less than 8-10%.
- % foliar canopy cover of shrubs on any shrub manipulation areas: 8-10% or less[5].
- Improve to, or maintain, at least late seral status (numerical rating of 51) of ecological site with at least 10% "allowable" native forbs[6] as indicated by forage production monitoring; or 10% basal cover[7] as indicated by point intercept monitoring.

[1] Per post-allotment evaluation meetings between BLM and DeLoyd Satterthwaite (at-the-time livestock permittee), Barrick Goldstrike representatives, and Nevada Division of Wildlife personnel; January 2003 Supplemental Environmental Impact Statement (SEIS) – Betze Project Record of Decision; and follow-up meetings with by Cedar Creek (Barrick consultants) for key area establishment: New key areas established in enhancement area to monitor mule deer transitional range and sage grouse nesting habitat. Establish Desired Plant Community objectives.

[2] January 2003 SEIS – Betze Project, Appendix B, Page 9 incorrectly mentions Key Area Number 1 as being located in Lower Nelson Field.

[3] Per ocular comparison of ecological status maps, ecological site description, February 2002 Upland Evaluation write-ups for 2001 baseline by Cedar Creek Associates (Barrick's contractor) and their key area photos.

[4] Sage Grouse Nesting Cover: Representation by "tall genera" grasses such as bluebunch wheatgrass and Idaho fescue (important as nesting cover) within "allowable" (see below) 25-35% range would help meet this objective in the Long Term –Phase I. The contractor's 2001 baseline monitoring indicates that this should be attainable. Provide for a minimum of seven inches "droop height" of lateral perennial grass herbaceous cover on an annual basis as measured at key areas during the May to early June nesting period. Herbaceous cover includes residual cover from prior year(s) and any new current year's growth. Note that these height values, coupled with above mentioned basal cover values, help to provide lateral nesting cover relative to shrub foliar cover values for given vegetation type.

[5] Ecological site dynamics maintenance or improvement should be noted in concert with livestock grazing system proposed to improve riparian habitat. However, potential short, mid and long term management actions coupled with grazing system could improve cover, and forage availability and diversity: 1)

Mosaic shrub manipulation by prescribed fire or mechanical methods or other means to allow native release, or low ground impact interseeding of native "tall genera" grasses (e.g. bluebunch wheatgrass, Snake River wheatgrass and Great Basin wildrye) and native forbs, could be completed as deemed necessary. Compare with recent 2002 "small" wildfire burn on Nelson Field for any potential to improve herbaceous cover, and forage diversity and availability on similar ecological site.

[6]The Ecological Status write-up and Ecological Site Description includes present versus allowable percentages of forbs. This helps to provide for forb diversity where percentages are allowable compared to where present percentage might only solely include disturbance-associated forbs such as Hood's phlox, as an example. Therefore, Hood's phlox would only be allowed two percentage points versus any larger percentage which would not represent a semblance of the potential diversity on the site.

[7]Measured as basal cover of forbs per BLM-adopted monitoring techniques and scientific research, and mentioned as "10% canopy cover" in *Management Guidelines for Sage Grouse and Sagebrush Ecosystems in Nevada, October 2000* – BLM, Nevada.

2. **Key Area Number 3**

Lower Nelson Field: Collect bitterbrush, serviceberry and low sagebrush age and form class condition data within mule deer transitional (intermediate) habitat and sage grouse nesting habitat with the following objectives:

Short Term (by spring 2007) maintain, or make progress towards, and Long Term -Phase I (by spring 2015) and Long Term - Phase II (summer 2015 to life of Barrick Betze Project dewatering) achieve the following:

Maintain age and form class of bitterbrush, serviceberry and low sagebrush in satisfactory condition or improve to satisfactory condition*. Complete this action by: Utilization of current year's growth of bitterbrush will not exceed 50% (25% livestock during 5/1 to 10/14 and 25% big game during 10/15 to 5/1.

*Define Satisfactory Age and Form Class Per BLM Technical Manual 4400-3 and BLM Form 6630-3:

Age Class: When the sum of seedlings (basal stems 1/8" or less in diam.) and young plants (basal stems 1/8" to 1/2" in diam.) in the sample (25 to 50 plants) outnumber decadent plants, the key browse species age class is satisfactory at the monitoring site.

Form Class: When the two-year-old growth (the previous year's leaders) of mature, seedling, young, resprouting, and decadent (>50% of the canopy area dead) plants in the sample (25 to

50 plants) reflect less than 50% utilization (41-60% utilization class interval), and outnumber severely hedged (61% or more utilization of two-year-old growth), unavailable (at least 50% of crown out of reach of cattle and big game), and dead plants, the key browse species form class is satisfactory at the monitoring site.

Further considerations regarding key browse form class per interpretation of BLM Technical Manual 4400-3 - Browse plants are considered to reflect the normal growth form when less than 50 percent of the two-year-old growth (the previous year's leaders) has clipped ends and the majority of the current leaders extend directly from terminal buds off two-year-old wood. Alterations from the normal growth form are reflected when 50 percent or more of the two-year-old wood has clipped ends. Current leaders occur mostly as extensions from lateral buds off two-year-old wood in the moderately hedged condition or as clumped lateral and/or adventitious sprouts in the severely hedged condition.

3. Key Area Number 4
Upper Nelson Field:

Quaking Aspen Objectives for deteriorated stand identified and monitored as a baseline by Cedar Creek Associates (Barrick contractors) per January 2003 SEIS – Betze Project Record of Decision:

Short Term (by spring 2007) and Long Term (by spring 2015)
Improve young aspen age class recruitment by increasing the number of single-stemmed saplings[1] by at least 10% above baseline values per acre in deteriorating[2] stands.

Short Term (by spring 2007 or three years after implementation of baseline transects):
Improve* young age class recruitment by making significant progress toward an equivalent of at least 850 single-stemmed saplings[1] per acre in deteriorating[2] stands identified in 2001 with overstory canopy cover class[3] of 20% or less.

Long Term –Phase I (by spring 2015) and Long Term – Phase II (summer 2015 to
Maintain* young age class recruitment by allowing an equivalent of at least 850 single-stemmed saplings[1] per acre in deteriorating stands identified in 2001 with a post-2002 overstory canopy cover class[3] of 20% or less.

* Short term improvement of identified deteriorating stands and long-term maintenance of young age class recruitment in identified deteriorating stands would take in consideration site potential, disease and natural mortality factors, and potential need for disturbance treatments (to stimulate recruitment) and/or fencing.

[1] Saplings, as mentioned for these objectives, are defined as single-stemmed aspen that are at least 4.9 feet in height and less than 3.9 inches in diameter at breast height (4.5

feet). The sapling definition for these objectives take in consideration a minimum height needed to help allow terminal growth out of reach of browsing animals which is 0.5-foot higher than saplings defined by Natural Resource Conservation Service (NRCS) ecological site descriptions for aspen woodland sites on the allotment. The maximum diameter (less than 3.9 inches) at breast height for saplings is considered because stems less than 3.9 inches in diameter usually constitute reproduction while larger stems usually contribute to the overstory.

[2] Deteriorating stands, as mentioned for these objectives, include those existing stands in immature, mature, and overmature woodland successional stages as defined by NRCS range site descriptions, with (1) an open canopy (10% or less canopy cover class), (2) abnormally large amounts of aspen residue (standing or fallen), and (3) sagebrush invasion. A deteriorating stand was identified in the 2001 field season by Cedar Creek Associates.

[3] Canopy cover class of 20% or less, as mentioned for this objective, is expressed as the percent cover class where young age class recruitment is less likely to be influenced by competition by older age class aspen in immature, mature, and overmature stands.

Aspen recruitment studies: Density of single-stemmed saplings sampled in fixed 1/100-acre circular plots (5-10 plots per stand) 2X30-meter belt transects, or other standardized forestry methodology.

3. Spanish Ranch Allotment existing/proposed key areas and key area objectives:

Spanish Ranch Allotment
Existing Key Areas:

Key Area Location	Utilization Objective
All key areas on native range	Average of 50% of current year's growth on native grass key species, not to exceed 55% in any one year

Burner Hills Field

Key Area RC-13 (AS-T-88-37) – Mint Mine area, established in 1988. Pronghorn summer range and sage grouse nesting/early brood rearing habitat. Loamy 8-10" P.Z. ecological site. Potential vegetative composition is about 60% grasses, 5% forbs and 35% shrubs by air dry weight. 1994 (latest) composition was rated at mid seral status ("fair" condition with numerical rating at 37) with 51% grasses (including 33% cheatgrass), 3% forbs and 46% shrubs. 1994 followed the banner 1992-1993 winter precipitation year.

Short Term (by spring 2007) maintain, or make progress towards, and Long Term (by spring 2015) achieve the following:

- Maintain satisfactory age and form class of Wyoming big sagebrush as measured by Cole Browse Method.
- % foliar canopy cover of shrubs not to exceed 15% with no less than 8-10%*.
- Provide a minimum of 15% basal cover of native perennial grasses**.
- Provide lateral sage grouse nesting cover***.
- Maintain or achieve at least "upper" mid seral status of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" native forbs****.
- Management that does not result in cheatgrass over 1% composition by cover with efforts to reduce it to less than 1% (0.94% in 1988)*****.

*Shrub foliar cover was 11.8% in 1988 (latest).

**Basal cover of perennial grasses was 4.1% in 1988. An increase in "tall genera" grasses such as bluebunch wheatgrass and Thurber's needlegrass (important as nesting cover) is not likely in the long term although they are part of the potential species on site. These species were not sampled during 1994 forage production and might only exist in scattered areas/tucked under brush in the Burner Hills Field. However, squirreltail (7% of composition), Sandberg's bluegrass (11% of composition) and Great Basin wildrye [Less than 1% (Trace) of composition] were sampled.

*** Sage Grouse Nesting Cover: Provide for a minimum of seven inches average "droop height" of native perennial grass herbaceous cover on an annual basis as measured at key areas during the May to early June nesting period. This herbaceous cover includes residual cover from prior year(s) and any new current year's growth. Note that these height values, coupled with above mentioned basal cover values help to provide lateral nesting cover relative to shrub foliar cover values for given vegetation type.

**** The allowable forb percentages sampled in 1994 was 3%. The Ecological Status write-up and Ecological Site Description includes present versus allowable percentages of forbs. This helps to provide for forb diversity where percentages are allowable compared to where present percentage might only solely include disturbance-associated forbs such as Hood's phlox, as an example. Therefore, Hood's phlox would only be allowed two percentage points versus any larger percentage which would not represent a semblance of the potential diversity on the site. The 5-10% allowable forbs should be attainable in "upper" mid seral to late seral ecological status.

*****The 33% composition by air dry weight sampled in 1994, as part of forage

production monitoring, is a concern. Restoration work to reduce cheatgrass composition and increase composition of native perennial species through seeding efforts could be completed as this type of work is prioritized on the allotment in concert with a grazing system that would help maintain or improve the composition and diversity of native grasses.

New Wildlife/Range Transect/Key Area [SR-BH-#-YEAR] West of Soldier Cap between Scraper Springs Road and headwaters of Chimney Creek in vicinity of public lands in T40N, R47E, sections 1 and 2. Deer and pronghorn summer range and sage grouse nesting/early brood-rearing habitat. Loamy Slope10-12" P.Z. Ecological Site - Big sagebrush-montane shrub (including bitterbrush) vegetation type. Potential vegetative composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. 1980s ecological status inventory indicates that the area was in mid seral ecological status as monitored at ocular sampling points. Trend is undetermined at this time in light of present livestock management*, 1994 Mahogany Fire, severe to extreme drought from 1999-2003, and major wild horse issues in various states of resolve.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush/serviceberry will not exceed 50% on pronghorn summer range.
- Maintain age and form class of bitterbrush/serviceberry in satisfactory condition or improve to satisfactory condition.
- Provide sage grouse lateral nesting cover**.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall genera" species.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs**.

*Livestock permittee has stated that cattle have not been intentionally moved to the area due to excessive wild horse numbers during the past five years (1999-2003) although cattle have "drifted" into the area from surrounding areas during this time.
**See Burner Hills Field Key Area RC-13 footnotes above.

Winters Creek Field

New Wildlife/Range Transect/Key Area [SR-WC-#-YEAR] Between Threemile Creek and Winters Creek in vicinity of T41N, R48E, section 10 S1/2 or 15N1/2. Pronghorn summer range and sage grouse nesting/early brood-rearing habitat. Consider areas higher in

elevation, as deemed necessary, to select representative site. Loamy Slope10-12" P.Z. Ecological Site - Big sagebrush-montane shrub (including bitterbrush) vegetation type. Potential vegetative composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. 1980s ecological status inventory indicates that the area was in late seral ecological status, as monitored at ocular sampling points. Trend is undetermined at this time in light of present livestock management, 1994 Mahogany Fire, severe to extreme drought from 1999-2003, and major wild horse issues in various states of resolve.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush/serviceberry will not exceed 50% on pronghorn summer range.
- Maintain age and form class of bitterbrush/serviceberry in satisfactory condition or improve to satisfactory condition.
- Provide sage grouse lateral nesting cover*.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall genera" species.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs*.

*See Burner Hills Field Key Area RC-13 footnotes above.

Red Cow Field

New Wildlife/Range Transect/Key Area [SR-RC-#-YEAR] Between Fourmile Creek and Amazon Creek in vicinity of T41N, R49E, section 2SW or 3SE. Pronghorn summer range, deer summer range, and sage grouse nesting/early brood-rearing habitat. Consider areas higher in elevation, as deemed necessary, to select representative site. Loamy Slope10-12" P.Z. Ecological Site - Big sagebrush-montane shrub (including bitterbrush) vegetation type. Potential vegetative composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. 1980s ecological status inventory indicates that the area was in late seral ecological status as monitored at ocular sampling points. Trend is undetermined at this time in light of present season-long livestock use, severe to extreme drought from 1999-2003, and wild horse issues in various states of resolve.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush/serviceberry will not exceed 50% on pronghorn summer range.

- Maintain age and form class of bitterbrush/serviceberry in satisfactory condition or improve to satisfactory condition.
- Provide sage grouse lateral nesting cover*.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall genera" species.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs*.

*See Burner Hills Field footnotes above.

Big Cottonwood Uplands Field

1. **Key Area RC-04 (CDS-T-88-31)** Six Mile – Crucial deer summer range and sage grouse nesting/early brood-rearing habitat. Big sagebrush-bitterbrush vegetation type. Loamy Slope 12-14" P.Z. Ecological Site. Potential vegetative composition (air dry weight) is about 70% grasses, 10% forbs and 20% shrubs. 1994 (latest) composition was rated at mid seral status (numerical rating at 39) with 20% grasses (including 2% cheatgrass), 5% forbs and 74% shrubs (under 100% due to rounding). 1994 followed the banner 1992-1993 winter precipitation year. Trend is undetermined at this time in light of present season-long livestock use and severe to extreme drought from 1999-2003.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush will not exceed 50%.
- Maintain age and form class of bitterbrush in satisfactory condition or improve to satisfactory condition.
- Provide sage grouse lateral nesting cover*.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall genera" species.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs*.

*See Burner Hills Field Key Area RC-13 footnotes above.

Proposed Key Area/Browse Transect between Red Cow Creek and Big Cottonwood Creek Headwater area: Establish a key area in the vicinity of T41N, R50E, sections 33 and 34. Mountain brush vegetation type. Loamy Slope 16+ P.Z. Ecological Site. Potential vegetative composition is about 50% grasses, 15% forbs and 35% shrubs and trees by air dry weight. 1980s ecological status inventory indicates that the area was in Potential Native Community (PNC) at specified ocular sampling points. Trend is undetermined at this time in light of season-long livestock use, severe to extreme drought from 1999 to 2003 and wild horse issues in various stages of resolve.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following*:

- Utilization of current year's growth of serviceberry/chokecherry will not exceed 50%.
- Maintain age and form class of serviceberry/chokecherry/bitterbrush in satisfactory condition or improve to satisfactory condition.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses.
- Maintain or achieve Potential Native Community status (75 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" native forbs*.

*See Burner Hills Field Key Area RC-13 footnotes above.

Cornucopia Field

Key Area RC-12 (CDW-2-T-04) Cornucopia Ridge – Deer intermediate range and sage grouse nesting/early brood-rearing habitat. Big sagebrush-bitterbrush vegetation type. Loamy Slope12-16" P.Z. Ecological Site. Potential vegetative composition (air dry weight) is about 60% grasses, 15% forbs and 25% shrubs. July 1994 forage production monitoring indicates that the area was in mid seral ecological status. 1994 followed the banner 1992-93 winter precipitation year.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush will not exceed 50% (25% livestock during 5/1 to 10/14 period and 25% big game during 10/15 to 5/1 period.
- Maintain age and form class of bitterbrush in satisfactory condition

or improve to satisfactory condition.

- Provide sage grouse lateral nesting cover*.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs*

*See Burner Hills Field Key Area RC-13 footnotes above

All Fields on Squaw Valley and Spanish Ranch Allotments where Quaking Aspen Occurs (except Upper Willow Creek Habitat Enhancement Plan area as described above), as deemed necessary:

Quaking Aspen Objectives for deteriorated stand identified and monitored on the Squaw Valley and Spanish Ranch Allotments, as deemed necessary:

Short Term (by three years after implementation of baseline transects) and Long Term (by 12 years after implementation of baseline transects):
Improve young aspen age class recruitment by increasing the number of single-stemmed saplings[1] by at least 10% above baseline values per acre in deteriorating[2] stands.

Short Term (three years after implementation of baseline transects):
Improve* young age class recruitment by making significant progress toward an equivalent of at least 1,500 single-stemmed saplings[1] per acre in deteriorating[2] stands identified in 2001 with overstory canopy cover class[3] of 20% or less.

Long Term –Phase I (by 12 years after implementation of baseline transects) and LongTerm – Phase II (12 years or later after implementation of baseline transects)
Maintain* young age class recruitment by allowing an equivalent of at least 1,500 single-stemmed saplings[1] per acre in deteriorating stands identified in baseline transects with a post-baseline overstory canopy cover class[3] of 20% or less.

* Short term improvement of identified deteriorating stands and long-term maintenance of young age class recruitment in identified deteriorating stands would take in consideration site potential, disease and natural mortality factors, and potential need for disturbance treatments (to stimulate recruitment) and/or fencing.

[1] Saplings, as mentioned for these objectives, are defined as single-stemmed aspen that are at least seven feet in height and less than 3.9 inches in diameter at breast height (4.5 feet). The sapling definition for these objectives take in consideration a minimum height

needed to help allow terminal growth out of reach of browsing animals which is 2.5-feet higher than saplings defined by Natural Resource Conservation Service (NRCS) ecological site descriptions for aspen woodland sites on the allotment. The maximum diameter (less than 3.9 inches) at breast height for saplings is considered because stems less than 3.9 inches in diameter usually constitute reproduction while larger stems usually contribute to the overstory. Sapling height and density recommendations per Dr. Charles Kay's December 2002 report to BLM Battle Mountain and Elko Field Office entitled *Aspen Management Guidelines For BLM Lands in North-Central Nevada.*

[2] Deteriorating stands, as mentioned for these objectives, include those existing stands in immature, mature, and overmature woodland successional stages as defined by NRCS range site descriptions, with (1) an open canopy (10% or less canopy cover class), (2) abnormally large amounts of aspen residue (standing or fallen), and (3) sagebrush invasion.

[3] Canopy cover class of 20% or less, as mentioned for this objective, is expressed as the percent cover class where young age class recruitment is less likely to be influenced by competition by older age class aspen in immature, mature, and overmature stands.

Aspen recruitment studies: Density of single-stemmed saplings sampled in fixed 1/100-acre circular plots (5-10 plots per stand), 2X30-meter belt transects*, or other standardized forestry methodology. The samplings should be evenly distributed throughout an entire aspen stand or clone*.

* Per methods described by Dr. Charles Kay in his December 2002 report to BLM Battle Mountain and Elko Field Office entitled *Aspen Management Guidelines For BLM Lands in North-Central Nevada* available from BLM Elko Field Office.

Wildlife:

4. Improve to and/or maintain all seasonal big game habitat to good or excellent condition at existing key area monitoring locations (or additional key area monitoring locations selected in consultation with affected interests), except where Desired Plant Community objectives have been developed to achieve multiple use objectives, to provide forage and habitat capable of supporting the following reasonable numbers:

4,181	Mule deer (5,015 AUMs)
56	Pronghorn antelope (101 AUMs)

Riparian:

5. Manage grazing on the following streams to achieve short and long-term stream/riparian habitat objectives as outlined below:

LOTIC (FLOWING WATER) RIPARIAN HABITATS

Squaw Valley Allotment

Manage grazing to achieve short and long-term stream/riparian habitat objectives as defined in Tables 6, 7, and 8. Note that objectives may be revised at the conclusion of the short and/or long-term evaluation periods.

Streams Not Included in the Upper Willow Creek Habitat Enhancement Plan (UWCHEP)

Table 6. Short and long-term objectives for selected habitat parameters for streams in the Squaw Valley Allotment based on date of implementation of the grazing plan. Data are from stream survey stations (shown in parentheses) located on both public and private land (refer to map 3).

STREAM HABITAT PARAMETER	MOST CURRENT BASELINE DATA	SHORT-TERM OBJECTIVE (4 yrs)[1]	LONG-TERM OBJECTIVE (8 yrs)[2]
Middle Rock Creek - Dominant Rosgen Channel Type: B (S-1 through S-6)			
Riparian Condition Class (% optimum)[3]	57 (2003)	≥60	67 ± 7
Stream width/depth Ratio[4]	22 (2003)	Maintain or decrease	18 ± 5
Shorewater Depth (in.)[4]	1.9 (2003)	Maintain or increase	1.0 ± 0.4
Streambank Angle (°)[4]	131 (2003)	Maintain or decrease	132 ± 11
Ave. Width Type A Riparian Vegetation[5] (ft.)	4.3 (2003)	5.6[6]	Increase in Type A and/or Type B
Functioning Condition	Functional at Risk, trend upward (2003)	Proper Functioning Condition (PFC)	Proper Functioning Condition (PFC)
Upper Rock Creek (upper reach) Dominant Rosgen Channel Type: B (S-1through S-4, SA-1)			
Riparian Condition Class (% optimum)[3]	66 (2003)	Maintain or increase	67 ± 7
Stream width/depth Ratio[4]	15 (2003)	Maintain	18 ± 5
Shorewater Depth (in)[4]	1.3 (2003)	Maintain or increase	1.0 ± 0.4
Streambank Angle (°)[4]	136 (2003)	Maintain or decrease	132 ± 11
Ave. Width Type A Riparian Vegetation[5] (ft.)	7.5 (2003)	9.8[6]	Increase or maintain Type B
Functioning Condition	Proper Functioning Condition (PFC) (2003)	Maintain	Maintain
Upper Rock Creek (lower reach) Dominant Rosgen Channel Type: C (S-5 through S-9)			
Riparian Condition Class (% optimum)[3]	48 (2003)	62	68 ± 4
Stream width/depth Ratio[4]	27 (2003)	≤ 23	18 ± 5
Shorewater Depth (in.)[4]	0 (2003)	Increase	0.7 ± 0.3
Streambank Angle (°)[4]	150 (2003)	≤ 147	139 ± 8
Ave. Width Type A Riparian Vegetation[5] (ft.)	3.8 (2003)	4.9[6]	Increase in Type A and/or Type B
Functioning Condition	Functional at Risk-trend not apparent/ Non-functional (2003)	Functional at risk-upward trend	Proper Functioning Condition (PFC)
Toe Jam Creek (upper reach) Dominant Rosgen Channel Type: B (S-11 through S-14)			
Riparian Condition Class (% optimum)[3]	75 (2003)	Maintain or increase	67 ± 7
Stream width/depth Ratio[4]	23 (2003)	Maintain or decrease	18 ± 5
Shorewater Depth (in.)[4]	0.8 (2003)	Maintain or increase	1.0 ± 0.4

STREAM HABITAT PARAMETER	MOST CURRENT BASELINE DATA	SHORT-TERM OBJECTIVE (4 yrs)[1]	LONG-TERM OBJECTIVE (8 yrs)[2]
Streambank Angle (°)[4]	140 (2003)	Maintain or decrease	132 ± 11
Ave. Width Type A Riparian Vegetation[5] (ft.)	4.7 (2003)	6.1[6]	Increase in Type A and/or Type B
Functioning Condition	Functional at risk, trend not apparent (2003)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)
Toe Jam Creek (lower reach) Dominant Rosgen Channel Type: B (S-1 through S-10)			
Riparian Condition Class (% optimum)[3]	52 (2003)	≥ 60	67 ± 7
Stream width/depth Ratio[4]	28 (2003)	≤ 23	18 ± 5
Shorewater Depth (in)[4]	0.2 (2003)	0.3	1.0 ± 0.4
Streambank Angle (°)[4]	151 (2003)	≤ 143	132 ± 11
Ave. Width Type A Riparian Vegetation[5]	2.6 (2003)	3.4[6]	Increase in Type A and/or Type B
Functioning Condition	Functional at Risk, trend not apparent to downward (2003)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)
Frazer Creek – Domiant Rosgen Channel Type: B (S-1 through S-7)			
Riparian Condition Class (% optimum)[3]	73 (2003)	Maintain or increase	67 ± 7
Stream width/depth Ratio[4]	15 (2003)	Maintain or decrease	18 ± 5
Shorewater Depth (in)[4]	0.7 (2003)	Maintain or increase	1.0 ± 0.4
Streambank Angle (°)[4]	138 (2003)	Maintain or decrease	132 ± 11
Ave. Width Type A Riparian Vegetation[5] (ft.)	7.5 (2003)	9.8[6]	Increase in Type A and/or Type B
Functioning Condition	Functional at Risk, upward trend (2003)	Proper Functioning Condition (PFC)	Proper Functioning Condition (PFC)
Trout Creek – Dominant Rosgen Channel Type: B (S1 through S-6; S-1A through S-3A)			
Riparian Condition Class (% optimum)[3]	56 (2003)	≥ 60	67 ± 7
Stream width/depth Ratio[4]	14 (2003)	Maintain or decrease	18 ± 5
Ave. Width Type A Riparian Vegetation[5] (ft.)	4.7 (2003)	6.1[6]	Increase in Type A and/or Type B
Functioning Condition	Variable (2003)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)
Coyote Creek			
Functioning Condition	Nonfunctional (1999)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)
Soldier Creek			
Functioning Condition	Nonfunctional (1999)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)

[1]Based on 30% improvement over baseline values where applicable.

[2]Based on mean values (± 95% confidence limits) for applicable Rosgen channel types in desired condition (Newman 2001and Rosgen 1996).

[3]Average of bank cover and bank stability. Optimum is considered to represent stable streambanks well vegetated with tall trees or shrubs (BLM 2002).

[4]Objectives for stream width/depth ratio may not be applicable if the survey area is included within a

beaver dam complex. Note also depth measurements are based on average of three measurements.
[5]Canopy cover of riparian shrubs, trees and basal cover of riparian herbaceous vegetation is less than 50% (BLM 2002).
[6] 30% increase over baseline may be in Type B riparian vegetation (defined as canopy cover of shrubs, trees and basal cover of herbaceous vegetation greater than 50%) (BLM 2002).

Note: Stream survey stations are shown for Lower Willow Creek below the reservoir on map 3. Additional objectives may be established for this area at a future date.

Techniques for measuring stream habitats are described in Aquatic Habitat Inventory and Monitoring Level III Survey Procedures, Level III Survey Procedures, Elko Revised Handbook 6720-1 (BLM 2002). Techniques for determining proper functioning condition of lotic riparian habitats are described in BLM Technical Reference 1737-15 (Prichard et al. 1998). Data are currently averaged by stream but may be averaged by stream segments within pastures if and when additional pasture fences are constructed. For the grazing treatment to be considered successful for a particular stream, the majority (> 50%) of the objectives identified for that stream must be met. Locations of stream survey stations are shown in Map 3.

Additional information including pool characteristics, substrate composition, streambank and riparian zone characteristics, ungulate impacts, and water temperatures collected as part of BLM's stream survey protocol will also be used to evaluate the overall effectiveness of the grazing system. Riparian herbaceous stubble heights, woody riparian plant utilization, and streambank trampling will be monitored to document and evaluate grazing impacts. Stubble height and plant utilization will be measured using techniques described in BLM (1996) and in Nevada Rangeland Studies Task Group (1984). Streambank trampling will be determined by measuring the percent of streambank trampled or compacted by livestock along transects established at study sites.

Streams included in the Upper Willow Creek Habitat Enhancement Plan (UWCHEP)

Table 7. Stream habitat improvement criteria for streams included within the Upper Willow Creek Habitat Enhancement Plan (UWCHEP) area (BLM 2003). Stream survey stations are shown in parentheses.

STREAM HABITAT PARAMETERS	2002 BASELINE[1]	CRITERIA[2]
Lewis Creek (S-1: S-4)		
Riparian Condition Class (% optimum)[3]	63	70
Stream width/depth Ratio	15	15:1 or a 30% reduction from baseline, whichever is achieved first
Functioning Condition	TBD* (2003)	Proper Functioning Condition (PFC)
Nelson Creek (S-1: S-4; S-5 excluding T-2)		

STREAM HABITAT PARAMETERS	2002 BASELINE[1]	CRITERIA[2]
Riparian Condition Class (% optimum)[3]	73	70
Stream width/depth Ratio	23	15:1 or a 30% reduction from baseline, whichever is achieved first
Functioning Condition	TBD (2003)	Proper Functioning Condition (PFC)
Upper Willow Creek (S-1 : S-5)		
Riparian Condition Class (% optimum)[3]	46	65
Stream width/depth Ratio	29	15:1 or a 30% reduction from baseline, whichever is achieved first
Functioning Condition	TBD (2003)	Proper Functioning Condition (PFC)

[1]Refer also to Viert (2002) for additional information on baseline values for stream width to depth ratios.
[2]Under the UWCHEP, criteria shown must be attained prior to reauthorization of grazing following exclusion of livestock in 2004.
[3]Average of bank cover and bank stability. Optimum is considered to represent stable streambanks well vegetated with tall trees or shrubs (BLM 2002).
*TBD=To be determined

Monitoring techniques for streams within the UWCHEP are the same as those described for streams in Table 6.

Under provisions of the UWCHEP, additional habitat parameters will be monitored on Lewis, Nelson, and Upper Willow Creeks to evaluate the overall effectiveness of the grazing system. These parameters along with monitoring methods are shown in Table 6.

Table 8. Additional stream and riparian habitat monitoring parameters and methods for streams included within the UWCHEP area (BLM 2003).

MONITORING PARAMETER	METHODOLOGY
Riparian Zone Width	Elko Revised Handbook 6720-1 (BLM 2002)
Vegetation cross-section composition, greenline composition, woody riparian species regeneration	U. S. Forest Service Gen. Tech. Report RMS-GTR-47 (Winward 2000)
Temperature	Thermographs
Photography	Elko Revised Handbook 6720-1 (BLM 2002)
Vegetative Overhang	Elko Revised Handbook 6720-1 (BLM 2002)
Pool Quality	Elko Revised Handbook 6720-1 (BLM 2002)

Spanish Ranch Allotment

Manage grazing to achieve short and long-term stream/riparian habitat objectives as defined in Tables 9. Note that objectives may be revised at the conclusion of the short and/or long-term evaluation periods.

Table 9. Short and long-term objectives for selected habitat parameters for streams in the Spanish Ranch Allotment based on date of implementation of the grazing plan. Data are from stream survey stations (shown in parentheses) located on public land (refer to map 3).

STREAM HABITAT PARAMETER	MOST CURRENT BASELINE DATA	SHORT-TERM OBJECTIVE (4 yrs)[1]	LONG-TERM OBJECTIVE (8 yrs)[2]
Red Cow Creek - Dominant Rosgen Channel Type: B (S-1,S-2, S-5, S-6,S-7, S-8, S-10, S-11)			
Riparian Condition Class (% optimum)[3]	49	≥64	68 ± 4
Stream width/depth Ratio[4]	32	≤23	18 ± 5
Shorewater Depth (in)[4]	0.10	Maintain or increase	0.7 ± .3
Streambank Angle (°)[4]	157	≤ 147	139 ± 8
Ave. Width Type A Riparian Vegetation[5] (ft.)	3.3	4.3[6]	Increase in Type A and/or Type B
Functioning Condition	Non-functional (2000)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)
Chino (Fourmile) – Rosgen B Channel Type (S-7, S-9)			
Riparian Condition Class (% optimum)[3]	52 (1992)	≥ 60	67 ± 7
Stream width/depth Ratio[4]	30 (1992)	≤ 23	18 ± 5
Functioning Condition	Functional at Risk, downward trend (2002)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)
Big Cottonwood Canyon – Dominant Rosgen Channel Type: B (S-2, S-3, S-8)			
Riparian Condition Class (% optimum)[3]	41	53	67 ± 7
Stream width/depth Ratio[4]	28	≤ 23	18 ± 5
Shorewater Depth (in)[4]	0	Increase	1.0 ± 0.4
Streambank Angle (°)[4]	156	≤143	132 ± 11
Ave. Width Type A Riparian Vegetation[5]	5.0	6.5[6]	Increase in Type A and/or Type B
Functioning Condition	Non-functional (1999)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)
Winter's Creek – (establish stream survey stations on public land)			
Riparian Condition Class (% optimum)[3]	TBD*	TBD	TBD
Stream width/depth Ratio[4]	TBD	TBD	TBD
Ave. Width Type A Riparian Vegetation[5]	TBD	TBD[6]	Increase in Type A and/or Type B
Functioning Condition	TBD	TBD	Proper Functioning Condition (PFC)
Sixmile Canyon Creek Dominant Rosgen Channel Type: B (S-2, S-3, S-4, S-5)			
Riparian Condition Class (% optimum)[3]	60 (2002)	Maintain or increase	67 ± 7

STREAM HABITAT PARAMETER	MOST CURRENT BASELINE DATA	SHORT-TERM OBJECTIVE (4 yrs)[1]	LONG-TERM OBJECTIVE (8 yrs)[2]
Functioning Condition	Functional at risk, trend not apparent (83%) PFC (17%) (1999)	Functional at Risk, upward trend/Proper Functioning Condition (PFC)	Proper Functioning Condition (PFC)
Hot Creek	Nonfunctional (1999)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)

[1]Based on 30% improvement over baseline values where applicable.
[2]Based on mean values (± 95% confidence limits) for applicable Rosgen channel types in desired condition (Newman 2001 and Rosgen 1996).
[3]Average of bank cover and bank stability. Optimum is considered to represent stable streambanks well vegetated with tall trees or shrubs (BLM 2002).
[4]Objectives may not be applicable if the survey area is included within a beaver dam complex. Note also width to depth measurements are based on average of three measurements.
[5]Canopy cover of riparian shrubs, trees and basal cover of riparian herbaceous vegetation is less than 50% (BLM 2002).
[6] 30% increase over baseline may be in Type B riparian vegetation (defined as canopy cover of shrubs, trees and basal cover of herbaceous vegetation greater than 50%) (BLM 2002).

Techniques for measuring stream habitats are described in Aquatic Habitat Inventory and Monitoring Level III Survey Procedures, Level III Survey Procedures, Elko Revised Handbook 6720-1 (BLM 2002). Techniques for determining proper functioning condition of lotic riparian habitats are described in BLM Technical Reference 1737-15 (Prichard et al. 1998). Data are currently averaged by stream but may be averaged by stream segments within pastures if and when additional pasture fences are constructed. For the grazing treatment to be considered successful for a particular stream, functioning condition objectives as well as majority (> 50%) of the stream and riparian habitat objectives identified for that stream must be met. For example, if objectives for functioning condition, riparian condition class, stream width to depth ratio, and shorewater depth are met, but objectives for width of type A riparian vegetation and streambank angle are not met, the grazing treatment will still be considered successful for that stream. Locations of stream survey stations are shown in map 3.

Additional information including pool characteristics, substrate composition, streambank and riparian zone characteristics, ungulate impacts, and water temperatures collected as part of BLM's stream survey protocol will also be used to evaluate the overall effectiveness of the grazing system. Riparian herbaceous stubble heights, woody riparian plant utilization, and streambank trampling will be monitored to document and evaluate grazing impacts. Stubble height and plant utilization will be measured using techniques described in BLM (1996) and in Nevada Rangeland Studies Task Group (1984). Streambank trampling will be determined by measuring the percent of streambank trampled or compacted by livestock along transects established at study sites.

LENTIC (STANDING WATER) RIPARIAN HABITATS

Squaw Valley and Spanish Ranch Allotments

Within four years from the date of implementation of the grazing system, show progress towards meeting Proper Functioning Condition (PFC) on selected lentic (standing water) riparian habitats within applicable pastures or grazing treatment areas. Over the long-term (within eight years of the date of implementation of the grazing system), achieve PFC on selected riparian habitats. Techniques for determining proper functioning condition of lentic riparian habitats are described in BLM Technical Reference 1737-16 (Prichard et al. 1999).

Wild Horses:

6. Manage for a wild horse herd size which will maintain a thriving ecological balance consistent with other multiple uses while remaining within the newly designated wild horse herd management area.

2. **Continue to conduct necessary monitoring studies and periodically evaluate the effects of grazing to determine if progress is being made in meeting the multiple use objectives and standards for rangeland health. The Spanish Ranch and Squaw Valley Allotments will be analyzed after one complete cycle of the proposed grazing systems to determine progress toward attainment of objectives and to make any necessary adjustments in grazing use. Subsequently, these allotments will be reevaluated in accordance with priorities established in the Elko District Monitoring and Evaluation Schedule. If monitoring studies indicate a need to modify grazing use based on carrying capacity, necessary adjustments will be made. In addition to specific monitoring techniques described for lotic and lentic riparian habitats, the following studies will include, but are not limited to, the following:**

Uplands:

·forage production
·ecological production
·trend frequency
·utilization
·actual use
·Upland Proper Functioning Condition Assessment
·Ecological Site Inventory
·Precipitation studies

Wildlife Habitat:

·habitat condition studies (BLM Manual 6630)
·wildlife population census
·Cole Browse

Wild Horses:

·wild horse population census

Rationale: The Spanish Ranch and Squaw Valley AE summarized current grazing management, determined where or not progress was being made toward attainment of the multiple use objectives, and provided recommendations for future management. The allotment specific objectives which were analyzed in the AE, were formulated based on management issues which existed in 1987 when the RPS was published. Based on monitoring data and conclusions presented in the AE, it is necessary to modify and/or requantify the allotment specific objectives to address the following resource issues:

- Upland range conditions
- Lotic and lentic riparian conditions
- Wildlife habitat conditions
- Wild horse management

Monitoring studies will continue to be conducted and the effects of grazing will be evaluated periodically to determine if progress is being made in meeting the multiple use objectives and significant progress is being made toward attainment of the standards for rangeland health.

PROTEST PROCEDURES

Although regulations do not provide for a protest on each section of the decision, for the purpose of consistency, this Multiple Use Decision is issued as a Proposed Decision. Any applicant, permittee, lessee or other affected interest may protest any part of this proposed multiple use decision in person or in writing to Bureau of Land Management, Clinton R. Oke, Assistant Field Manager for Renewable Resources, 3900 E. Idaho St., Elko, Nevada, 89801, within 15 days after receipt of such decision. The protest, if filed, should clearly and concisely state the reason(s) as to why the proposed decision is in error.

A supplement to the 1998 Biological Assessment for the Squaw Vally Proposed Multiple Use Decision (BLM 1998) is being transmitted to the U.S. Fish and Wildlife Service for formal consultation. The supplement addresses the grazing systems proposed for the Squaw Valley Allotment. An Environmental Assessment has also been prepared to analyze the affects of the proposed actions. All three documents (1998 Biological Assessment, 2003 Biological Assessment Supplement, 2003 Proposed Multiple Use Decision Environmental Analysis) are available by request from the Elko BLM Field Office.

Sincerely,

CLINTON R. OKE
Assistant Field Manager
Renewable Resources

Supporting Documents

Bureau of Land Management (BLM). 2003. Management Action Selection Report for the Spanish Ranch and Squaw Valley Allotments. Elko Field Office, Elko, NV.

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Prichard, D., et al. 1998. Riparian Area Management. A user guide to assessing proper functioning and the supporting science for lotic areas. Tech. Ref. 1735-15, 1998. Bureau of Land Management, National Applied Resources Sciences Center, Denver, CO.

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Viert, Steven R. 2002. Riparian monitoring – baseline for Upper Willow Creek Habitat Enhancement Plan. Prepared by Cedar Creek Associates, Inc. for Barrick Goldstrike Mines, Elko, Nevada.

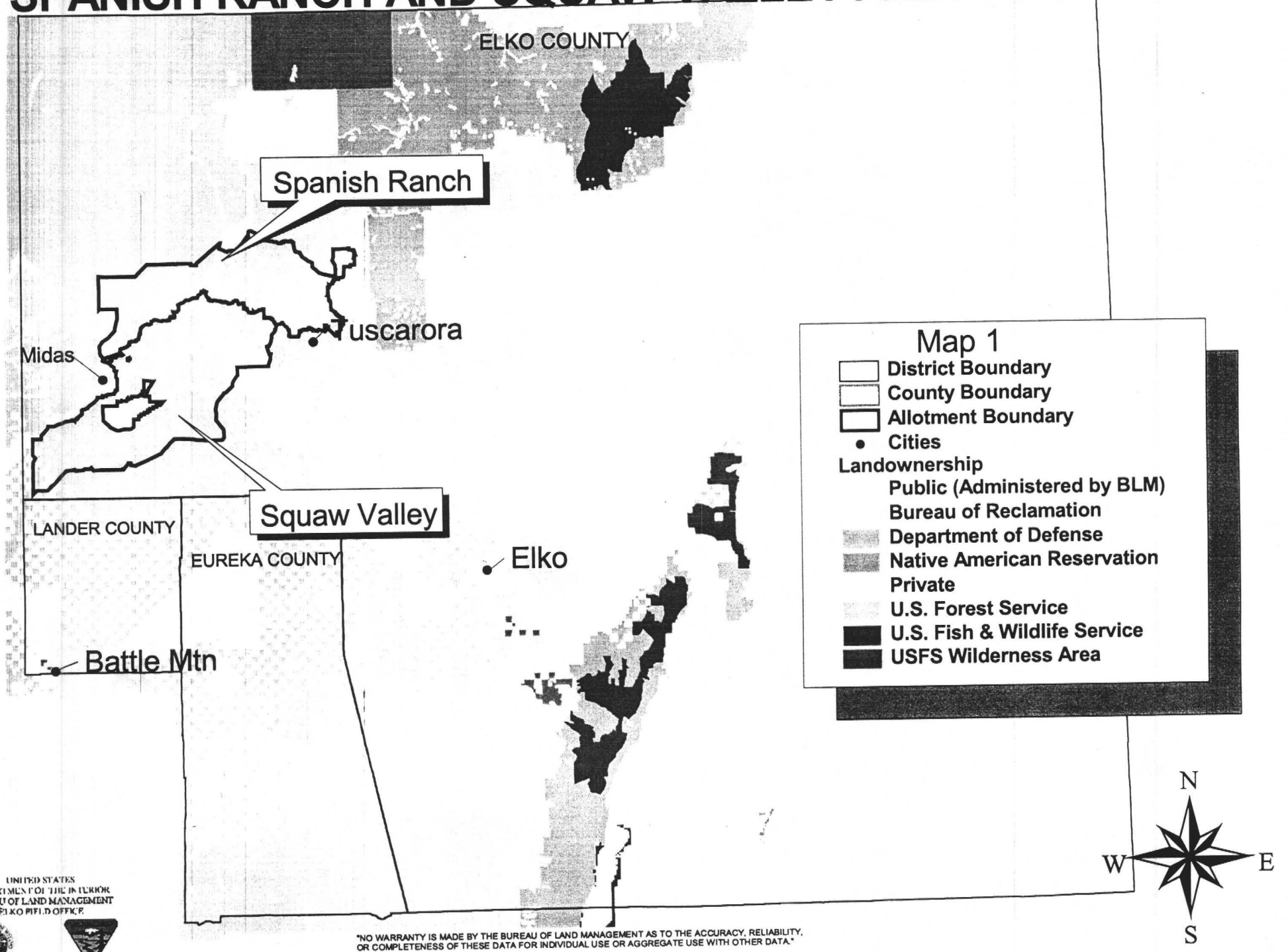
Winward, A. 2000. Monitoring the vegetation resources in riparian areas. USDA Forest Service – Rocky Mountain Research Station. Gen. Tech. Report. GTR-47. 49pp.

Enclosure(s): Appendix 1-7
Maps 1-3

cc:

Nevada Department of Wildlife
National Mustang Association
Bureau of Land Management (Winnemucca FO)
Nevada Woolgrower's Association
American Bashkir Curley Register
Fund for Animals
Commission for the Preservation of Wildhorses
Western Watersheds Project
U.S. Fish and Wildlife Service
Gregg Simonds
Sierra Club
WHOA
Nevada State Division of Ag.
Agri Beef
Nevada Cattlemen's Assoc.
Resource Concepts Inc.
Elko County Commissioners

SPANISH RANCH AND SQUAW VALLEY ALLOTMENTS



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
ELKO FIELD OFFICE

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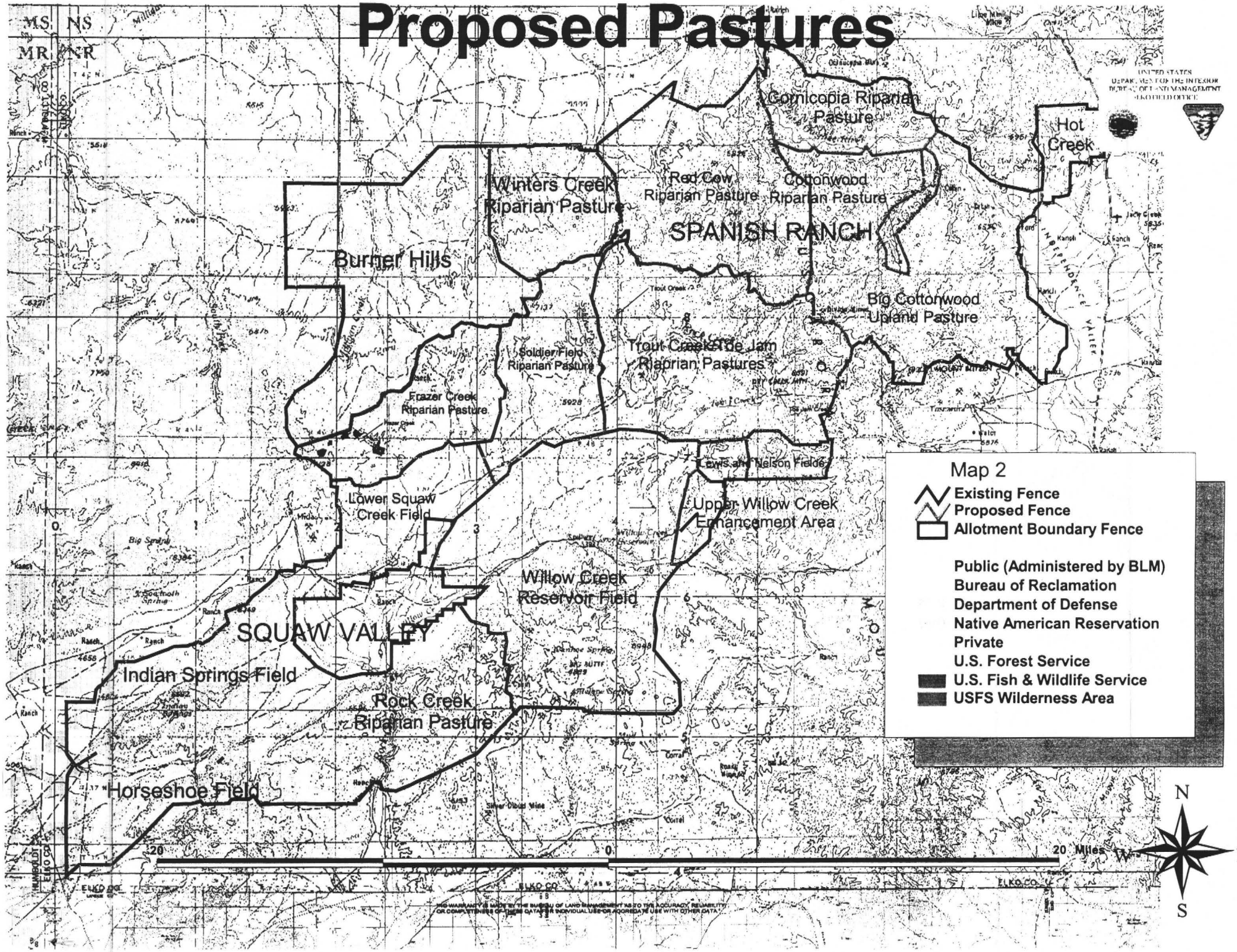
Proposed Pastures
Cornicopia Riparian Pasture
Hot Creek
Winters Creek Riparian Pasture
Red Cow Riparian Pasture
Cottonwood Riparian Pasture
SPANISH RANCH
Burner Hills
Big Cottonwood Upland Pasture
Soldier Field Riparian Pasture
Trout Creek Log Jam Riaprian Pastures
Frazer Creek Riparian Pasture
Lewis and Nelson Fields
Lower Squaw Creek Field
Upper Willow Creek Emancement Area
Willow Creek Reservoir Field
SQUAW VALLEY
Indian Springs Field
Rock Creek Riparian Pasture
Horseshoe Field
Map 2
Existing Fence
Proposed Fence
Allotment Boundary Fence
Public (Administered by BLM)
Bureau of Reclamation
Department of Defense
Native American Reservation
Private
U.S. Forest Service
U.S. Fish & Wildlife Service
USFS Wilderness Area
20 0 20 Miles
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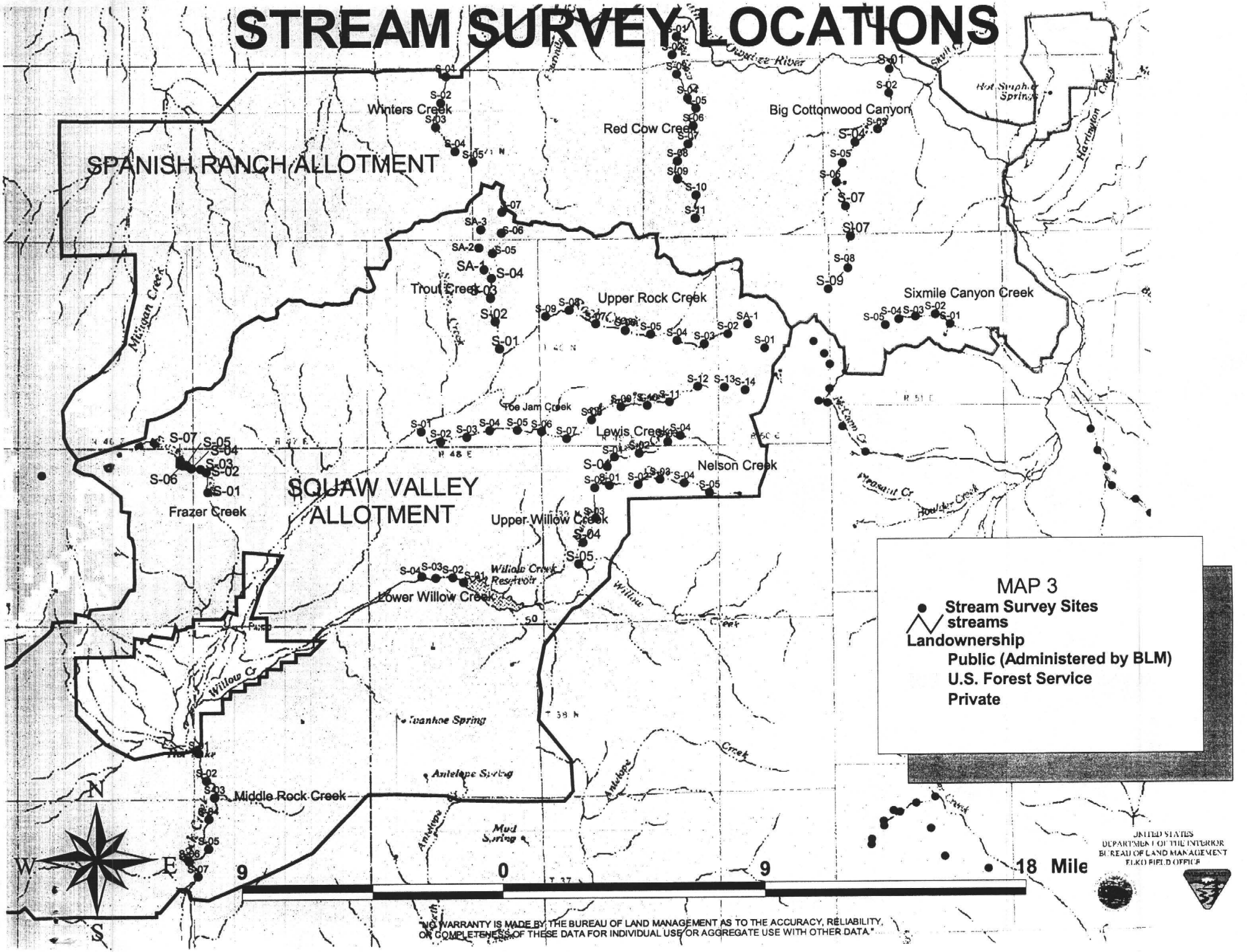
STREAM SURVEY LOCATIONS



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10/2/03

Squaw Valley and Spanish Ranch Allotment
Management Action Selection Report (MASR)

Elko BLM Field Office

OCT -2 2003

A. INTRODUCTION AND RESPONSES TO COMMENTS

The Rock Creek (Spanish Ranch and Squaw Valley) and Andrae Allotment Evaluation completed in April of 1997 analyzed monitoring data from 1983 through 1996. Monitoring was conducted to determine if current management practices and grazing systems are meeting the Land Use Plan (LUP), Rangeland Program Summary (RPS), Resource Management Plan (RMP), and allotment specific multiple use objectives. A 30-day comment period was provided for the interested public to submit written comment and concerns regarding the evaluation.

The public involvement process and response procedure for the allotment evaluation and subsequent management actions are pursuant to guidance set forth in Instructional Memorandums NV-94-073 and NV-97-047. Comments were received from the following parties:

1. Nelo Mori
2. Ellison Ranching Co.
3. Nevada Division of Wildlife
4. Barrick Goldstrike Mines, Inc.
5. Western Watersheds Project
6. Committee for Idaho's High Desert [sic] (CIHD)
7. U.S. Fish and Wildlife Service
8. Commission for Wild Horses

Copies of the comment letters can be obtained at the Elko BLM Field Office. The MASR for the Andrae Allotment will be a separate document and all comments will be incorporated into that MASR, PMUD (Proposed Multiple Use Decision), and FMUD (Final Multiple Use Decision). Concerns and comments of the interested parties for the Squaw Valley and Spanish Ranch Allotments can be found in Appendix 1 at the back of this report.

B. ANALYSIS OF MONITORING DATA

The Rangeland Program Summary has stated twelve objectives pertaining to the Squaw Valley and Spanish Ranch Allotments. Of these twelve, two objectives have been met, six have not been met, three have been partially met, and 1 objective has not been determined. The allotment evaluation stated thirty-one allotment specific objectives for the Squaw Valley and Spanish Ranch Allotments. In summary, eighteen allotment specific objectives have been met, nine have not been met, and four have been partially met. Details on status of objectives can be found in the Conclusions section of the Spanish Ranch and Squaw Valley Allotment Evaluation. Based on the evaluation of attainment of these objectives, it has been determined that livestock grazing management practices and wild horses population levels are a causal factor in not meeting some of these objectives.

The Secretary of the Interior approved Standards and Guidelines for Rangeland Health for the Northeastern Great Basin Area of Nevada on February 12, 1997. Standards are expressions of levels of physical and biological condition or degree of function required for healthy, sustainable rangelands. Guidelines are types of grazing management methods and practices determined to be appropriate to ensure that standards can be met or that significant progress can be made toward meeting the standard.

Based on data analysis and conclusions for LUP, RPS and key area objectives presented in the Squaw Valley and Spanish Ranch Allotment Evaluation, the following determinations are made regarding attainment of the Standards for Rangeland Health:

Standard 1. Upland Sites
Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and landform.

Analysis of monitoring data indicates that although this Standard has not been met, some progress is being made toward attainment. Livestock grazing management practices and past wild horse population levels are causal factors contributing to the non-attainment of this standard.

Standard 2. Riparian and Wetland Sites
Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.

Analysis of monitoring data indicates that this Standard has not been attained, based on the evaluation of RPS objectives 8., 9., and 10. Livestock grazing management practices and past wild horse population levels have been determined to be the causal factors to the non-attainment of this standard.

Standard 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.

Analysis of monitoring data indicates that although this standard has not been met, some progress is being made toward attainment of this standard. Based on the evaluation of RPS objectives 5., 6., 7., 8., and 10. and allotment specific objectives 12. through 19., it has been determined that the above standard has not been met, although some progress has been made.

Based on the above evaluation, it is further concluded that livestock grazing and past wild horse population levels are casual factors resulting in the non-attainment of this habitat standard.

Standard 4. Cultural Resources
Land use plans will recognize cultural resources within the context of multiple use.

Analysis of monitoring data indicates that this standard has been attained. All range improvements that cause surface disturbance have been subject to or will be subject to cultural resources review and modification by BLM or contract archeologists, as required by standard operating procedures specified in the Elko RMP Record of Decision.

Standard 5. Healthy Wild Horse and Burro Populations
Wild horses and burros exhibit characteristics of healthy, productive, and diverse population. Age structure and sex ratios are appropriate to maintain the long term viability of the population as a distinct group. Herd management areas are able to provide suitable feed, water, cover and living space for wild horses and burros and maintain historic patterns of habitat use.

Analysis of monitoring data indicates that this standard has not been attained. This standard has not been met due to the past wild horse population levels and the non-existence of an appropriate management level (AML).

C. REVISION OF THE ROCK CREEK ALLOTMENT EVALUATION

Since the Rock Creek Allotment has been officially split into the Squaw Valley and Spanish Ranch Allotments, we will no longer reference the Rock Creek Allotment Evaluation, but rather the Spanish Ranch and Squaw Valley Allotment Evaluation hereafter. The Andrae Allotment will be covered in a separate document. Due to circumstances outlined in the allotment evaluation, the land exchange proposed on the Spanish Ranch Allotment will not take place, and option 1b. in the allotment evaluation is no longer a valid option. For Squaw Valley and Spanish Ranch, because of a 6 year delay between the allotment evaluation and the Squaw Valley and Spanish Ranch Allotment MASR, four years of actual use and monitoring data on upland key areas were incorporated into Appendices 2, 3, and 4 resulting in a slight change of calculated carrying capacity. Recent monitoring data on riparian key areas were also conducted on these allotments and results can be found in Appendix 5. New monitoring data has changed the status

regarding progress towards objectives stated in the Allotment Evaluation and are updated within this report.

Issues raised in the comments include: wild horse numbers, population levels, range and riparian damage caused by livestock and past wild horse population levels, key areas not truly representing range conditions, conditions of Lahontan cutthroat trout habitat, incomplete data concerning livestock use in relation to cattle/sheep use, carrying capacity calculations, fencing standards and fence modifications, proper management in accordance with Wild Horse and Burro Act, the Appropriate Management Level (AML) for wild horses, pronghorn antelope and bighorn sheep habitat, wildlife objectives should be tied to vegetative monitoring, nesting bird of prey habitat, lack of mention of wildlife species other than T&E species, lack of reference to upland areas as being important to wildlife species, source of range improvements funds, the need for site-specific utilization standards especially in riparian areas and woody upland browse species, and more key areas needed to monitor portions of the allotments. Due to the comments received from the allotment evaluation, several technical recommendations have been added, deleted, or modified. See below for a list of changes that were made.

On pages 38 and 39, the last paragraph near the end, the word "wildlife" should be "wild horses".

On page 16, Table 10. should list *grimy ivesia* and Packard's stickleaf as Unkown in the Spanish Ranch Allotment, instead as Documented. Upon further review of the location of these sensitive plants, they are not known to occur within the Spanish Ranch Allotment.

D. SUMMARY OF OPTIONS

Based on the analysis of the available monitoring data and comments received to the allotment evaluation, it is determined that 18 technical recommendations are required to ensure significant progress toward attainment of the Standards for Rangeland Health and the multiple use objectives for the allotment. Following is a discussion of the management actions selected as well as those that were modified, added or not selected.

1. Technical Recommendations Modified

Technical recommendation "A" in the AE will be modified to read as follows: Establish a long-term goal to "establish carrying capacities for the Spanish Ranch and Squaw Valley Allotments by proposed or existing pasture, as displayed in Tables 44 and 45 in the long term." These new pastures and carrying capacities will be outlined in "Selected Management Actions" within this report.

Technical recommendation C 1 will be modified to read as follows:

Establish the total number of AUMs of specified livestock grazing at 22,201 for the Spanish Ranch Allotment, and 26,518 AUMs for the Squaw Valley Allotment. Maintain permitted use on the Elevenmile Flat Allotment at 1,542 AUMs. Issue a new ten-year permit for the Spanish

Ranch, Squaw Valley, and Elevenmile Flat Allotments outlined under number (2.) in "Selected Management Actions" within this report.

Technical recommendation D will be modified to read as follows: Moves between pastures can vary by five days before or after the scheduled dates, except for the riparian pastures listed below. Because of riparian concerns, no flexibility in off dates for early or hot season use grazing treatments will be permitted for the following pastures, unless monitoring demonstrates on extension in off dates will not jeopardize attainment of objectives:

Squaw Valley
Frazer Creek Riparian Pasture
Soldier Creek Riparian Pasture
Trout Creek Riparian Pasture
Toe Jam Riparian Pasture
Rock Creek Riparian Pasture

Spanish Ranch
Winters Creek Riparian Pasture
Red Cow Riparian Pasture
Big Cottonwood Riparian Pasture

Terms and Conditions:

ALLOTMENT	CATTLE AUMs	SHEEP AUMs	TOTAL ACTIVE USE	TOTAL PREFERENCE
Spanish Ranch	21,951	250	22,201	22,201
Squaw Valley	22,518	4,000	26,518	26,518
Elevenmile Flat	1,042	500	1,542	1,542

Technical recommendation G will be modified to read as follows: Set an Appropriate Management Level (AML) of 150-250 within the Rock Creek Herd Management Area (HMA).

Technical recommendation N will be modified to read as follows: Within the Spanish Ranch and Squaw Valley Allotments under the proposed grazing system, identify, prioritize and fence and develop (as necessary), selected non-stream riparian habitats as funding and manpower limitations permit. Areas considered first will include sites in pastures receiving the majority of the hot season grazing, such as Willow Creek, Cottonwood Uplands, and Lower Squaw Creek, particularly the areas identified as spotted frog habitat near the confluence of Rock and Willow Creeks in the vicinity of the Squaw Valley Ranch. Sites for fencing and/or development may also be considered in pastures receiving stream-grazing treatments if those treatments prove ineffective for non-stream riparian habitats in upland range sites that would benefit from development projects.

Technical recommendation Q and P will be modified to read as follows: Manage critical mule deer winter range within the Squaw Valley Allotment through the use of vegetative treatments including fuel breaks/greenstrips to protect intact stands of sagebrush communities, and vegetative seedings to increase forage and cover for wintering mule deer. Types of vegetative treatments may include the following: disk/drill seeding, aerial seeding, shrub planting, prescribed fire, and the use of herbicides to reduce cheatgrass.

Technical recommendation T will be modified to read as follows: Develop two guzzlers for wildlife in the Squaw Valley Allotment. Each guzzler would be constructed to incorporate fenced water sources and separate water storage for wildlife. One guzzler would be located on Willow Creek Ridge and the other guzzler would be located between Rock Creek Ranch and Governor's Mine southwest of Ivanhoe Creek. Construct these guzzlers in phases if contributed funds for wildlife habitat improvement are available.

2. Technical Recommendations Added

Technical recommendations (3.) and (4.) will be added to the technical recommendations. This includes proposed grazing systems for the Spanish Ranch and Squaw Valley Allotments. Full implementation of the grazing systems is dependent upon the completion of certain range improvements. Therefore, each technical recommendation outlines an interim grazing system that would be in place until completion of the range improvements. These new systems will be outlined in the "Selected Management Actions" within this report.

Technical recommendation (6.) will be added for wild horse management and will read as follows: Following the attainment of AML, prepare a population management plan to guide the management of wild horses within the Rock Creek HMA.

Technical recommendation (7.) will be added as the selected range improvements proposed for the above selected grazing systems. These improvements are prioritized and are necessary for implementation of the selected management.

Technical recommendation (15.) will be added to the technical recommendations as follows: Consider vegetative treatments within the Horseshoe, Midas, and Rock Creek seedings to reduce the amount of foliar cover by big sagebrush and increase the amount of forage available to livestock. Techniques to be considered would include mechanical treatment, prescribed burning, and herbicidal treatment. Treatments will be selected based on the ability to meet management objectives. Seeding the area after treatment may also be considered.

The allotment objectives have been modified due to new monitoring data and can be found in technical recommendation (17.) within this report.

3. Technical Recommendations Not Selected

Proposed technical recommendations for the grazing systems in the Spanish Ranch and Squaw

Valley Allotments, and all of the range improvements associated with them, will not be selected due to a new base property owner in the Squaw Valley Allotment and because the land exchange in the Spanish Ranch Allotment did not take place. These options also did not consider all of the concerns and issues of BLM specialists, Nevada Division of Wildlife, US Fish and Wildlife Service, and interested parties.

Technical recommendations F1 and F2 will not be selected due to the new grazing systems selected for the Squaw Valley and Spanish Ranch Allotments. The HMA description for the Rock Creek wild horse herd is designated in the 2003 Elko Land Use Plan Amendment.

Technical recommendation I, to build a drift fence on the east side of the Middle Rock Creek Gorge, will not be selected. This fence has already been constructed following the 2001 Hot Lake Fire. The fence was to protect the burned area from livestock grazing and will be kept as a permanent pasture fence.

Technical recommendation J, develop a plan that would decrease the sediment production from the road along Toe Jam Creek, will not be selected. At this time BLM will not go forward with planning road improvement projects due to money and time constraints.

Technical recommendation U, complete riparian plantings within the Spanish Ranch and Squaw Valley Allotments where it is determined to be necessary and feasible using fencing techniques, will not be selected because the proposed grazing system will allow for the recovery of riparian vegetation and improved watersheds.

E. SELECTED MANAGEMENT ACTIONS

The following management actions have been determined appropriate to establish significant progress toward attainment of the multiple use objectives for the Squaw Valley and Spanish Ranch Allotments and the Standards for Rangeland Health approved for the Northeastern Great Basin Area of Nevada. These actions will be implemented through the issuance of a Final Multiple Use Decision.

CARRYING CAPACITY RECOMMENDATIONS

1. Establish carrying capacities for the Spanish Ranch and Squaw Valley Allotments by proposed or existing pastures.

Table 1. Estimated Carrying Capacity by Proposed Pasture for the Spanish Ranch Allotment

SPANISH RANCH ALLOTMENT (see map 1)		
Pastures (see map 2)	% of Allotment Carrying Capacity from Adjudication Maps (using public and private lands for % calculation)[1]	Pro-rated Carrying Capacity[2] (AUMs)
Burner Hills	19.6	5,399
Winters Creek	9.7	2,672
Red Cow	24.7	6,803
Cornucopia	9.4	2,589
Big Cottonwood Upland	31.2	8,594
Big Cottonwood Riparian	1.9	523
Hot Creek	3.5	964
TOTAL	100%	27,544

[1]Grazing use is licensed based on public land capacity expressed as a percentage of the total capacity (public and private). The Spanish Ranch Allotment is licensed at 74% public land. However, the total number of AUMs of specified livestock grazing shown in this table reflects only those AUMs from public lands. An AUM is the amount of forage a cow and her calf consume during a 30 day period.

[2]Calculated AUMs may change based on the design and location of proposed pasture fences.

Table 2. Estimated Carrying Capacity by Proposed Pasture for the Native Pastures in the Squaw Valley Allotment

SQUAW VALLEY ALLOTMENT (see map 1)		
Pastures (see map 2)	% of Allotment Carrying Capacity from Adjudication Maps (using public and private lands for % calculation) [1]	Pro-rated Carrying Capacity[2] (AUMs)
Horseshoe	8.5	3,041
Indian Springs	5.7	2,039
Upper Clover	0.4	143
Lower Squaw Field	4.9	1,753
Lower Gorge Pathway	1.7	608
Frazer Creek Riparian	7.1	2,540
Soldier Field	6.4	2,289
Trout Creek Riparian	22.1/TBD	7,905/TBD[3]
Toe Jam Riparian	TBD	TBD[3]
Rock Creek Riparian	9.7	3,470
Willow Creek Reservoir	Before split 30.9	11,053
Nelson Field	2.6	930
Total	100%	35,771

TBD = To be determined

[1] Grazing use is licensed based on public land capacity expressed as a percentage of the total capacity (public and private). The Squaw Valley Allotment is licensed at 80% public land. However, the total number of AUMs of specified livestock grazing shown in this table reflects only those AUMs from public lands. An AUM is the amount of forage a cow and her calf consume during a 30 day period.

[2]Calculated AUMs may change based on the design and location of proposed pasture fences.

[3]The AUMs for the Trout Creek and Toe Jam Pastures will be determined once the fence line is constructed.

Rationale: Although data indicated that there is sufficient carry capacity to support an increase in total numbers of Animal Unit Months (AUMs) of specified livestock grazing on both the Spanish Ranch and Squaw Valley Allotments, not all of the multiple use objectives have been met on both allotments. Failure to meet some of these objectives can be attributed to livestock grazing. Until those objectives that are directly related to livestock management are met, no increase in total number of specified livestock grazing in those affected pastures is recommended.

The estimated carrying capacity figures for the Native Pastures of the Spanish Ranch and Squaw

Valley Allotments were pro-rated to the new pastures, based on the relative carrying capacity of each pasture. For the native pastures within the Squaw Valley and Spanish Ranch Allotments, an additional step was required. From 1983 through 1990, actual use was reported for the entire Rock Creek Native Pasture. From 1991 through 1995, actual use was reported separately for each allotment. Therefore, the average estimated carrying capacity for the Rock Creek Native Pasture was pro-rated to the Squaw Valley and Spanish Ranch Allotments based on the total number of AUMs of specified livestock grazing outlined in the Elko Resource Management Plan.

Note: The average estimated carrying capacity for the **Native Pasture** of each allotment (for the period 1990-1995) was then averaged with the pro-rated average for the Rock Creek Native Pasture (for the period 1983-1990). The relative carrying capacity for each pasture was calculated from the Tuscarora, Taylor, and Owyhee Adjudication Maps. The total number of AUMs of specified livestock grazing for the Squaw Valley Allotment outlined in the RMP included the three seeded pastures. Carrying capacities for the seeded pastures in the Squaw Valley Allotment were calculated using the utilization levels observed and the actual use recorded, and are displayed in Appendix 4. Calculations and explanation of the methods used to derive carrying capacity are also displayed in Appendix 4.

TOTAL NUMBER OF AUMS OF SPECIFIC LIVESTOCK GRAZING AND TERM PERMIT CONDITIONS

2. Establish the total number of AUMs of specified livestock grazing for Ellison Ranching Company at 22,201 AUMs for Spanish Ranch Allotment and 26,518 AUMs for Squaw Valley Allotment. Maintain permitted use on the Elevenmile Flat Allotment at 1,542 AUMs. Modify term grazing permits for Ellison Ranching Company as shown below:

Note: The season of use for Elevenmile Flat Allotment is outlined to incorporate this allotment into the management of the Squaw Valley Allotment and implementation of the grazing system.

Ellison Ranching Company's term permit for the Spanish Ranch Allotment and Barrick Goldstrike's term permit on Squaw Valley and Elevenmile Flat (when/if the permit reverts back to them, or if there is a new permittee) will be modified as shown below:

Issue new ten-year grazing permits for the Squaw Valley, Spanish Ranch, and Elevenmile Flat Allotments as follows:

Allotment/ Pasture	*Livestock Number & Kind* [1]	*Begin Period*	*End Period*	*%PL*	*Type Use*	*AUMs*
Spanish Ranch						
Native	3,818 Cattle	3/25	11/15	74	active	21,921
Native	950 Sheep[2]	6/10	7/15	74	active	166
Native	640 Sheep[2]	10/05	10/31	74	active	84
FFR	3 Cattle	3/1	2/28	100	custodial	30
Total						22,201
Squaw Valley						
Native	2,766 Cattle	3/16	11/30	80	active	18,914
Native	17 Horses	5/1	11/30	80	active	96
Midas Sdg.	105 Cattle	3/16	11/20	85	active	733
Rock Ck Sdg.	84 Cattle	3/16	11/20	100	active	690
Horseshoe Sdg.	226 Cattle	3/16	11/20	100	active	1,861
Horseshoe Sdg.	10 Horses	3/16	11/20	100	active	82
FFR	12 Cattle	3/1	2/28	100	custodial	142
Native	Sheep[2]	3/16	11/30	80	active	4,000
Total						26,518
Elevenmile Flat	1,720 Cattle	3/16	4/30	39	active	1,014
	844 Sheep	4/1	11/30	39	active	528
Total						1,542

1 The total active use is based on the maximum number of AUMs allowed during any one year of the four year grazing cycle. Therefore, depending on the year and pasture being rested, the active use will vary annually. Those AUMs scheduled for rest will be placed in suspension each year.

2 Sheep will not be allowed to bed on the same bedding grounds more than two nights in a row. Sheep will not graze or trail along streams, springs, or aspen stands. Each band will use alternate trailing routes and different bedding areas. Sheep, ***when trailing***, will be trailed at least five miles per day. Movement to and from bedding sites will be random to avoid the creation of trails. Sheep bands would not occupy the same bedding sites used in the summer during the fall.

Terms and Conditions:

"Authorized grazing use will be in accordance with the Final Multiple Use Decision for the Spanish Ranch and Squaw Valley Allotments dated_____."

ALLOTMENT	CATTLE AUMs	SHEEP AUMs	TOTAL ACTIVE USE	TOTAL PREFERENCE
Spanish Ranch	21,951	250	22,201	22,201
Squaw Valley	26,518	4,000	26,518	26,518
Elevenmile Flat	1,014	528	1,542	1,542

Squaw Valley and Spanish Ranch:

The grazing system will be re-evaluated at the end of the first four-year cycle. Annual and long term adjustments (at the end of the four year-cycle) in the grazing system may be made depending on progress in meeting resource objectives. The grazing system will be performance driven: if criteria, standards, objectives are not met, then additional rest or adjustments in livestock numbers will be required in subsequent year. This may also include a 40% utilization restriction in the native pastures during the active growing season. If objectives and standards for rangeland health are being met, potential does exist for consideration of an increase in livestock use.

The permittee is responsible for ongoing observations to ensure that utilization criteria associated with livestock use are not exceeded. The BLM will provide information and or training to the permittee on the standard methodology used to monitor utilization if necessary or requested. The BLM will continue to monitor to ensure that the permittee complies with the criteria. If problems are identified, the BLM and the permittee will work together to find solutions that address the problems and the annual grazing system will be adjusted the following years as needed.

Livestock numbers identified in this permit are a function of seasons of use and the total number of animal unit months of specified livestock grazing. Deviations from those livestock numbers and seasons of use may be authorized on an annual basis where such deviations would not prevent attainment of multiple use objectives. The terms and conditions of the permit (or lease) may be modified if additional information indicates that revision is necessary to conform with 43 CFR 4180.

Flexibility – Spanish Ranch and Squaw Valley Allotments: The livestock permittee will have the flexibility to adjust his livestock numbers within the grazing system outlined as long as the total number of AUMs of specified livestock grazing for the allotment and target AUMs for each pasture are not exceeded. Moves between pastures can vary by five days before or after the scheduled dates, except for the riparian pastures listed below. Because of riparian concerns, no flexibility in off dates for early or hot season use grazing treatments will be permitted for the following pastures, unless monitoring demonstrates on extension in off dates will not jeopardize attainment of objectives:

Squaw Valley Allotment

- Frazer Creek Riparian Pasture
- Soldier Creek Riparian Pasture

- Trout Creek Riparian Pasture
- Toe Jam Riparian Pasture
- Rock Creek Riparian Pasture

Spanish Ranch Allotment

- Winters Creek Riparian Pasture
- Red Cow Riparian Pasture
- Big Cottonwood Riparian Pasture

Permittees on the Spanish Ranch, Squaw Valley and Elevenmile Flat Allotments will have "after the fact" billing privileges. Prior to the grazing season, the livestock permittee will apply for grazing use in conformance with their term permit and any multiple use decisions or allotment management plans. The livestock permittee will submit accurate actual use records by pasture to the Elko District within 15 days after closure of the authorized grazing season. One billing notice, based on the actual use report, will be issued within two weeks of receipt of the actual use report. Payment of grazing fees must be made within 15 days of the bill due date. Failure to pay the grazing bill within 15 days of the due date specified in the bill shall result in a late fee assessment of $25.00 or 10 percent of the grazing bill, whichever is greater, but not to exceed $250.00. Repeated delays in payment of "after the fact" billings or noncompliance with the terms and conditions of the permit (including failure to submit actual use report within 15 days) shall be cause to revoke "after the fact" billing privileges (43 CFR 4130.8-1(f)).

Pursuant to 43 CFR 10.4(G), the holder of this authorization must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(C) and (D), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.

Supplemental feeding is limited to salt, mineral and/or protein supplements in block, granular or liquid form. Such supplements must be placed at least ¼ mile from live waters (springs, streams), troughs, wet or dry meadows, and aspen stands.

All riparian exclosures, including spring development exclosures, are closed to livestock use unless specifically authorized in writing.

Rationale: An evaluation of current grazing management practices has indicated that some of The Standards for Rangeland Health approved for The Northeastern Great Basin area of Nevada, as well as some of the multiple use objectives, have not been achieved and changes in grazing management are necessary.

Modifications of term grazing permits, including dates and numbers of livestock and terms and conditions, will allow implementation of the grazing system(s) outlined to meet multiple use objectives on the Spanish Ranch and Squaw Valley Allotments, therefore a new ten year permit will be issued for the Spanish Ranch, Squaw Valley, and Elevenmile Flat Allotments.

Ellison Ranching Co. current livestock use within the seeded pastures on the Squaw Valley Allotment has been limited to 2,088 AUMs in the Horseshoe seeding, 735 AUMs in the Midas Seeding, and 821 AUMs in the Rock Creek Seeding. Livestock use in the Native Pasture was limited to 23,010 AUMs. Based on monitoring data collected from 1983 to 2000, use on the seeded pastures should be changed to the capacities outlined in Appendix 4. Although carrying capacity calculations show an increase in total number of AUMs of specified livestock grazing, no increase would be made in the existing Native Pasture due to multiple use objectives not being met.

The Elevenmile Flat Allotment is used in conjunction with the Squaw Valley Allotment and to trail cattle and sheep from wintering areas to the spring range. Modifying the date of entry on the Elevenmile Flat Allotment to coincide with the on-date for Squaw Valley simplifies management and recognizes the suitability for early spring use on Elevenmile Flat Allotment.

Due to the size of the pastures and the complex terrain of the allotments, five days flexibility on either side of the move dates between pastures (except for spring and hot season grazing treatments in riparian pastures) is permitted to ensure the removal of all livestock from the pastures. The permittees are allowed flexibility in their operations in order to adjust for climatic conditions and annual fluctuations in their livestock operation. However, flexibility must be limited in the riparian pastures to maintain short-duration or reduction of hot season grazing to achieve multiple use objectives.

Ellison Ranching Company and Barrick Goldstrike have requested "after the fact" billing privileges. Ellison has annually provided actual use reports in a timely manner, have paid their grazing fees on time, and closely coordinated management on their allotments with the BLM. They are in compliance with the terms and conditions of their grazing permit. Based on grazing regulations which allow "after the fact" billing and compliance with terms and conditions, Ellison Ranching Company on the Spanish Ranch and Barrick Goldstrike on Squaw Valley and Elevenmile Flat (when/if the permit reverts back to them, or if there is a new permittee) should be granted this privilege for those allotments managed under an allotment management plan or multiple use decision. In additions, the administrative time required for billing for the permittees on those allotments will be reduced. Their annual billings are complex and require a great deal of administrative time. Issuing one bill based on actual use for their allotments will shorten this time.

This technical recommendation would implement Guidelines 1.1, 2.1, 2.4, 3.1, 3.2, and 3.3 which have been developed for the Northeastern Great Basin Area of Nevada to establish significant progress toward conformance with the Standards for Rangeland Health for Upland Sites, Riparian and Wetland Sites, and Habitat.

GRAZING SYSTEMS

3. Implement the grazing system on the Spanish Ranch Allotment outlined in the table below and with the following grazing stipulations:

Table 3. Spanish Ranch Allotment Grazing System.

FIELD (see map 2)	YEAR 1	YEAR 2	YEAR 3	YEAR 4
Burner Hills (4,346 AUMs)	3/25-6/30c	3/25-6/30c	3/25-6/30c	3/25-6/30c
Winters Creek (2,151 AUMs)	3/25-6/30c	Rest	3/25-6/30c	3/25-6/30c
Red Cow (5,476 AUMs)	3/25-7/15c[1] (2,753 AUMs)	3/25-7/15c	3/25-7/15c	3/25-7/15c
Cornucopia (2,084 AUMs)	3/25-5/31c	3/25-5/31c	3/25-5/31c	3/25-5/31c
Big Cottonwood Uplands (6,917 AUMs)	7/1-11/15c **sheep use	7/15-11/15c **sheep use	7/15-11/15c **sheep use	7/15-11/15c **sheep use
Big Cottonwood Riparian (421 AUMs)	Limited fall gather[2]	Limited fall gather[2]	Limited fall gather[2]	Limited fall gather[2]
Hot Creek[3] (776 AUMs)	4/15-6/15 10/1-10/31 *sheep use	4/15-6/15 10/1-10/31 *sheep use	4/15-6/15 10/1-10/31 *sheep use	4/15-6/15 10/1-10/31 *sheep use

[1]All livestock will be removed by 6/30 from the Red Cow Pasture if monitoring conducted by or around 6/15 shows any of the following: streambank trampling in excess of 5%, willow utilization in excess of 10%, or riparian herbaceous stubble heights of less than 4".

[2]Stocking rates and/or timing and duration of grazing will be adjusted downward in subsequent years if monitoring in year 1 shows streambank trampling in excess of 10%, willow utilization in excess of 20%, or riparian herbaceous stubble heights of less than 4".

[3]The public land portion of Hot Creek may be fenced depending on the results of monitoring.

Limited trailing will be authorized in Red Cow Pasture during year 1 to get cattle from Winters Creek and Burner Hills Pasture to the Upland Pastures. Trailing will be from Winters Creek Pasture to a private holding field on Fourmile Creek in one day, and the private holding field on Fourmile Creek to the upland pastures the next day.

AUM calculations may change pending the design and location of pasture fences.

*Refer to the following dates for authorized sheep use:

6/10-6/28
7/9-7/15
10/5-10/31

Sheep will not be allowed to bed on the same bedding grounds more than two nights in a row. Sheep will not graze or trail along streams, springs, or aspen stands. Each band will use alternate trailing routes and different bedding areas. Sheep, *when trailing*, will be trailed at least five miles per day. Movement to and from bedding sites will be random to avoid the creation of trails. Sheep bands would not occupy the same bedding sites used in the summer during the fall.

Rationale: On high priority stream habitats, implementation of the grazing system outlined

above will eliminate hot season use on riparian areas and will allow for regrowth in all years. A combination of short duration grazing coupled with rest and removal dates which allow for regrowth has been shown to be an effective strategy for improving riparian areas (Myers 1989). Implementation of this grazing system will allow improvement in riparian conditions and enhancement of fisheries habitat conditions on high priority streams, particularly for redband trout, a State of Nevada BLM sensitive species. Improvement in riparian conditions will also enhance mule deer and sage grouse habitat. The upland conditions are expected to be maintained or to improve with this proposed grazing system in all of the Spanish Ranch Allotment. On upland pastures, utilization restrictions will provide residual forage for the following year, enough ground cover for soil stability during runoff, and prevent over grazing of critical seeps, springs, wildlife forage, and sage grouse habitat.

Exclosures around important riparian habitats on public lands (seeps, springs, aspen stands, and possibly stream segments) may be built to protect these areas in the Big Cottonwood Uplands Field. Additional preliminary field work, survey, and design are needed before specific locations are identified.

Pastures that receive continuous use during the active growing season will be required to have one year of rest during a four-year cycle. These pastures are Burner Hills, Winters Creek, and Cornicopia. This will provide plants with one year of deferment during the critical growing season and will allow plants to set seed. If standards and objectives are not met within these pastures, then additional rest or adjustments in livestock numbers will be required in subsequent year. This may also include a 40% utilization restriction in the native pastures during the active growing season.

Sheep trail from the Squaw Valley Allotment through the Spanish Ranch Allotment to the summer range on the Forest. As shown on the permit, spring sheep use is from mid-June until mid-July. In the fall, sheep trail through for approximately one week total (about one-half to one day per band). No changes from current sheep grazing management are recommended at this time based on an evaluation of the effects of current sheep grazing on upland (general allotment evaluation data) and stream and riparian habitats (Evans 1996).

This technical recommendation would implement Guidelines 1.1, 2.1, 2.4, 3.1, 3.2, and 3.3 which have been developed for Northeastern Great Basin Area of Nevada, to establish significant progress towards conformance with the Standards for rangeland health for Upland Sites, Riparian and Wetland Sites, and Habitat.

4. Implement the grazing system on the Squaw Valley Allotment outlined in the table below and with the following grazing stipulations:

TABLE 4. SQUAW VALLEY GRAZING SYSTEM

FIELD	ACRES	AUM's[1]	KEY ISSUES	MANAGEMENT STRATEGY SHORT-TERM (2004-2006)[2,3]	MANAGEMENT STRATEGY LONG-TERM (2007-2014)[2,3]
Horseshoe	27,101	1,532	Poor ecological condition Crucial deer winter range Cheatgrass domination Protection of seeded species Wildfire Severe-extreme drought (1999-03; ***applies to all pastures***)[4]	**Grazing:** March-April Fall use would be limited to alternate year trailing[3] with Indian Springs with utilization restrictions of 50% of the current year's growth on crested wheatgrass and forage kochia[5] See sheep grazing footnote	**Grazing:** Flexible with following restrictions: If grazing during active growing season when apical meristem can be harvested (est. May 1st – June 30th), then no grazing during active growing season the following year; fall use would be limited to alternate year trailing with Indian Springs with utilization restrictions of 50% of the current year's growth on crested wheatgrass and forage kochia[5] Follow-up monitoring will be completed to ensure that seeded species and soils/soil hydrology on seedings are not impacted. If seeded species are being impacted, carrying capacities and stocking rates may be adjusted accordingly or the pasture will receive one of two years rest or a rotation with Indian Springs Pasture. See sheep grazing footnote. **Improvements:** Evaluate potential for water developments and additional seedings for fuelbreaks, wintering big game, and improvement of ecological sites.
Indian Springs	15,973	1,026	Same as above	Same as above	**Grazing**: Same as above and if fall grazing (after September 15th), then utilization restrictions of 50% of the current year's growth on crested wheatgrass and forage kochia[5] See sheep grazing footnote **Improvements**: Same as above
Horseshoe Seeding	4,447	1,943	Low biodiversity	**Grazing:** Flexible	**Grazing:** Flexible **Improvements:** Evaluate the need for mosaic-pattern vegetative manipulation of shrub species and seeding of forb species[6]
Midas Seeding	1,189	733	Low plant species diversity	**Grazing**: Flexible	**Grazing:** Flexible **Improvements:** Same as Horseshoe Seeding above[6]
Rock Creek Seeding	1,358	690	Same as above	**Grazing:** Flexible	**Grazing:** Flexible **Improvements:** Same as Horseshoe Seeding above[6]
Upper Clover Seeding	668	92	Same as above	**Grazing**: Flexible	**Grazing:** Flexible **Improvements:** Same as Horseshoe Seeding above[6]
Rock Creek Riparian (existing fire fence)	35,964	2,233	Riparian values-Rock Creek Protection of seeded species	**Cattle Grazing**: Rest **Sheep Grazing:** See sheep restrictions footnote	**Grazing**: Early off (by June 15th) annually or alternate with fall use (after Sept. 30th) with the following restriction: If grazing during active growing season when apical meristem can be harvested (est. May 1st – June 30th), then no grazing during active growing season the following year. Provide for sage grouse nesting cover and other seasonal use cover values– see footnote. See sheep grazing footnote **Improvements**: Evaluate the potential for water developments and fencing selected areas along Rock Creek.
Lower Rock Creek Gorge Pathway		304	Manage area, including that portion affected by 2001 Hot Lake Fire burn area, to help restore site dynamic and to prevent cheatgrass domination	**Grazing**: Flexible although AUMs justify consideration primarily as trailing route. See sheep grazing footnote	**Grazing**: Flexible although AUMs justify consideration primarily as trailing route. In concert with management of above pasture, restrict use during native perennial grass critical growth period. See sheep grazing footnote

FIELD	ACRES	AUM's[1]	KEY ISSUES	MANAGEMENT STRATEGY SHORT-TERM (2004-2006)[2,3]	MANAGEMENT STRATEGY LONG-TERM (2007-2014)[2,3]
Willow Creek Reservoir	63,754	5,565 This also includes the portions of the UWCHEA	Riparian values-Willow Creek and springs Mule deer intermediate range High sage grouse values	**Grazing:** Flexible with progress to consider restriction of active growing season use and other criteria as shown for the long term. See sheep grazing footnote	***Pending any final NEPA approval to construct fences to create pastures:*** **Grazing:** Flexible. If grazing during active growing season when apical Meristem can be harvested (est. May 1st – June 30th), then no grazing during active growing season the following year. Utilization of current year's growth of bitterbrush will not exceed 50% (25% livestock during 5/1 to 10/14 and 25% big game during 10/15 to 5/1). Provide for sage grouse nesting cover and other seasonal use cover values– see footnote. See sheep grazing footnote **Improvements**: Fence selected key riparian habitats as necessary.
Willow Creek South (Proposed long-term field)	TBD[6]	TBD		NA	**Grazing:** Alternate active growing season use with other Willow Creek fields with the following restrictions: -Utilization of the current year's growth of bitterbrush will not exceed 50% (25% by livestock during 5/1 to 10/14 and 25% big game during 10/15 to 5/1) Provide for sage grouse nesting cover and other seasonal use cover values (see footnote). See sheep grazing footnote **Improvements:** Evaluate the following potential actions: Fencing to divide Willow Creek Reservoir Field into two units to create this field; prescribed burning; mechanical vegetation treatments; water developments; fence selected riparian habitats as necessary
Willow Creek NW (long-term field)	TBD	TBD		NA	**Grazing:** Same as above per evaluation **Improvements**: Evaluate the need to split the North Field into two separate pastures
Willow Creek NE (long-term field)	TBD	TBD		NA	**Grazing:** Same as above **Improvements**: Same as above
Lower Squaw Creek	15,846	882	Poor ecological conditions 1999 Squaw Valley Fire area imperiled as a result of potential cheatgrass domination	**Grazing:** June-July **Improvements**: Construct pasture fence segment	**Grazing**: Flexible with caveat that if grazed during active growing season when apical meristem can be harvested (est. May 1st – June 30th), then no grazing during active growing season the following year. Provide for sage grouse nesting cover and other seasonal use cover values– see footnote. See sheep grazing footnote **Improvements:** Evaluate the potential following actions: water developments; fence selected non-stream riparian habitats as necessary.
Upper Willow Creek Habitat Enhancement Area [7]	12,300	TBD	Lahontan cutthroat trout Riparian-streams, springs Sage grouse nesting and brood rearing	Rest until criteria defined in the Upper Willow Creek Habitat Enhancement Plan (UWCHEP) are met See sheep grazing footnote	***Once Stream and Riparian Habitat Criteria defined in UWCHP are met:*** **Grazing**: No grazing after July 1st and before September 16th with the following restrictions: -The UWCHEA shall be rested following any year of livestock use

FIELD	ACRES	AUM's[1]	KEY ISSUES	MANAGEMENT STRATEGY SHORT-TERM (2004-2006)[2,3]	MANAGEMENT STRATEGY LONG-TERM (2007-2014)[2,3]
			Mule deer summer range	**Improvements:** Fence west side of Upper Willow Creek with mitigation for sage grouse concerns.	-The following conditions would be met following removal of livestock: 4 inch herbaceous stubble height Utilization would not exceed 20% on willows and 10% on aspen Streambank trampling would not exceed 10% -If above conditions are not met, the UWCHEA would be rested from livestock grazing for two consecutive years and future grazing use would be adjusted to ensure criteria for stubble height, utilization, and trampling conditions are not exceeded. -No flexibility in July 1st off date allowed. See sheep grazing footnote **Improvements**: Prescribed burning
Frazer Creek Riparian	20,443	1,633	Lahontan cutthroat trout Riparian-streams, springs Sage grouse nesting and brood rearing Mule deer summer range	**Cattle Grazing:** Rest **Sheep Grazing:** See sheep restrictions footnote	**Cattle Grazing**: Hot season use [(use between June 16th and October 20h, (depending on climatic conditions)] cannot occur more than one time each in a four year grazing cycle. A minimum of one year of rest is required in a four year cycle. Two consecutive years of hot season use will not be allowed. **Sheep Grazing:** See sheep restrictions footnote
Trout Creek	TBD	3,989 before split with Toe Jam	Lahontan cutthroat trout recovery habitat Riparian-streams, springs Sage grouse nesting and brood rearing Mule deer summer range	**Cattle Grazing**: Rest **Sheep Grazing:** See sheep restrictions footnote	**Cattle Grazing**: Hot season use [(use between June 16th and October 20h, (depending on climatic conditions)] cannot occur more than one time each in a four year grazing cycle. A minimum of one year of rest is required in a four year cycle. Two consecutive years of hot season use will not be allowed. **Sheep Grazing:** See sheep restrictions footnote **Improvements**: Construct Trout Creek/Soldier Field pasture fence; evaluate the potential for prescribed burning and water developments
Soldier Field	19,965	1,156	Riparian values-streams, springs Sage grouse nesting and brood rearing Mule deer summer range	NA	**Cattle Grazing:** Hot season use [(use between June 16th and October 20h, (depending on climatic conditions)] cannot occur more than one time each in a four year grazing cycle. A minimum of one year of rest is required in a four year cycle. Two consecutive years of hot season use will not be allowed. **Sheep Grazing:** See sheep restrictions footnote
Trout Creek Field	TBD	TBD	Lahontan cutthroat trout recovery habitat Riparian-streams, springs Sage grouse nesting and brood rearing Mule deer summer range	NA	**Cattle Grazing:** Hot season use [(use between June 16th and October 20h, (depending on climatic conditions)] cannot occur more than one time each in a four year grazing cycle. A minimum of one year of rest is required in a four year cycle. Two consecutive years of hot season use will not be allowed. **Sheep Grazing:** See sheep restrictions footnote **Improvements:** Construct Trout Creek/Soldier Field pasture fence; evaluate the potential for prescribed burning and water developments
Toe Jam Field	TBD	TBD	Lahontan cutthroat trout Riparian-streams, springs Sage grouse nesting and brood rearing Mule deer summer range	NA	**Cattle Grazing:** Hot season use [(use between June 16th and October 15h, (depending on climatic conditions)] cannot occur more than one time each in a four year grazing cycle. A minimum of one year of rest is required in a four year cycle. Two consecutive years of hot season use will not be allowed. **Sheep Grazing:** See sheep restrictions footnote **Improvements:** Construct Trout Creek/Toe Jam pasture fence, not shown on map 2; evaluate the potential for prescribed burning and water developments

[1]Based on the percentage of total AUMs in the native pastures derived from adjudication maps, multiplied by the proposed permitted use for the Native Pasture of the allotment. AUM calculations for the Seeding Pastures can be found in Appendix 4 within this report.
[2]Unless noted, grazing will be limited to dates shown.
[3]Definitions: Flexible – no season of use constraints; Rest- no grazing between January and December of the same calendar year. Trailing: All livestock being trailed through the Indian Springs or Horseshoe Pastures during the fall, will enter and leave the pasture in no more than 5 days.
[4]Area represents some of the driest portions of the Elko BLM District (refer to AZ1136 for considerations for drought in general, April 28th, 2003 newspaper article, March 14, 2003 BLM Drought Letter and 2003 Drought Monitor attachments.
[4]Utilization restrictions may apply to other seeded plant species as applicable.
[5]Seeding will likely require at least two years growing season rest. Some costs will be borne by livestock permittee.
[6]To be determined once pasture fences are constructed.
[7]Conditions for livestock use of the Willow Creek Habitat Enhancement Area are defined in the Upper Willow Creek Habitat Enhancement Plan (UWCHEP) developed as part of the Final Supplemental Environmental Impact Statement Betze Project, Barrick Goldstrike Mines, Inc. (BLM 2003).

Sage Grouse Footnote: Sage Grouse Nesting Habitat; Make progress towards providing for a minimum of seven inches of lateral perennial grass herbaceous cover on an annual basis as measured at key areas during the May to early June nesting period. Herbaceous cover includes residual cover from prior year(s) and any new current year's growth. Make progress towards providing a minimum of 15% to 18% basal cover of native perennial grasses on the same areas. Note that these height and cover values are in addition to those for overstory shrubs relative to vegetation type where key area are located or proposed. Make progress towards meeting Rangeland Health Standards and Guidelines, WAFWA and Nevada BLM sage grouse guidelines for all sage grouse seasonal use areas as measured at key study transects.

Sheep Grazing Restrictions Footnote: Sheep will not be allowed to bed on the same bedding grounds more than two nights in a row. Sheep will not graze or trail along streams, springs, or aspen stands. Each band will use alternate trailing routes and different bedding areas. Sheep, *when trailing*, will be trailed at least five miles per day. Movement to and from bedding sites will be random to avoid the creation of trails. Sheep bands would not occupy the same bedding sites used in the summer during the fall.

The grazing system will be performance driven: if criteria, standards, objectives are not met, then additional rest or adjustments in livestock numbers will be required in subsequent year. This may also include a 40% utilization restriction in the native pastures during the active growing season. If objectives and standards for rangeland health are being met, potential does exist for consideration of an increase in livestock use.
2,000 of the sheep AUMs may be converted to cattle AUMs and put into active use after the first four year cycle, if progress towards meeting short-term objectives for upland and riparian habitat can be demonstrated. The Authorized Officer, accompanied with proper NEPA documentation, will determine if sheep AUMs may be converted and activated at that time. Complete conversion and activation of sheep AUMs may occur after the second four year cycle, once significant progress or achievement of short and long-term objectives have been made.

Additional range improvements will be implemented as they make sense and as funds are available.

Rationale: All five proposed riparian pastures (Rock Creek, Frazer Creek, Soldier Field, Trout Creek Field, Toe Jam) include high priority riparian habitat, with Frazer, Trout, and Toe Jam pastures also supporting high priority LCT habitat. The proposed grazing strategies, based on limiting hot season use to one in four years, are designed to improve stream and riparian habitats within the context of stream type and potential. The grazing strategy proposed for all five riparian pastures has proven to be effective elsewhere on the District and is supported by literature (Myers 1989). Limited hot season grazing would also improve seeps and springs. Improvement in riparian conditions will enhance habitat for many species of wildlife as well.

The upland conditions are expected to be maintained or to improve with this system in most of the Squaw Valley Allotment. Horseshoe and Indian Springs will be early use due to the crucial deer winter range and important forage for wildlife. This will ensure significant amount of forage for wildlife during the critical time of the year.

Sheep trail from the Elevenmile Flat Allotment through the Squaw Valley Allotment in an eastward pattern. In the spring sheep typically stay close to water while lambing. As shown on the permit, spring sheep use is from early April until mid-July. Sheep are slowly moved along the trail from the winter/spring range en route to the summer range on the Forest. In the fall, sheep trail much more quickly from the Forest to the winter range. Use in the fall is generally only three to four weeks. In the long-term sheep grazing will be required to follow the same dates as cattle as outlined above. Other restrictions on trailing will also prevent further degradation of riparian habitat.

This technical recommendation would implement Guidelines 1.1, 2.1, 2.4, 3.1, 3.2, and 3.3 which have been developed for Northeastern Great Basin Area of Nevada, to establish significant progress towards conformance with the Standards for rangeland health for Upland Sites, Riparian and Wetland Sites, and Habitat.

WILD HORSES -- AML

5. Set an AML of 150-250 horses within the Rock Creek HMA.

Rationale: In accordance with 43 CFR Subpart 4700, it has been determined through the evaluation of monitoring data that a thriving ecological balance will be obtained by providing wild horses 3,000 AUM's annually within the Rock Creek HMA. This decision will result in maintaining the population so as not to exceed 250 wild horses. They will be managed within a range of 150-250 wild horses (1,800-3,000 AUM's).

Maintaining wild horses within the AML will result in a thriving, natural, and ecolgocial balance between wild horses and other resource values. Continued monitoring within the allotments will show if any adjustment to AML is needed. The establishment of AML as a range is in conformance with BLM's 2001 Wild Horse Strategy, where all HMA's will be gathered over a 4 year cycle plan to mange horses Bureau wide.

This technical recommendation would be consistent with the Standards for rangeland health for Upland Sites, Riparian and Wetland Sites, Habitat, and Healthy Wild Horse and Burro Populations developed for the Northeastern Great Basin Area of Nevada and allow implementation of Guideline 1.1, 2.1, 2.4, 3.1, 3.2, 3.3, 5.2, and 5.3 to establish significant progress towards conformance with the Standards for rangeland health.

6. Following the attainment of AML, prepare a population management plan to guide the management of wild horses within the Rock Creek HMA.

Rationale: Population management strategies are necessary to ensure that WH&B populations maintain their free-roaming, self-sustaining, genetically viable status. All Population Management Plans would be prepared in accordance with Bureau regulations, policies, and National Program Office Guidance.

RANGE IMPROVEMENTS

7. Construct the range improvements for the proposed grazing systems. These improvements are listed and prioritized in Appendix 6 and are necessary for the implementation of the selected management. Reconstruct the Winters Creek Pasture fence to 4-wire, 16.5 foot post spacing, as necessary. Additional range improvements will be implemented as they make sense and as funds are available.

Rationale: The range improvements listed in Appendix 6 are needed to implement the grazing systems outlined in the above. The Allotment Boundary Fence between Spanish Ranch and Squaw Valley and the Lower Squaw Field Fence are first priority. These fences are needed to divide the allotments and control livestock from crossing the boundary and to allow scheduled rest periods within riparian pastures. The allotments may have different livestock operators, as well as different schedules within the pastures adjoining each other. The Trout Creek Riparian Fence, Toe Jam Fence, Big Cottonwood Riparian Fence and the Red Cow Riparian Fence are the next priority. Management of livestock and the ability to prescribe rest to these pastures will allow for achievement of riparian and fisheries objectives following construction of these fences. The second priority is construction of the Winters Creek Cooridor Fence, Cornucopia Fence, and the holding pens in Burner Hills and Winters Creek. The Cooridor fence will facilitate movement of livestock through Winters Creek into Red Cow during periods of rest. This fence will also allow movement of wild horses through Winters Creek to reach Red Cow. The holding pens will allow the livestock operator to adequately gather and hold livestock during moves between pastures. The Cornicopia Fence is needed for the management of livestock to achieve riparian and fisheries objectives. This would complete all of the proposed pasture fencing associated with the grazing systems.

A recent inventory in 2003 of the Winters Creek Pasture fence showed extensive damage caused by high population levels of wild horses. It is apparent that the 3-wire, 22 foot post spacing was inadequate to keep horses from going through it. In order to properly manage for livestock grazing this fence must remain intact and maintained. A 4-wire fence with 16.5 foot post spacing

will better handle the pressure caused by wild horses.

Site specific EA's will be completed for all range improvement projects. Schedules for implementation of range improvements will be based on feasibility, funding, and manpower.

WILDLIFE HABITAT IMPROVEMENTS

8. Complete needed fence modifications in crucial deer winter and intermediate habitat; identify and prioritize any needed fence modifications in crucial deer summer habitat.

Rationale: Fences that are not constructed to BLM standards might pose problems for big game movement. Modifying these fences would facilitate big game movements.

This technical recommendation is consistent with the Standard for rangeland health developed for Habitat in the Northeastern Great Basin Area of Nevada.

9. Ascertain that the permittee is aware of BLM standards for fence specifications where cooperative agreements designate permittee fence maintenance of BLM projects. On an annual basis, reiterate the special conditions for fence specifications prior to grazing authorization.

Rationale: Unauthorized modifications of permittee-maintained BLM fence projects have been a problem within allotments in the Elko Resource Area; the restriction of big game movements is a concern. A major problem has been the addition of a fifth strand of barbed-wire to where the bottom wire is six to seven inches above the ground or top wire is over 50 inches above the ground.

This technical recommendation would implement Guideline 3.3 which as been developed for the Northeastern Great Basin area of Nevada, to establish significant progress towards conformance with the Standard for rangeland health for Habitat.

10. Within the Spanish Ranch and Squaw Valley Allotments under the proposed grazing system, identify, prioritize, fence, and develop (as necessary), selected non-stream riparian habitats as funding and manpower limitations permit. Areas considered first will include sites in pastures receiving the majority of the hot season grazing, such as Willow Creek Reservoir Field, Cottonwood Uplands, and Lower Squaw Creek. Sites for fencing and/or development may also be considered in pastures receiving stream-grazing treatments if those treatments prove ineffective for non-stream riparian habitats in upland range sites that would benefit from development projects.

Rationale: Some non-stream riparian areas may require protection or exclusion from grazing, even when grazed under a system designed to improve stream riparian habitats. Within proposed pastures including those in the wild horse herd area, livestock and wild horses would be more apt to utilize water available in troughs, which could potentially decrease direct use of undeveloped

seeps/springs and stream riparian areas in a given pasture. Spring developments with water piped away from spring sources would benefit riparian areas. Increased availability of water will also increase livestock distribution and will help facilitate the implementation of the grazing system. Restoration of identified riparian areas would help to achieve multiple use objectives.

Emphasis has been placed on stream riparian habitats, particularly those that support or provide habitat for threatened Lahontan cutthroat trout. With limited funding and manpower, priorities have to be set in those areas with the most potential for improvement and/or that are most at risk for irreversible degradation or loss.

This technical recommendation would be consistent with the Standards for Rangeland Health for Riparian and Wetland Sites and Habitat developed for the Northeastern Great Basin Area of Nevada and allow implementation of Guidelines 2.1, 2.4, 3.2, and 3.3 to establish significant progress towards conformance with the Standards for rangeland health for Upland Sites, Riparian and Wetland Sites, and Habitat.

11. Manage critical mule deer winter range within the Squaw Valley Allotment through the use of vegetative treatments including fuel breaks to protect intact stands of sagebrush communities, and vegetative seedings to increase forage and cover for wintering mule deer. Types of vegetative treatments may include the following: disk/drill seeding, aerial seeding, shrub planting, prescribed fire, and the use of herbicides to reduce cheatgrass.

Rationale: Depending on the severity of the winter, the area provides winter range for several hundred to 2,000-3,000 mule deer. By implementing appropriate vegetative treatments, the projects would provide forage for wildlife and livestock, help restore a functioning healthy ecosystem, provide a fuels break to help reduce the fire frequency, size, and intensity in the area, and will help protect critical mule deer winter range. Seeded species will be selected based on their ability to establish under drought conditions and in marginal soils, provide aggressive competition to cheatgrass and noxious weeds, and provide forage value for wildlife and livestock.

This technical recommendation would implement Guideline 3.4 which has been developed for Northeastern Great Basin Area of Nevada, to establish significant progress towards conformance with the Standard for rangeland health for Habitat.

12. Per management actions for the RMP wildlife habitat objective and Memorandum of Understanding with NDOW, jointly evaluate and analyze availability and condition of habitat areas identified by NDOW for the augmentation of mountain quail populations following improvement of riparian conditions through implementation of appropriate technical recommendations.

Rationale: Native populations of mountain quail have historically inhabited suitable habitat in the allotment. Although no recent documentation of habitat use by this species has been made in the allotments, remnant populations exist in the adjoining Little Humboldt and Bullhead

Allotments within the Snowstorm Mountains; use could be occurring at the present time within suitable habitat in the western portions of the Spanish Ranch and Squaw Valley Allotments. The technical recommendations for improving riparian and range conditions would help to improve mountain quail habitat.

This technical recommendation would implement Guidelines 3.2 and 3.3 which have been developed for Northeastern Great Basin Area of Nevada, to establish significant progress towards conformance with the Standard for rangeland health for Habitat.

13. Increase forage diversity and herbaceous cover for wildlife and herbaceous forage for livestock by creating a mosaic pattern of vegetational succession stages through vegetative manipulation practices. Prioritize and complete treatments on selected areas in the Spanish Ranch and Squaw Valley Allotments. Target vegetation types in the allotment where vegetative data have indicated that big and low sagebrush shrub cover is excessive or at upper limits that would restrict herbaceous growth, existing native herbaceous plants would respond to reduced shrub competition, and livestock utilization has been documented ranging from slight (1-20%) to moderate (41-60%). Stimulate younger age class shrub recruitment through a reduction of excessive mature or decadent shrub cover. Treatments would replicate natural small-scale disturbances. Desired Plant Community objectives for treated areas would be established based on range site potentials and response objectives. Any vegetation manipulation treatment would be coordinated with the grazing schedule to rest the subject area through the growing season following the given treatment. The treatments should not include any more than 10% of the entire allotment to be treated in any one-treatment period (approximately 10 years). Specific treatments would be determined on a case-by-case basis with full National Environmental Policy Act documentation and compliance.

Rationale: Based on comparisons with range site potentials, shrub cover has been documented as being excessive or at the upper limit where herbaceous cover is limited due to shrub competition at some key areas and are potentially excessive at other range sites in the allotment. Range sites with excessive shrub cover have generally been documented as having poor forage diversity which would not be improved through only a change in the grazing system. Recent studies have documented that shrub cover in healthy stands of Wyoming big sagebrush is generally less than 15%; as shrub cover increases over 15%, the grass and forb cover decreases. For the mountain or basin big sagebrush vegetation type, healthy stands generally have less than 20% shrub cover. For the big sagebrush-bitterbrush vegetation type, healthy stands generally have less than 30% shrub cover.

The treatment objective would be to reduce shrub canopy cover in a mosaic pattern within irregular shaped 20-40 acres blocks and allow the treated areas to replicate shrub cover in early to mid successional stages for given range sites. Denser cover would remain in the untreated areas to allow wildlife habitat diversity. A prescribed mosaic of cover on said vegetation types would help to enhance mule deer, pronghorn and sage grouse habitat by increasing forage diversity and herbaceous cover. Shrub manipulation would release moisture to stimulate herbaceous plant and

younger age class shrub growth relative to sage grouse nesting and summer use habitat. Habitats that contain 8-12% shrub cover in Wyoming big sagebrush and less than 20% shrub cover in mountain or basin big sagebrush stands coupled with the sufficient amount and type of grass cover are factors that increase sage grouse nesting success. Thinning dense stands could also increase the palatability and leader growth of sagebrush for mule deer, pronghorn and sage grouse by inducing plant physiological changes related to competition for moisture, nutrients and lower monoterpene levels. Sage grouse selection for plants with lower monoterpene levels has been observed.

Techniques to be considered would include mechanical treatment, prescribed burning, and herbicidal treatment. The treatment methodology would be tailored to the vegetative type at each specific site where stands are dominated by mature age class and decadent shrubs.

This technical recommendation would implement Guideline 3.4 which has been developed for Northeastern Great Basin Area of Nevada, to establish significant progress towards conformance with the Standard for rangeland health for Habitat.

14. Develop two guzzlers for wildlife in the Squaw Valley Allotment. Each guzzler would be constructed to incorporate fenced water sources and separate water storage for wildlife. One guzzler would be located on Willow Creek Ridge and the other guzzler would be located between Rock Creek Ranch and Governor's Mine southwest of Ivanhoe Creek. Construct these guzzlers in phases if contributed funds for wildlife habitat improvement are available.

Wildlife Habitat Improvement	Units	Estimated Cost/each	Expected Date of Construction	Potential Funding Source
Guzzlers on Willow Ck Ridge & Ivanhoe area (2 total)	apron & 2 wildlife troughs (each)	$ 20,000	2005	Bighorns Unlimited/ Challenge Cost Share

Rationale: These guzzlers would provide water sources away from perennial stream sources that have been identified in the RMP and evaluation as priority streams that either require long-term protection or restricted livestock use to help meet resource objectives. The guzzlers would benefit wildlife species in areas where water sources are limited in suitable habitat.

This technical recommendation would implement Guideline 3.3 which has been developed for Northeastern Great Basin Area of Nevada, to establish significant progress towards conformance with the Standard for rangeland health for Habitat.

15. Complete vegetative treatments within the Horseshoe, Midas, and Rock Creek seedings to reduce the amount of foliar cover by big sagebrush and increase the amount of forage

available to livestock. Techniques to be considered would include mechanical treatment, prescribed burning, and herbicidal treatment. Treatments will be selected based on the ability to meet management objectives. Seeding the area after treatment may also be considered.

Rationale: This action would increase forage for livestock and would help protect large blocks of rangelands from large-scale block burns. By increasing livestock forage in the seeding areas, pressure from livestock grazing in the native pastures may decrease over time.

16. Delay initiating reintroduction plans of bighorn sheep pending any future cooperative agreement with the permittee that either specifies a designated domestic sheep trail route away from potential bighorn habitat or specifies other actions that would preclude the possibility of bighorn-domestic sheep interaction.

Rationale: The Spanish Ranch and Squaw Valley Allotments have been historically licensed for domestic sheep and cattle. The RMP recognized this domestic sheep use. Current BLM guidelines state that bighorn ranges should be managed so that bighorn never come in contact with domestic sheep. Bighorn sheep should not be reintroduced into the Squaw Valley Allotment until actions to preclude domestic sheep-bighorn interactions can be developed and a cooperative agreement between the BLM and the grazing permittee is completed.

A contract study completed for the BLM in 1980 by the Nevada Department of Wildlife "*Potential Bighorn Sheep Habitat in Northern Nevada*" identified potential bighorn sheep habitat within the Squaw Valley Allotment portion of the Izzenhood Range study area. The cooperative effort between the BLM and NDOW to reintroduce bighorn sheep into suitable historic habitat is an objective in the Elko Resource Management Plan; reintroduction plans are to be accommodated through cooperative agreements. Several studies indicate bighorn are fatally susceptible to diseases contracted during interaction with domestic sheep.

This technical recommendation would implement Guideline 3.3 which has been developed for Northeastern Great Basin Area of Nevada, to establish significant progress towards conformance with the Standard for rangeland health for Habitat.

MONITORING AND REEVALUATION

17. Modify and/or requantify the allotment specific and key area objectives for the Spanish Ranch and Squaw Valley Allotments as described below. The general land use plan objectives and Standards for Rangeland Health developed for the Northeastern Great Basin Area remain unchanged.

<u>General Land Use Plan (Elko RMP/ROD) Objectives:</u>

1. Maintain or improve the condition of the public rangelands to enhance productivity for all rangeland values.

2. Conserve and enhance terrestrial, riparian, and aquatic wildlife habitat.

3. Manage wild horse populations and habitat in the established herd areas consistent with other resource uses.

Standards for Rangeland Health Developed for the Northeastern Great Basin Area:

1. Upland Sites: Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, and landform.

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. Land use plans will recognize cultural resources within the context of multiple use.

5. Wild horses and burros exhibit characteristics of healthy, productive, and diverse population. Age structure and sex ratios are appropriate to maintain the long term viability of the population as a distinct group. Herd management areas are able to provide suitable feed, water, cover and living space for wild horses and burros and maintain historic patterns of habitat use.

Allotment Specific Objectives:

Spanish Ranch and Squaw Valley Allotments:

Note: Some of the objectives listed below might not be attainable without management actions that include efforts to thin any "heavy" shrub foliar cover and increase perennial native herbaceous cover to allow a balanced understory similar to those for affected ecological sites listed in the NRCS site descriptions in late seral or better condition. [See given ecological site description - plant community dynamics for potential cause and effects.] The increase in perennial native herbaceous cover might occur by native release after vegetative manipulation, as a result of livestock grazing system, or combination of both. Otherwise, artificial seeding with native plant species-emphasis should be considered as any priority to do so arises. Follow-up livestock management would need to be completed in a manner that would help maintain the balance. This includes, in part, efforts to mitigate the effects of any livestock use on a given pasture during the critical growth period of perennial grasses and forbs during the spring period and considerations for maintaining ecological site dynamics for any given grazing system. Any management actions would be implemented based on monitoring efforts at key areas throughout the allotment.

Terrestrial Wildlife Habitat (with emphasis on Sage Grouse Habitat and Seasonal Big Game Habitat per RMP)/Rangeland

Note: The intent of the key area objectives are to consolidate any new or former wildlife habitat and rangeland objectives. There may be cases where wildlife habitat key browse objectives are solely monitored.

1. Excerpts from Rock Creek (Spanish Ranch and Squaw Valley) and Andrae Allotment Evaluations (April 16, 1997) pages 131 and 132:

> "Manage rangelands to achieve or exceed a late seral stage of ecological condition at existing key area monitoring locations (or additional key area monitoring locations selected in consultation with affected interests) where appropriate to site potential, except where Desired Plant Community objectives have been developed to achieve multiple use objectives".

2. Squaw Valley Allotment existing/proposed key areas and key area objectives:

Squaw Valley Allotment
Existing Key Areas:

Key Area Location	Utilization Objective
All key areas on native range	Average of 50% of current year's growth on native grass key species, not to exceed 55% in any one year.
Horseshoe, Midas and Rock Creek Seedings	Average of 55%, not to exceed 60% in any one year.

Willow Creek Reservoir Field

1. **Key Area RC-07 (DI-T-88-33) - Willow Creek Ridge**. Mule deer intermediate range, pronghorn summer range and sage grouse nesting/early brood-rearing habitat. Claypan 10-12" P.Z. ecological site. Low sagebrush vegetation type. Potential vegetative composition is about 60% grasses, 10% forbs and 30% shrubs by air dry weight. 1994 (latest) composition was rated at "upper" (numerical rating at 50) mid seral status with 28% grasses, 14% forbs and 60% shrubs (over 100% due to rounding)*. 1994 followed the banner 1992-1993 winter precipitation year.

> Short Term (by spring 2007) make progress towards, and Long-Term (by spring 2015) achieve the following:

- Maintain satisfactory age and form class of low sagebrush as measured by Cole Browse Method.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses**.
- Provide lateral sage grouse nesting cover***.
- % foliar canopy cover of shrubs not to exceed 20-25% with no less than 8-10%.
- % foliar canopy cover of shrubs on any shrub manipulation areas: 8-10% or less****.
- Improve to, or maintain, late seral status or better status (numerical rating at least 51) on ecological site as indicated by forage production monitoring, with at least 5-10% "allowable" native forbs*.

*The Ecological Status write-up and Ecological Site Description includes present versus allowable percentages of forbs. This helps to provide for forb diversity where percentages are allowable compared to where present percentage might only solely include disturbance-associated forbs such as Hood's phlox, as an example. Therefore, Hood's phlox would only be allowed two percentage points versus any larger percentage which would not represent a semblance of the potential diversity on the site. The allowable forb percentages sampled in 1994 was seven percent.

**An increase in "tall genera" grasses such as bluebunch wheatgrass and Thurber's needlegrass (important as nesting cover) is not likely in the long term although they are part of the potential species on site. These species were not sampled during 1994 forage production and might only exist in scattered areas/tucked under brush in the Willow Creek Reservoir Field. Sandberg's bluegrass and bottlebrush squirreltail were the two perennial grass species sampled in 1994.

*** Sage Grouse Nesting Cover: Provide for a minimum of seven inches average "droop height" of native perennial grass herbaceous cover on an annual basis as measured at key areas during the May to early June nesting period. This herbaceous cover includes residual cover from prior year(s) and any new current year's growth. Note that these height values, coupled with above mentioned basal cover values, help to provide lateral nesting cover relative to shrub foliar cover values for given vegetation type.

****Potential short and long term management actions coupled with grazing system: 1) Mosaic shrub manipulation, followed by low ground impact interseeding of native "tall genera" grasses (e.g. bluebunch wheatgrass, Snake River wheatgrass and Great Basin wildrye) and native forbs; 2) fuelbreak along west and south side of primary Willow Creek Ridge road to slow down or stop potential block-burn wildfires.

2. **Proposed Browse Utilization Transect/ Key Area on Willow Creek Ridge** approximately one mile southwest of DI-T-88-33. Collect bitterbrush utilization data and age and form class

condition data within mule deer intermediate habitat and pronghorn summer habitat with the following objectives:

Short Term (by spring 2007) and Long Term (by spring 2015):

A. Utilization of current year's growth of bitterbrush will not exceed 50% (25% livestock during 5/1 to 10/14 and 25% big game during 10/15 to 5/1).

B. Maintain age and form class of bitterbrush in satisfactory condition or improve to satisfactory condition.

Note: This browse transect would represent an area where bitterbrush condition and utilization can be evaluated within intermediate (transitional) mule deer habitat and pronghorn summer habitat. Bitterbrush is fair to good forage for mule deer, pronghorn and livestock during the spring to fall period. Data collection would allow an analysis of any potential conflicts that might occur with livestock grazing.

Trout Creek Field*

1. Key Area RC-11 (CDS-T-88-35) – Pole Creek*. Deer intermediate range, pronghorn summer range and sage grouse nesting/early brood-rearing habitat. Low sagebrush vegetation type. Claypan 12-16" P.Z. Ecological Site. Potential vegetative composition is about 60% grasses, 15% forbs and 25% shrubs by air dry weight. 1994 (latest) composition at "low" late seral (numerical rating of 58) status was 31% grasses, 1% forbs (includes trace composition on several species) and 66% shrubs (under 100% due to rounding)**. 1994 followed the banner winter 1992-spring 1993 winter precipitation year.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Maintain satisfactory age and form class of low sagebrush as measured by Cole Browse Method.
- Provide sage grouse lateral nesting cover***.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall genera" species****.
- % foliar canopy cover of shrubs not to exceed 20-25% with no less than 8-10%.
- % foliar canopy cover of shrubs on any shrub manipulation areas: 8-10% or less*****.
- Maintain at least late seral status (numerical rating of 51) of ecological site as indicated by forage production monitoring, with at least 10% "allowable" native forbs**.

*Depending on any final approval and layout to create another field (Toe Jam Field), it is unknown if this existing transect would be in Trout Creek Field or any approved additional field. If so, a new key area transect would be needed with proposal on Loamy 10-12" P.Z. Site east of Trout Creek where bitterbrush or serviceberry would be the key browse species and utilization criteria would be 50% on mule deer summer range and 25% livestock/25% big game on mule deer intermediate range (see Soldier Field below).

**The Ecological Status write-up and Ecological Site Description includes present versus allowable percentages of forbs. This helps to provide for forb diversity where percentages are allowable compared to where present percentage might only solely include disturbance-associated forbs such as Hood's phlox, as an example. Therefore, Hood's phlox would only be allowed two percentage points versus any larger percentage which would not represent a semblance of the potential diversity on the site. The allowable forb percentages in 1994 was one percent.

*** Sage Grouse Nesting Cover: (See Willow Creek Reservoir Field above)

****Representation by "tall genera" grasses such as bluebunch wheatgrass and Idaho fescue (important as nesting cover) within "allowable" (see ** above) 25-35% range is likely in the long term and would help meet this objective; the composition in 1994 was 27%.

*****Ecological site dynamics maintenance or improvement should be noted in concert with livestock grazing system proposed to improve riparian habitat. However, potential short and long term management actions coupled with grazing system could help to improve vegetative diversity: 1) Mosaic shrub manipulation, followed by low ground impact interseeding of native "tall genera" grasses (e.g. bluebunch wheatgrass, Snake River wheatgrass and Great Basin wildrye) and native forbs, could be completed as deemed necessary.

2. Proposed Key Area/Browse Transect: Establish a browse utilization transect/key area approximately 1.5 miles north of Toe Jam Creek on, or in the vicinity of, T40N, R48E, section 25 E1/2. At a minimum, collect bitterbrush utilization data and age and form class condition data within mule deer intermediate range, pronghorn summer range and sage grouse nesting/early brood-rearing habitat. Big sagebrush-bitterbrush vegetation type. Loamy Slope10-12" P.Z. Ecological Site. Potential vegetative composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. (Late 1980s ecological status inventory indicates that, at sampling points, the area was in late seral ecological status. Trend is undetermined at this time in light of present livestock management, severe to extreme fifth-year drought from 1999-2003 and wild horse issues in various states of resolve.)

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush will not exceed 50% (25% livestock during 5/1 to 10/14 and 25% big game during 10/15 to 5/1.
- Maintain age and form class of bitterbrush in satisfactory condition or improve to satisfactory condition.
- Provide for lateral sage grouse nesting cover*
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall" genera species.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" native forbs.

* Sage Grouse Nesting Cover: See Willow Creek Reservoir Field Above.

Trout Creek Field (potential option as Toe Jam Creek Field*)

1. **Key Area RC-05 (CDS-T-88-38) Toe Jam Creek** - Crucial deer summer habitat.

South Slope 14-18" P.Z. Ecological Site. Mountain big sagebrush-montane shrub vegetation type. Potential vegetative composition is about 65% grasses, 10% forbs and 25% shrubs by air dry weight. 1980s ocular ecological status inventory indicates that the area was in late seral ecological status at specified ocular/quantified sampling points. Trend is undetermined at this time in light of livestock management since this time coupled with severe to extreme drought from 1999 to 2003.

Short Term (by spring 2007) maintain, or make progress towards, and Long Term (by spring 2015) achieve the following:

- Maintain satisfactory age and form class of snowberry and chokecherry as measured by Cole Browse Method.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- % foliar canopy cover of shrubs on any shrub manipulation areas: 8-10% or less**.
- Maintain or exceed late seral status of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" native forbs***.

*This existing transect would be located in "Toe Jam Field" pending any final approval and layout to create a new field to help meet overall allotment objectives.

** Potential short and long term management actions coupled with grazing system would include shrub manipulation completed in mosaic patterns targeting any reduction of "excessive" mountain big sagebrush cover to help meet objectives.

***Ecological site maintenance or improvement should be noted in concert with livestock grazing system proposed to improve riparian habitat.

2. **Proposed Key Area/Browse Transect in Dry Creek Mountain/Rock Creek Headwater area:** Establish a browse utilization transect/key area in the vicinity of T40N, R48E, sections 5 and 8. At a minimum, collect serviceberry utilization data and age and form class condition data within mule deer crucial summer range. Mountain brush vegetation type. South Slope 14-18" P.Z. Ecological Site. Potential vegetative composition is about 65% grasses, 10% forbs and 25% shrubs by air dry weight. 1980s ecological status inventory indicates that the area was in late seral ecological status at specified ocular sampling points. Trend is undetermined at this time in light of livestock management since this time coupled with severe to extreme drought from 1999 to 2003. However, use on serviceberry has consistently been severe (81% to 100% as noted on field trips in 1990s) likely as a result of domestic sheep trailing and cattle concentrations on upper Rock Creek.

   Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve:

   - Utilization of current year's growth of serviceberry will not exceed 50%.
   - Maintain age and form class of serviceberry in satisfactory condition or improve to satisfactory condition.
   - % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
   - Provide a minimum of 15% to 18% basal cover of native perennial grasses.
   - % foliar canopy cover of shrubs on any shrub manipulation areas: 8-10% or less.
   - Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" native forbs.

   Note: Ecological site maintenance or improvement should be noted in concert with livestock grazing system proposed to improve riparian habitat. Potential short and long term management actions coupled with grazing system would include shrub manipulation completed in mosaic patterns in efforts to reduce "excessive" mountain big sagebrush foliar cover to help meet objectives.

Horseshoe and Indian Springs (ESR Seeding) Fields

Proposed Key Area Transects to be determined per site visits on Clover I and II Seeding portion of fields. Crucial deer and pronghorn winter range. Pre-disturbance Wyoming big sagebrush and salt desert shrub vegetation types that receive 5 to 8 inches to 8 to 10 inches of precipitation a year. Trend is undetermined at this time in light of recent seeding efforts, past and present livestock management, and severe to extreme drought from 1999 to 2003 on some of the driest ecological sites on the Elko District. The 1980s ecological status inventory indicated that the areas were in early to mid seral ecological status. Four-wing saltbush was seeded separately within seed drill equipment. Therefore, four-wing saltbush browse transect might be separate, but in the same area as perennial grass/forage kochia transects.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of forage kochia and perennial grasses (crested wheatgrass, Siberian wheatgrass and Russian wildrye) would not occur during the May 1 to June 30 critical active growing period*, with authorized livestock use starting no earlier than March 15.
- Maintain age and form class of forage kochia and four-wing saltbush in satisfactory condition or improve to satisfactory condition.
- Provide for a minimum of one seeded shrub or "half-shrub" (forage kochia) and three to five perennial seeded species per 10 square feet**.
- Satisfactory soil percolation tests compatible with predominate ecological site(s) measured after spring grazing period***.

* If grazing occurs during the active growing season when apical meristem can be harvested (estimated May 1st to June 30th), then no grazing would occur during the active growing season the following year; fall use would be limited to alternate year trailing with Indian Springs Field with utilization restrictions of 50% of the current year's growth on crested wheatgrass and forage kochia.

**Success of recent seeding efforts, including presence of four-wing saltbush, is pending –it could take at least four years for some species to be represented on these droughty sites.

***Follow-up monitoring will be completed to ensure that seeded species, native plant species, and soils/soil hydrology on seedings are not impacted per BLM-specified sampling protocol. If seeded species and soils are being impacted, carrying capacities and stocking rates might be adjusted accordingly or the pasture will receive one of two years rest or a rotation with Indian Springs Pasture. Small

exclosures (consider satellite "pixel"-compatible size) would be constructed as comparison areas where no grazing would occur.

Rock Creek Riparian Area Field (Portion east of Rock Creek Gorge*)

Key Area RC-14 (DI-T-88-34) – Ivanhoe Creek - Deer intermediate range and pronghorn summer range, sage grouse nesting/early brood-rearing habitat. Loamy 10-12" P.Z. Ecological Site. Potential vegetative composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. June 25, 1994 (latest) composition at mid seral status (43 numerical rating) was 14% grasses (includes 2% cheatgrass), 0.1% forbs and 86% shrubs. 1994 followed the banner 1992 fall-1993 winter precipitation year.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Maintain satisfactory age and form class of basin big sagebrush as measured by Cole Browse Method.
- % foliar cover of shrubs at 8-20%**.
- Provide sage grouse lateral nesting cover***.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall" genera species****.
- Maintain or achieve at least late seral (51 or higher numerical rating) status of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" native forbs*****.
- Management that does not result in cheatgrass over 2% composition with efforts to reduce it to 1% or less*****.
- Satisfactory soil percolation tests compatible with predominate ecological site(s) measured after any spring grazing period******.

*A second key area would be considered, as deemed necessary, on the west side of Rock Creek within the Field on a representative site.

**Key area was within 2001 Hot Lake Fire perimeter and was included in perimeter of post-fire rehabilitation seeding of Wyoming big sagebrush, basin big sagebrush, forage kochia and Western yarrow. Shrub foliar cover is expected to measure above 10% by Year 2015 with respect to recovery potential of the affected ecological site.

*** See Willow Creek Field above

****Representation by "tall genera" grasses such as bluebunch wheatgrass and Great Basin wildrye (important as nesting cover) within the "allowable" 15-25% range is likely and would help meet this objective in the long term.

*****This objective is attainable with potential flush of native perennial herbaceous vegetation after the 2001 Hot Lake Fire if key area was, indeed, burned in part, or in entirety; however, any increase in cheatgrass above 1994 composition could compromise objectives.

******Area was affected by the 2001 Hot Lake Fire. Follow-up monitoring will be completed to ensure that seeded species, native plant species, and soils/soil hydrology on seeded/burned areas are not impacted per BLM-specified sampling protocol. If seeded species and soils are being impacted, carrying capacities and stocking rates might be adjusted accordingly or the pasture will receive one of two years rest on a rotation with adjacent pasture(s). A small exclosure (consider satellite "pixel"-compatible size) would be considered as a comparison area where no grazing would occur.

Lower Squaw Creek Field

Proposed New Key Area –Deer intermediate range, pronghorn summer range, sage grouse nesting/early brood-rearing habitat. Loamy 8-10" P.Z. ecological site (approx. 80% of Field). Potential vegetative composition is about 60% grasses, 5% forbs and 35% shrubs. 1980s ecological status inventory indicates that, at ocular sampling points, the area was in mid seral ecological status. A portion of the Field was affected by the 1999 Squaw Fire where no rehabilitation was completed; consider key area within this burn area to ensure natural rehabilitation to a semblance ("upper" mid seral status)* of potential native community.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Maintain satisfactory age and form class of Wyoming big sagebrush and basin big sagebrush as measured by Cole Browse Method.
- % foliar cover of shrubs at 5-15%**.
- Provide sage grouse lateral nesting cover***.
- Provide a minimum of 15% basal cover of native perennial grasses****.
- Maintain or achieve at least "upper" (40-50 numerical rating) mid seral status of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs*.
- Management that does not result in cheatgrass domination above baseline values with efforts to reduce it to 1% or less.
- Satisfactory soil percolation tests compatible with predominate ecological site(s) measured after given grazing period*****.

* The Ecological Status write-up and Ecological Site Description includes present versus allowable percentages of forbs, grasses and shrubs. This helps to provide for plant diversity where percentages are allowable compared to where present percentage might only solely include disturbance-associated forbs such as Hood's phlox, as an example. Therefore, Hood's phlox would only be allowed two percentage points versus any larger percentage which would not represent a semblance of the potential diversity on the site.

**Shrub foliar cover is not expected to measure above 15% by Year 2015 with respect to inherent slow recovery of the affected ecological site if key area is established within the Squaw Fire burn area; additional intensive seeding/seedling transplant efforts might otherwise help. Management that results in establishment/maintenance of perennial grasses and forbs help provide interspace areas for shrub establishment.

*** See Willow Creek Reservoir Field above.

****Sandberg bluegrass and bottleneck squirreltail was observed in the understory in summer 2001 on the Squaw Fire burn area and periphery of the burn area; however, cheatgrass was present and any moderate densities could compromise long term composition of perennial grass, forb and shrub species.

*****Area was affected, in part, by the 1999 Squaw Fire. Follow-up monitoring will be completed to ensure that native plant species, and soils/soil hydrology on burned areas are not impacted per BLM-specified sampling protocol. If seeded species and soils are being impacted, carrying capacities and stocking rates might be adjusted accordingly or the pasture will receive one of two years rest or a rotation with adjacent pasture(s). A small exclosure (consider satellite "pixel size) would be considered as a comparison area where no grazing would occur.

Willow Creek South (Proposed long-term field)

1. Key Area RC-09 – Antelope Spring - Deer intermediate range and pronghorn summer range, and sage grouse nesting/early brood-rearing habitat. Loamy 10-12" P.Z. Ecological Site. Potential vegetative composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. July 15, 1994 (latest) composition at mid seral status (46 numerical rating) was 48% grasses (includes 2% cheatgrass), 7% forbs and 45% shrubs. 1994 followed the banner 1992-1993 winter precipitation year.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Maintain satisfactory age and form class of Wyoming big sagebrush as measured by Cole Browse Method.

- Provide sage grouse lateral nesting cover*.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall" genera species**.
- % foliar cover of shrubs at 8-15%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs****.
- Manage in a manner that does not result in cheatgrass over 2% composition with efforts to reduce it to 1% or less.

* See Willow Creek Field above.

**Representation by "tall genera" grasses such as bluebunch wheatgrass and Great Basin wildrye (important as nesting cover) is attainable in the short and long term per 1994 monitoring.

***This objective is attainable with high mid seral rating noted during 1994; however, any increase in cheatgrass above 1994 composition could compromise objectives. See Squaw Valley Field footnote above regarding allowable forbs.

2. New Browse Transect/Key Area [DI-SV-15-(YEAR)] Between Big Butte and Hot Creek Spring – in vicinity of T38N, R48E, section 15, --Deer intermediate range and pronghorn summer range, and sage grouse nesting/early brood-rearing/winter habitat. Big sagebrush-bitterbrush vegetation type. Loamy Slope12-16" P.Z. Ecological Site. Potential vegetative composition (air dry weight) is about 60% grasses, 15% forbs and 25% shrubs. 1980s ecological status inventory indicates that, at ocular sampling points, the area was in late seral ecological status.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush will not exceed 50% (25% livestock during 5/1 to 10/14 and 25% big game during 10/15 to 5/1.
- Maintain age and form class of bitterbrush in satisfactory condition or improve to satisfactory condition.
- Provide sage grouse lateral nesting cover*.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs.

*See Willow Creek Reservoir Field above.

Soldier Field

New Browse Transect/Key Area [DI-SV-16-(YEAR)] Between Coyote Creek and Little Rock Creek in vicinity of T40N, R48E, section 16 SW or 21NW - Deer intermediate range and pronghorn summer range, sage grouse nesting/brood-rearing habitat. Consider areas higher in elevation, as deemed necessary, to select representative site in vicinity of T40N, R48E, section 8 and 9. Big sagebrush-bitterbrush vegetation type. Loamy Slope10-12" P.Z. Ecological Site. Potential vegetative composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. (1980s ecological status inventory indicates that, at ocular sampling points, the area was in late seral ecological status. Trend is undetermined at this time in light of present livestock management, severe to extreme drought from 1999-2003, and wild horse issues in various states of resolve.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush will not exceed 50% (25% livestock during 5/1 to 10/14 and 25% big game during 10/15 to 5/1 on deer intermediate range.
- Maintain age and form class of bitterbrush in satisfactory condition or improve to satisfactory condition.
- Provide sage grouse lateral nesting cover*.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall genera" species.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs.

*See Willow Creek Reservoir Field above.

Frazer Creek Riparian Field

Establish a browse utilization transect/key area on Loamy 10-12" P.Z. Ecological Site characterized by the big sagebrush/bitterbrush vegetation type. Consider area in the vicinity of Scraper Springs Creek in the vicinity of T40N, R47E, section 15. At a minimum, collect bitterbrush utilization data and age and form class condition data within mule deer summer range, pronghorn summer range and sage grouse nesting habitat. Potential vegetative composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. (1980s ecological status inventory indicates that, at ocular sampling points, the area was in mid seral to late seral ecological status. Trend is undetermined at this

time in light of livestock management since the 1980s , severe to extreme fifth-year drought from1999-2003, overall 2001 Buffalo Fire effects and livestock closure, and wild horse issues in various states of resolve.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush will not exceed 50%.
- Maintain age and form class of bitterbrush in satisfactory condition or improve to satisfactory condition.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall genera" species.
- Provide for lateral sage grouse nesting cover*
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs **.

* See Willow Creek Reservoir Field above.

**Ecological site maintenance or improvement should be noted in concert with livestock grazing system proposed to improve riparian habitat, and ongoing resolution of wild horse issues.

Upper Willow Creek Habitat Enhancement Plan (UWCHEP) area[1]

1. **Key Areas Number 1 and Number 2**

Upper Nelson Field[2]: Deer intermediate range, pronghorn summer range and sage grouse nesting habitat. Low sagebrush vegetation type. Claypan 12-16" P.Z. Ecological Site[3]. Potential vegetative composition is about 60% grasses, 15% forbs and 25% shrubs by air dry weight. 1980s ocular/quantified ecological status inventory indicated that the ecological site was in late seral ecological status at specified ocular sampling points adjoining Nelson Field with the potential for same within Nelson Field. Trend in the area is undetermined at this time in light of livestock management within the area since this time coupled with severe to extreme drought from 1999 to 2003.

Short Term (by spring 2007) maintain, or make progress towards, and Long Term -Phase I (by spring 2015) and Long Term - Phase II (summer 2015 to life of Barrick Betze Project dewatering) achieve the following:

- Maintain satisfactory age and form class of low sagebrush as measured by Cole Browse Method.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall" genera species with height greater than seven inches[4].
- % foliar canopy cover of shrubs not to exceed 20-25% with no less than 8-10%.
- % foliar canopy cover of shrubs on any shrub manipulation areas: 8-10% or less[5].
- Improve to, or maintain, at least late seral status (numerical rating of 51) of ecological site with at least 10% "allowable" native forbs[6] as indicated by forage production monitoring; or 10% basal cover[7] as indicated by point intercept monitoring.

[1] Per post-allotment evaluation meetings between BLM and DeLoyd Satterthwaite (at-the-time livestock permittee), Barrick Goldstrike representatives, and Nevada Division of Wildlife personnel; January 2003 Supplemental Environmental Impact Statement (SEIS) – Betze Project Record of Decision; and follow-up meetings with by Cedar Creek (Barrick consultants) for key area establishment: New key areas established in enhancement area to monitor mule deer transitional range and sage grouse nesting habitat. Establish Desired Plant Community objectives.

[2] January 2003 SEIS – Betze Project, Appendix B, Page 9 incorrectly mentions Key Area Number 1 as being located in Lower Nelson Field.

[3] Per ocular comparison of ecological status maps, ecological site description, February 2002 Upland Evaluation write-ups for 2001 baseline by Cedar Creek Associates (Barrick's contractor) and their key area photos.

[4] Sage Grouse Nesting Cover: Representation by "tall genera" grasses such as bluebunch wheatgrass and Idaho fescue (important as nesting cover) within "allowable" (see below) 25-35% range would help meet this objective in the Long Term –Phase I. The contractor's 2001 baseline monitoring indicates that this should be attainable. Provide for a minimum of seven inches "droop height" of lateral perennial grass herbaceous cover on an annual basis as measured at key areas during the May to early June nesting period. Herbaceous cover includes residual cover from prior year(s) and any new current year's growth. Note that these height values, coupled with above mentioned basal cover values, help to provide lateral nesting cover relative to shrub foliar cover values for given vegetation type.

[5] Ecological site dynamics maintenance or improvement should be noted in concert with livestock grazing system proposed to improve riparian habitat. However, potential short, mid and long term management actions coupled with grazing system could improve cover, and forage availability and diversity: 1) Mosaic shrub manipulation by prescribed fire or mechanical methods or other means to allow native release, or low ground impact interseeding of native "tall genera" grasses (e.g. bluebunch wheatgrass, Snake River wheatgrass and Great Basin wildrye) and native forbs, could be completed as deemed necessary. Compare with recent 2002 "small" wildfire burn on Nelson Field for any potential to improve herbaceous cover, and forage diversity and availability on similar ecological site.

[6]The Ecological Status write-up and Ecological Site Description includes present versus allowable percentages of forbs. This helps to provide for forb diversity where percentages are allowable compared to where present percentage might only solely include disturbance-associated forbs such as Hood's phlox, as an example. Therefore, Hood's phlox would only be allowed two percentage points versus any larger percentage which would not represent a semblance of the potential diversity on the site.

[7]Measured as basal cover of forbs per BLM-adopted monitoring techniques and scientific research, and mentioned as "10% canopy cover" in *Management Guidelines for Sage Grouse and Sagebrush Ecosystems in Nevada, October 2000* – BLM, Nevada.

2. **Key Area Number 3**

Lower Nelson Field: Collect bitterbrush, serviceberry and low sagebrush age and form class condition data within mule deer transitional (intermediate) habitat and sage grouse nesting habitat with the following objectives:

Short Term (by spring 2007) maintain, or make progress towards, and Long Term -Phase I (by spring 2015) and Long Term - Phase II (summer 2015 to life of Barrick Betze Project dewatering) achieve the following:

Maintain age and form class of bitterbrush, serviceberry and low sagebrush in satisfactory condition or improve to satisfactory condition*. Complete this action by: Utilization of current year's growth of bitterbrush will not exceed 50% (25% livestock during 5/1 to 10/14 and 25% big game during 10/15 to 5/1.

<u>*Define Satisfactory Age and Form Class Per BLM Technical Manual 4400-3 and BLM Form 6630-3:</u>

Age Class: When the sum of seedlings (basal stems 1/8" or less in diam.) and young plants (basal stems 1/8" to 1/2" in diam.) in the sample (25 to 50 plants) outnumber decadent plants, the key browse species age class is satisfactory at the monitoring site.

Form Class: When the two-year-old growth (the previous year's leaders) of mature, seedling, young, respouting, and decadent (>50% of the canopy area dead) plants in the sample (25 to 50 plants) reflect less than 50% utilization (41-60% utilization class interval), and outnumber severely hedged (61% or more utilization of two-year-old growth), unavailable (at least 50% of crown out of reach of cattle and big game), and dead plants, the key browse species form class is satisfactory at the monitoring site.

Further considerations regarding key browse form class per interpretation of BLM Technical Manual 4400-3 - Browse plants are considered to reflect the normal growth form when less than 50 percent of the two-year-old growth (the previous year's leaders) has clipped ends and the majority of the current leaders extend directly from terminal buds off two-year-old wood. Alterations from the normal growth form are reflected when 50 percent or more of the two-year-old wood has clipped ends. Current leaders occur mostly as extensions from lateral buds off two-year-old wood in the moderately hedged condition or as clumped lateral and/or adventitious sprouts in the severely hedged condition.

3. Key Area Number 4
Upper Nelson Field:

Quaking Aspen Objectives for deteriorated stand identified and monitored as a baseline by Cedar Creek Associates (Barrick contractors) per January 2003 SEIS – Betze Project Record of Decision:

Short Term (by spring 2007) and Long Term (by spring 2015)
Improve young aspen age class recruitment by increasing the number of single-stemmed saplings[1] by at least 10% above baseline values per acre in deteriorating[2] stands.

Short Term (by spring 2007 or three years after implementation of baseline transects):
Improve* young age class recruitment by making significant progress toward an equivalent of at least 850 single-stemmed saplings[1] per acre in deteriorating[2] stands identified in 2001 with overstory canopy cover class[3] of 20% or less.

Long Term –Phase I (by spring 2015) and Long Term – Phase II (summer 2015 to
Maintain* young age class recruitment by allowing an equivalent of at least 850 single-stemmed saplings[1] per acre in deteriorating stands identified in 2001 with a post-2002 overstory canopy cover class[3] of 20% or less.

* Short term improvement of identified deteriorating stands and long-term maintenance of young age class recruitment in identified deteriorating stands would take in consideration

site potential, disease and natural mortality factors, and potential need for disturbance treatments (to stimulate recruitment) and/or fencing.

[1] Saplings, as mentioned for these objectives, are defined as single-stemmed aspen that are at least 4.9 feet in height and less than 3.9 inches in diameter at breast height (4.5 feet). The sapling definition for these objectives take in consideration a minimum height needed to help allow terminal growth out of reach of browsing animals which is 0.5-foot higher than saplings defined by Natural Resource Conservation Service (NRCS) ecological site descriptions for aspen woodland sites on the allotment. The maximum diameter (less than 3.9 inches) at breast height for saplings is considered because stems less than 3.9 inches in diameter usually constitute reproduction while larger stems usually contribute to the overstory.

[2] Deteriorating stands, as mentioned for these objectives, include those existing stands in immature, mature, and overmature woodland successional stages as defined by NRCS range site descriptions, with (1) an open canopy (10% or less canopy cover class), (2) abnormally large amounts of aspen residue (standing or fallen), and (3) sagebrush invasion. A deteriorating stand was identified in the 2001 field season by Cedar Creek Associates.

[3] Canopy cover class of 20% or less, as mentioned for this objective, is expressed as the percent cover class where young age class recruitment is less likely to be influenced by competition by older age class aspen in immature, mature, and overmature stands.

Aspen recruitment studies: Density of single-stemmed saplings sampled in fixed 1/100-acre circular plots (5-10 plots per stand) 2X30-meter belt transects, or other standardized forestry methodology.

3. Spanish Ranch Allotment existing/proposed key areas and key area objectives:

Spanish Ranch Allotment
Existing Key Areas:

Key Area Location	Utilization Objective
All key areas on native range	Average of 50% of current year's growth on native grass key species, not to exceed 55% in any one year

Burner Hills Field

Key Area RC-13 (AS-T-88-37) – Mint Mine area, established in 1988. Pronghorn summer range and sage grouse nesting/early brood rearing habitat. Loamy 8-10" P.Z. ecological site. Potential vegetative composition is about 60% grasses, 5% forbs and 35% shrubs by air dry

weight. 1994 (latest) composition was rated at mid seral status ("fair" condition with numerical rating at 37) with 51% grasses (including 33% cheatgrass), 3% forbs and 46% shrubs. 1994 followed the banner 1992-1993 winter precipitation year.

Short Term (by spring 2007) maintain, or make progress towards, and Long Term (by spring 2015) achieve the following:

- Maintain satisfactory age and form class of Wyoming big sagebrush as measured by Cole Browse Method.
- % foliar canopy cover of shrubs not to exceed 15% with no less than 8-10%*.
- Provide a minimum of 15% basal cover of native perennial grasses**.
- Provide lateral sage grouse nesting cover***.
- Maintain or achieve at least "upper" mid seral status of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" native forbs****.
- Management that does not result in cheatgrass over 1% composition by cover with efforts to reduce it to less than 1% (0.94% in 1988)*****.

*Shrub foliar cover was 11.8% in 1988 (latest).

**Basal cover of perennial grasses was 4.1% in 1988. An increase in "tall genera" grasses such as bluebunch wheatgrass and Thurber's needlegrass (important as nesting cover) is not likely in the long term although they are part of the potential species on site. These species were not sampled during 1994 forage production and might only exist in scattered areas/tucked under brush in the Burner Hills Field. However, squirreltail (7% of composition), Sandberg's bluegrass (11% of composition) and Great Basin wildrye [Less than 1% (Trace) of composition] were sampled.

*** Sage Grouse Nesting Cover: Provide for a minimum of seven inches average "droop height" of native perennial grass herbaceous cover on an annual basis as measured at key areas during the May to early June nesting period. This herbaceous cover includes residual cover from prior year(s) and any new current year's growth. Note that these height values, coupled with above mentioned basal cover values help to provide lateral nesting cover relative to shrub foliar cover values for given vegetation type.

**** The allowable forb percentages sampled in 1994 was 3%. The Ecological Status write-up and Ecological Site Description includes present versus allowable percentages of forbs. This helps to provide for forb diversity where percentages are allowable compared to where present percentage might only solely include disturbance-associated forbs such as Hood's phlox, as an example. Therefore, Hood's phlox would only be allowed two percentage points versus any larger percentage which would not represent a semblance of the potential diversity on the site. The 5-10% allowable forbs should be attainable in "upper" mid seral to late seral ecological status.

*****The 33% composition by air dry weight sampled in 1994, as part of forage production monitoring, is a concern. Restoration work to reduce cheatgrass composition and increase composition of native perennial species through seeding efforts could be completed as this type of work is prioritized on the allotment in concert with a grazing system that would help maintain or improve the composition and diversity of native grasses.

New Wildlife/Range Transect/Key Area [SR-BH-#-YEAR] West of Soldier Cap between Scraper Springs Road and headwaters of Chimney Creek in vicinity of public lands in T40N, R47E, sections 1 and 2. Deer and pronghorn summer range and sage grouse nesting/early brood-rearing habitat. Loamy Slope10-12" P.Z. Ecological Site - Big sagebrush-montane shrub (including bitterbrush) vegetation type. Potential vegetative composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. 1980s ecological status inventory indicates that the area was in mid seral ecological status as monitored at ocular sampling points. Trend is undetermined at this time in light of present livestock management*, 1994 Mahogany Fire, severe to extreme drought from 1999-2003, and major wild horse issues in various states of resolve.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush/serviceberry will not exceed 50% on pronghorn summer range.
- Maintain age and form class of bitterbrush/serviceberry in satisfactory condition or improve to satisfactory condition.
- Provide sage grouse lateral nesting cover**.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall genera" species.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs**.

*Livestock permittee has stated that cattle have not been intentionally moved to the area due to excessive wild horse numbers during the past five years (1999-2003) although cattle have "drifted" into the area from surrounding areas during this time.

**See Burner Hills Field Key Area RC-13 footnotes above.

Winters Creek Field

New Wildlife/Range Transect/Key Area [SR-WC-#-YEAR] Between Threemile Creek and Winters Creek in vicinity of T41N, R48E, section 10 S1/2 or 15N1/2. Pronghorn summer range and sage grouse nesting/early brood-rearing habitat. Consider areas higher in

elevation, as deemed necessary, to select representative site. Loamy Slope10-12" P.Z. Ecological Site - Big sagebrush-montane shrub (including bitterbrush) vegetation type. Potential vegetative composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. 1980s ecological status inventory indicates that the area was in late seral ecological status, as monitored at ocular sampling points. Trend is undetermined at this time in light of present livestock management, 1994 Mahogany Fire, severe to extreme drought from 1999-2003, and major wild horse issues in various states of resolve.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush/serviceberry will not exceed 50% on pronghorn summer range.
- Maintain age and form class of bitterbrush/serviceberry in satisfactory condition or improve to satisfactory condition.
- Provide sage grouse lateral nesting cover*.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall genera" species.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs*.

*See Burner Hills Field Key Area RC-13 footnotes above.

Red Cow Field

New Wildlife/Range Transect/Key Area [SR-RC-#-YEAR] Between Fourmile Creek and Amazon Creek in vicinity of T41N, R49E, section 2SW or 3SE. Pronghorn summer range, deer summer range, and sage grouse nesting/early brood-rearing habitat. Consider areas higher in elevation, as deemed necessary, to select representative site. Loamy Slope10-12" P.Z. Ecological Site - Big sagebrush-montane shrub (including bitterbrush) vegetation type. Potential vegetative composition (air dry weight) is about 65% grasses, 10% forbs and 25% shrubs. 1980s ecological status inventory indicates that the area was in late seral ecological status as monitored at ocular sampling points. Trend is undetermined at this time in light of present season-long livestock use, severe to extreme drought from 1999-2003, and wild horse issues in various states of resolve.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush/serviceberry will not exceed 50% on pronghorn summer range.
- Maintain age and form class of bitterbrush/serviceberry in satisfactory condition or improve to satisfactory condition.

- Provide sage grouse lateral nesting cover*.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall genera" species.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs*.

*See Burner Hills Field footnotes above.

Big Cottonwood Uplands Field

1. **Key Area RC-04 (CDS-T-88-31)** Six Mile – Crucial deer summer range and sage grouse nesting/early brood-rearing habitat. Big sagebrush-bitterbrush vegetation type. Loamy Slope 12-14" P.Z. Ecological Site. Potential vegetative composition (air dry weight) is about 70% grasses, 10% forbs and 20% shrubs. 1994 (latest) composition was rated at mid seral status (numerical rating at 39) with 20% grasses (including 2% cheatgrass), 5% forbs and 74% shrubs (under 100% due to rounding). 1994 followed the banner 1992-1993 winter precipitation year. Trend is undetermined at this time in light of present season-long livestock use and severe to extreme drought from 1999-2003.

   Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

   - Utilization of current year's growth of bitterbrush will not exceed 50%.
   - Maintain age and form class of bitterbrush in satisfactory condition or improve to satisfactory condition.
   - Provide sage grouse lateral nesting cover*.
   - Provide a minimum of 15% to 18% basal cover of native perennial grasses with emphasis on representation of "tall genera" species.
   - % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
   - Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs*.

   *See Burner Hills Field Key Area RC-13 footnotes above.

Proposed Key Area/Browse Transect between Red Cow Creek and Big Cottonwood Creek Headwater area: Establish a key area in the vicinity of T41N, R50E, sections 33 and 34. Mountain brush vegetation type. Loamy Slope 16+ P.Z. Ecological Site. Potential vegetative composition is about 50% grasses, 15% forbs and 35% shrubs and trees by air dry weight. 1980s ecological status inventory indicates that the area was in Potential Native Community (PNC) at specified ocular sampling points. Trend is undetermined at this time in light of season-long livestock use, severe to extreme drought from 1999 to 2003 and wild horse issues in various stages of resolve.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following*:

- Utilization of current year's growth of serviceberry/chokecherry will not exceed 50%.
- Maintain age and form class of serviceberry/chokecherry/bitterbrush in satisfactory condition or improve to satisfactory condition.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Provide a minimum of 15% to 18% basal cover of native perennial grasses.
- Maintain or achieve Potential Native Community status (75 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" native forbs*.

*See Burner Hills Field Key Area RC-13 footnotes above.

Cornucopia Field

Key Area RC-12 (CDW-2-T-04) Cornucopia Ridge – Deer intermediate range and sage grouse nesting/early brood-rearing habitat. Big sagebrush-bitterbrush vegetation type. Loamy Slope12-16" P.Z. Ecological Site. Potential vegetative composition (air dry weight) is about 60% grasses, 15% forbs and 25% shrubs. July 1994 forage production monitoring indicates that the area was in mid seral ecological status. 1994 followed the banner 1992-93 winter precipitation year.

Short Term (by spring 2007) maintain, or make progress towards, and Long-Term (by spring 2015) achieve the following:

- Utilization of current year's growth of bitterbrush will not exceed 50% (25% livestock during 5/1 to 10/14 period and 25% big game during 10/15 to 5/1 period.
- Maintain age and form class of bitterbrush in satisfactory condition or improve to satisfactory condition.
- Provide sage grouse lateral nesting cover*.

- Provide a minimum of 15% to 18% basal cover of native perennial grasses.
- % foliar canopy cover of shrubs not to exceed 30% with no less than 8-10%.
- Maintain or achieve at least late seral status (51 numerical rating) of ecological site as indicated by forage production monitoring with at least 5-10% "allowable" perennial forbs*

*See Burner Hills Field Key Area RC-13 footnotes above

All Fields on Squaw Valley and Spanish Ranch Allotments where Quaking Aspen Occurs (except Upper Willow Creek Habitat Enhancement Plan area as described above), as deemed necessary:

Quaking Aspen Objectives for deteriorated stand identified and monitored on the Squaw Valley and Spanish Ranch Allotments, as deemed necessary:

Short Term (by three years after implementation of baseline transects) and Long Term (by 12 years after implementation of baseline transects):
Improve young aspen age class recruitment by increasing the number of single-stemmed saplings[1] by at least 10% above baseline values per acre in deteriorating[2] stands.

Short Term (three years after implementation of baseline transects):
Improve* young age class recruitment by making significant progress toward an equivalent of at least 1,500 single-stemmed saplings[1] per acre in deteriorating[2] stands identified in 2001 with overstory canopy cover class[3] of 20% or less.

Long Term –Phase I (by 12 years after implementation of baseline transects) and LongTerm – Phase II (12 years or later after implementation of baseline transects)
Maintain* young age class recruitment by allowing an equivalent of at least 1,500 single-stemmed saplings[1] per acre in deteriorating stands identified in baseline transects with a post-baseline overstory canopy cover class[3] of 20% or less.

* Short term improvement of identified deteriorating stands and long-term maintenance of young age class recruitment in identified deteriorating stands would take in consideration site potential, disease and natural mortality factors, and potential need for disturbance treatments (to stimulate recruitment) and/or fencing.

[1] Saplings, as mentioned for these objectives, are defined as single-stemmed aspen that are at least seven feet in height and less than 3.9 inches in diameter at breast height (4.5 feet). The sapling definition for these objectives take in consideration a minimum height needed to help allow terminal growth out of reach of browsing animals which is 2.5-feet higher than saplings defined by Natural Resource Conservation Service (NRCS) ecological site descriptions for aspen woodland sites on the allotment. The maximum

diameter (less than 3.9 inches) at breast height for saplings is considered because stems less than 3.9 inches in diameter usually constitute reproduction while larger stems usually contribute to the overstory. Sapling height and density recommendations per Dr. Charles Kay's December 2002 report to BLM Battle Mountain and Elko Field Office entitled *Aspen Management Guidelines For BLM Lands in North-Central Nevada.*

[2] Deteriorating stands, as mentioned for these objectives, include those existing stands in immature, mature, and overmature woodland successional stages as defined by NRCS range site descriptions, with (1) an open canopy (10% or less canopy cover class), (2) abnormally large amounts of aspen residue (standing or fallen), and (3) sagebrush invasion.

[3] Canopy cover class of 20% or less, as mentioned for this objective, is expressed as the percent cover class where young age class recruitment is less likely to be influenced by competition by older age class aspen in immature, mature, and overmature stands.

Aspen recruitment studies: Density of single-stemmed saplings sampled in fixed 1/100-acre circular plots (5-10 plots per stand), 2X30-meter belt transects*, or other standardized forestry methodology. The samplings should be evenly distributed throughout an entire aspen stand or clone*.

* Per methods described by Dr. Charles Kay in his December 2002 report to BLM Battle Mountain and Elko Field Office entitled *Aspen Management Guidelines For BLM Lands in North-Central Nevada* available from BLM Elko Field Office.

Wildlife:

4. Improve to and/or maintain all seasonal big game habitat to good or excellent condition at existing key area monitoring locations (or additional key area monitoring locations selected in consultation with affected interests), except where Desired Plant Community objectives have been developed to achieve multiple use objectives, to provide forage and habitat capable of supporting the following reasonable numbers:

4,181	Mule deer (5,015 AUMs)
56	Pronghorn antelope (101 AUMs)

Riparian:

5. Manage grazing on the following streams to achieve short and long-term stream/riparian habitat objectives as outlined below:

LOTIC (FLOWING WATER) RIPARIAN HABITATS

Squaw Valley Allotment

Manage grazing to achieve short and long-term stream/riparian habitat objectives as defined in Tables 6, 7, and 8. Note that objectives may be revised at the conclusion of the short and/or long-term evaluation periods.

Streams Not Included in the Upper Willow Creek Habitat Enhancement Plan (UWCHEP)

Table 6. Short and long-term objectives for selected habitat parameters for streams in the Squaw Valley Allotment based on date of implementation of the grazing plan. Data are from stream survey stations (shown in parentheses) located on both public and private land (refer to map 3).

STREAM HABITAT PARAMETER	MOST CURRENT BASELINE DATA	SHORT-TERM OBJECTIVE (4 yrs)[1]	LONG-TERM OBJECTIVE (8 yrs)[2]
Middle Rock Creek - Dominant Rosgen Channel Type: B (S-1 through S-6)			
Riparian Condition Class (% optimum)[3]	57 (2003)	≥60	67 ± 7
Stream width/depth Ratio[4]	22 (2003)	Maintain or decrease	18 ± 5
Shorewater Depth (in.)[4]	1.9 (2003)	Maintain or increase	1.0 ± 0.4
Streambank Angle (°)[4]	131 (2003)	Maintain or decrease	132 ± 11
Ave. Width Type A Riparian Vegetation[5] (ft.)	4.3 (2003)	5.6[6]	Increase in Type A and/or Type B
Functioning Condition	Functional at Risk, trend upward (2003)	Proper Functioning Condition (PFC)	Proper Functioning Condition (PFC)
Upper Rock Creek (upper reach) Dominant Rosgen Channel Type: B (S-1through S-4, SA-1)			
Riparian Condition Class (% optimum)[3]	66 (2003)	Maintain or increase	67 ± 7
Stream width/depth Ratio[4]	15 (2003)	Maintain	18 ± 5
Shorewater Depth (in)[4]	1.3 (2003)	Maintain or increase	1.0 ± 0.4
Streambank Angle (°)[4]	136 (2003)	Maintain or decrease	132 ± 11
Ave. Width Type A Riparian Vegetation[5] (ft.)	7.5 (2003)	9.8[6]	Increase or maintain Type B
Functioning Condition	Proper Functioning Condition (PFC) (2003)	Maintain	Maintain
Upper Rock Creek (lower reach) Dominant Rosgen Channel Type: C (S-5 through S-9)			
Riparian Condition Class (% optimum)[3]	48 (2003)	62	68 ± 4
Stream width/depth Ratio[4]	27 (2003)	≤ 23	18 ± 5
Shorewater Depth (in.)[4]	0 (2003)	Increase	0.7 ± 0.3
Streambank Angle (°)[4]	150 (2003)	≤ 147	139 ± 8
Ave. Width Type A Riparian Vegetation[5] (ft.)	3.8 (2003)	4.9[6]	Increase in Type A and/or Type B
Functioning Condition	Functional at Risk-trend not apparent/ Non-functional (2003)	Functional at risk-upward trend	Proper Functioning Condition (PFC)
Toe Jam Creek (upper reach) Dominant Rosgen Channel Type: B (S-11 through S-14)			
Riparian Condition Class (% optimum)[3]	75 (2003)	Maintain or increase	67 ± 7
Stream width/depth Ratio[4]	23 (2003)	Maintain or decrease	18 ± 5
Shorewater Depth (in.)[4]	0.8 (2003)	Maintain or increase	1.0 ± 0.4
Streambank Angle (°)[4]	140 (2003)	Maintain or decrease	132 ± 11
Ave. Width Type A Riparian Vegetation[5] (ft.)	4.7 (2003)	6.1[6]	Increase in Type A and/or Type B

STREAM HABITAT PARAMETER	MOST CURRENT BASELINE DATA	SHORT-TERM OBJECTIVE (4 yrs)[1]	LONG-TERM OBJECTIVE (8 yrs)[2]
Functioning Condition	Functional at risk, trend not apparent (2003)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)
Toe Jam Creek (lower reach) Dominant Rosgen Channel Type: B (S-1 through S-10)			
Riparian Condition Class (% optimum)[3]	52 (2003)	≥ 60	67 ± 7
Stream width/depth Ratio[4]	28 (2003)	≤ 23	18 ± 5
Shorewater Depth (in)[4]	0.2 (2003)	0.3	1.0 ± 0.4
Streambank Angle (°)[4]	151 (2003)	≤ 143	132 ± 11
Ave. Width Type A Riparian Vegetation[5]	2.6 (2003)	3.4[6]	Increase in Type A and/or Type B
Functioning Condition	Functional at Risk, trend not apparent to downward (2003)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)
Frazer Creek – Domiant Rosgen Channel Type: B (S-1 through S-7)			
Riparian Condition Class (% optimum)[3]	73 (2003)	Maintain or increase	67 ± 7
Stream width/depth Ratio[4]	15 (2003)	Maintain or decrease	18 ± 5
Shorewater Depth (in)[4]	0.7 (2003)	Maintain or increase	1.0 ± 0.4
Streambank Angle (°)[4]	138 (2003)	Maintain or decrease	132 ± 11
Ave. Width Type A Riparian Vegetation[5] (ft.)	7.5 (2003)	9.8[6]	Increase in Type A and/or Type B
Functioning Condition	Functional at Risk, upward trend (2003)	Proper Functioning Condition (PFC)	Proper Functioning Condition (PFC)
Trout Creek – Dominant Rosgen Channel Type: B (S1 through S-6; S-1A through S-3A)			
Riparian Condition Class (% optimum)[3]	56 (2003)	≥ 60	67 ± 7
Stream width/depth Ratio[4]	14 (2003)	Maintain or decrease	18 ± 5
Ave. Width Type A Riparian Vegetation[5] (ft.)	4.7 (2003)	6.1[6]	Increase in Type A and/or Type B
Functioning Condition	Variable (2003)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)
Coyote Creek			
Functioning Condition	Nonfunctional (1999)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)
Soldier Creek			
Functioning Condition	Nonfunctional (1999)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)

[1]Based on 30% improvement over baseline values where applicable.

[2]Based on mean values (± 95% confidence limits) for applicable Rosgen channel types in desired condition (Newman 2001 and Rosgen 1996).

[3]Average of bank cover and bank stability. Optimum is considered to represent stable streambanks well vegetated with tall trees or shrubs (BLM 2002).

[4]Objectives for stream width/depth ratio may not be applicable if the survey area is included within a beaver dam complex. Note also depth measurements are based on average of three measurements.

[5]Canopy cover of riparian shrubs, trees and basal cover of riparian herbaceous vegetation is less than 50% (BLM 2002).

[6] 30% increase over baseline may be in the Type B riparian vegetation (defined as canopy cover of shrubs, trees and basal cover of herbaceous vegetation greater than 50%) (BLM 2002).

Note: Stream survey stations are shown for Lower Willow Creek below the reservoir on map 3. Additional objectives may be established for this area at a future date.

Techniques for measuring stream habitats are described in Aquatic Habitat Inventory and Monitoring Level III Survey Procedures, Level III Survey Procedures, Elko Revised Handbook 6720-1 (BLM 2002). Techniques for determining proper functioning condition of lotic riparian habitats are described in BLM Technical Reference 1737-15 (Prichard et al. 1998). Data are currently averaged by stream but may be averaged by stream segments within pastures if and when additional pasture fences are constructed. For the grazing treatment to be considered successful for a particular stream, the majority (> 50%) of the objectives identified for that stream must be met. Locations of stream survey stations are shown in map 3.

Additional information including pool characteristics, substrate composition, streambank and riparian zone characteristics, ungulate impacts, and water temperatures collected as part of BLM's stream survey protocol will also be used to evaluate the overall effectiveness of the grazing system. Riparian herbaceous stubble heights, woody riparian plant utilization, and streambank trampling will be monitored to document and evaluate grazing impacts. Stubble height and plant utilization will be measured using techniques described in BLM (1996) and in Nevada Rangeland Studies Task Group (1984). Streambank trampling will be determined by measuring the percent of streambank trampled or compacted by livestock along transects established at study sites.

Streams included in the Upper Willow Creek Habitat Enhancement Plan (UWCHEP)

Table 7. Stream habitat improvement criteria for streams included within the Upper Willow Creek Habitat Enhancement Plan (UWCHEP) area (BLM 2003). Stream survey stations are shown in parentheses.

STREAM HABITAT PARAMETERS	2002 BASELINE[1]	CRITERIA[2]
Lewis Creek (S-1: S-4)		
Riparian Condition Class (% optimum)[3]	63	70
Stream width/depth Ratio	15	15:1 or a 30% reduction from baseline, whichever is achieved first
Functioning Condition	TBD* (2003)	Proper Functioning Condition (PFC)
Nelson Creek (S-1: S-4; S-5 excluding T-2)		
Riparian Condition Class (% optimum)[3]	73	70
Stream width/depth Ratio	23	15:1 or a 30% reduction from baseline, whichever is achieved first

STREAM HABITAT PARAMETERS	2002 BASELINE[1]	CRITERIA[2]
Functioning Condition	TBD (2003)	Proper Functioning Condition (PFC)
Upper Willow Creek (S-1 : S-5)		
Riparian Condition Class (% optimum)[3]	46	65
Stream width/depth Ratio	29	15:1 or a 30% reduction from baseline, whichever is achieved first
Functioning Condition	TBD (2003)	Proper Functioning Condition (PFC)

[1]Refer also to Viert (2002) for additional information on baseline values for stream width to depth ratios.
[2]Under the UWCHEP, criteria shown must be attained prior to reauthorization of grazing following exclusion of livestock in 2004.
[3]Average of bank cover and bank stability. Optimum is considered to represent stable streambanks well vegetated with tall trees or shrubs (BLM 2002).
*TBD=To be determined

Monitoring techniques for streams within the UWCHEP are the same as those described for streams in Table 6.

Under provisions of the UWCHEP, additional habitat parameters will be monitored on Lewis, Nelson, and Upper Willow Creeks to evaluate the overall effectiveness of the grazing system. These parameters along with monitoring methods are shown in Table 6.

Table 8. Additional stream and riparian habitat monitoring parameters and methods for streams included within the UWCHEP area (BLM 2003).

MONITORING PARAMETER	METHODOLOGY
Riparian Zone Width	Elko Revised Handbook 6720-1 (BLM 2002)
Vegetation cross-section composition, greenline composition, woody riparian species regeneration	U. S. Forest Service Gen. Tech. Report RMS-GTR-47 (Winward 2000)
Temperature	Thermographs
Photography	Elko Revised Handbook 6720-1 (BLM 2002)
Vegetative Overhang	Elko Revised Handbook 6720-1 (BLM 2002)
Pool Quality	Elko Revised Handbook 6720-1 (BLM 2002)

Manage grazing to achieve short and long-term stream/riparian habitat objectives as defined in Tables 9.

Table 9. Short and long-term objectives for selected habitat parameters for streams in the Spanish Ranch Allotment based on date of implementation of the grazing plan. Data are from stream survey stations (shown in parentheses) located on public land (refer to map 3).

STREAM HABITAT PARAMETER	MOST CURRENT BASELINE DATA	SHORT-TERM OBJECTIVE (4 yrs)[1]	LONG-TERM OBJECTIVE (8 yrs)[2]
Red Cow Creek - Dominant Rosgen Channel Type: B (S-1,S-2, S-5, S-6,S-7, S-8, S-10, S-11)			
Riparian Condition Class (% optimum)[3]	49	≥64	68 ± 4
Stream width/depth Ratio[4]	32	≤23	18 ± 5
Shorewater Depth (in)[4]	0.10	Maintain or increase	0.7 ± .3
Streambank Angle (°)[4]	157	≤ 147	139 ± 8
Ave. Width Type A Riparian Vegetation[5] (ft.)	3.3	4.3[6]	Increase in Type A and/or Type B
Functioning Condition	Non-functional (2000)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)
Chino (Fourmile) – Rosgen B Channel Type (S-7, S-9)			
Riparian Condition Class (% optimum)[3]	52 (1992)	≥ 60	67 ± 7
Stream width/depth Ratio[4]	30 (1992)	≤ 23	18 ± 5
Functioning Condition	Functional at Risk, downward trend (2002)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)
Big Cottonwood Canyon – Dominant Rosgen Channel Type: B (S-2, S-3, S-8)			
Riparian Condition Class (% optimum)[3]	41	53	67 ± 7
Stream width/depth Ratio[4]	28	≤ 23	18 ± 5
Shorewater Depth (in)[4]	0	Increase	1.0 ± 0.4
Streambank Angle (°)[4]	156	≤143	132 ± 11
Ave. Width Type A Riparian Vegetation[5]	5.0	6.5[6]	Increase in Type A and/or Type B
Functioning Condition	Non-functional (1999)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)
Winter's Creek – (establish stream survey stations on public land)			
Riparian Condition Class (% optimum)[3]	TBD*	TBD	TBD
Stream width/depth Ratio[4]	TBD	TBD	TBD
Ave. Width Type A Riparian Vegetation[5]	TBD	TBD[6]	Increase in Type A and/or Type B
Functioning Condition	TBD	TBD	Proper Functioning Condition (PFC)
Sixmile Canyon Creek Dominant Rosgen Channel Type: B (S-2, S-3, S-4, S-5)			
Riparian Condition Class (% optimum)[3]	60 (2002)	Maintain or increase	67 ± 7
Functioning Condition	Functional at risk, trend not apparent (83%) PFC (17%) (1999)	Functional at Risk, upward trend/Proper Functioning Condition (PFC)	Proper Functioning Condition (PFC)
Hot Creek	Nonfunctional (1999)	Functional at Risk, upward trend	Proper Functioning Condition (PFC)

[1]Based on 30% improvement over baseline values where applicable.

[2]Based on mean values (± 95% confidence limits) for applicable Rosgen channel types in desired condition (Newman 2001 and Rosgen 1996).

[3]Average of bank cover and bank stability. Optimum is considered to represent stable streambanks well vegetated with tall trees or shrubs (BLM 2002).

[4]Objectives may not be applicable if the survey area is included within a beaver dam complex.
[5]Canopy cover of riparian shrubs, trees and basal cover of riparian herbaceous vegetation is less than 50% (BLM 2002).
[6] 30% increase over baseline may be in the Type B riparian zone width defined as canopy cover of shrubs, trees and basal cover of herbaceous vegetation greater than 50% (BLM 2002).
[7]Type A riparian width or show shift to Type B riparian width.
*TBD=To be determined.

Techniques for measuring stream habitats are described in Aquatic Habitat Inventory and Monitoring Level III Survey Procedures, Level III Survey Procedures, Elko Revised Handbook 6720-1 (BLM 2002). Techniques for determining proper functioning condition of lotic riparian habitats are described in BLM Technical Reference 1737-15 (Prichard et al. 1998). Data are currently averaged by stream but may be averaged by stream segments within pastures if and when additional pasture fences are constructed. For the grazing treatment to be considered successful for a particular stream, functioning condition objectives as well as majority (> 50%) of the stream and riparian habitat objectives identified for that stream must be met. For example, if objectives for functioning condition, riparian condition class, stream width to depth ratio, and shorewater depth are met, but objectives for width of type A riparian vegetation and streambank angle are not met, the grazing treatment will still be considered successful for that stream. Locations of stream survey stations are shown in map 3.

Additional information including pool characteristics, substrate composition, streambank and riparian zone characteristics, ungulate impacts, and water temperatures collected as part of BLM's stream survey protocol will also be used to evaluate the overall effectiveness of the grazing system. Riparian herbaceous stubble heights, woody riparian plant utilization, and streambank trampling will be monitored to document and evaluate grazing impacts. Stubble height and plant utilization will be measured using techniques described in BLM (1996) and in Nevada Rangeland Studies Task Group (1984). Streambank trampling will be determined by measuring the percent of streambank trampled or compacted by livestock along transects established at study sites.

LENTIC (STANDING WATER) RIPARIAN HABITATS

Squaw Valley and Spanish Ranch Allotments

Within four years from the date of implementation of the grazing system, show progress towards meeting Proper Functioning Condition (PFC) on selected lentic (standing water) riparian habitats within applicable pastures or grazing treatment areas. Over the long-term (within eight years of the date of implementation of the grazing system), achieve PFC on selected riparian habitats. Techniques for determining proper functioning condition of lentic riparian habitats are described in BLM Technical Reference 1737-16 (Prichard et al. 1999).

Wild Horses:

6. Manage for a wild horse herd size which will maintain a thriving ecological balance consistent with other multiple uses, while remaining within the newly designated wild horse HMA.

18. Continue to conduct necessary monitoring studies and periodically evaluate the effects of grazing to determine if progress is being made in meeting the multiple use objectives and Standards for Rangeland Health. The Spanish Ranch and Squaw Valley Allotments will be analyzed after one complete cycle of the proposed grazing systems to determine progress toward attainment of objectives and to make any necessary adjustments in grazing use. Subsequently, these allotments will be reevaluated in accordance with priorities established in the Elko District Monitoring and Evaluation Schedule. If monitoring studies indicate a need to modify grazing use based on carrying capacity, necessary adjustments will be made. In addition to specific monitoring techniques described for lotic and lentic riparian habitats, the following studies will include, but are not limited to, the following:

Uplands:

·forage production
·ecological production
·trend frequency
·utilization
·actual use
·Upland Proper Functioning Condition Assessment
·Ecological Site Inventory
·Precipitation studies

Wildlife Habitat:

·habitat condition studies (BLM Manual 6630)
·wildlife population census
·Cole Browse

Wild Horses:

·wild horse population census

Rationale: The Spanish Ranch and Squaw Valley AE summarized current grazing management, determined where or not progress was being made toward attainment of the multiple use objectives, and provided recommendations for future management. The allotment specific objectives which were analyzed in the AE, were formulated based on management issues which existed in 1987 when the RPS was published. Based on monitoring data and conclusions presented in the AE, it is necessary to modify and/or requantify the allotment specific objectives to address the following resource issues:

F. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) REVIEW

The selected management action for the Spanish Ranch and Squaw Valley Allotments conform with the environmental analysis described in the Final Elko Environmental Impact Statement dated March 11, 1987. The Environmental Assessment and Administrative Determination of NEPA Compliance are on file in the Elko Field Office, 3900 E. Idaho Street, Elko, Nevada 89801.

G. FUTURE MONITORING AND GRAZING ADJUSTMENTS

The Elko Field Office will continue to conduct necessary monitoring studies and periodically evaluate the effects of grazing to determine if progress is being made in meeting the Standards for Rangeland Health and the multiple use objectives in the allotments. The allotments will be reevaluated in accordance with priorities established in the Elko Field Office's Monitoring and Evaluation Schedule. These reevaluations are necessary to determine if the Standards for Rangeland Health and the allotment specific objectives are being met under the existing management strategies. The interested publics will remain a part of these future evaluation efforts.

10/2/03

CLINTON R. OKE
Assistant Field Manager
Renewable Resources

Date

Supporting Documents

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Prichard, D., et al. 1999. Riparian Area Management. A user guide to assessing proper functioning and the supporting science for letic areas. Tech. Ref. 1735-16, 1998. Bureau of Land Management, National Applied Resources Sciences Center, Denver, CO.

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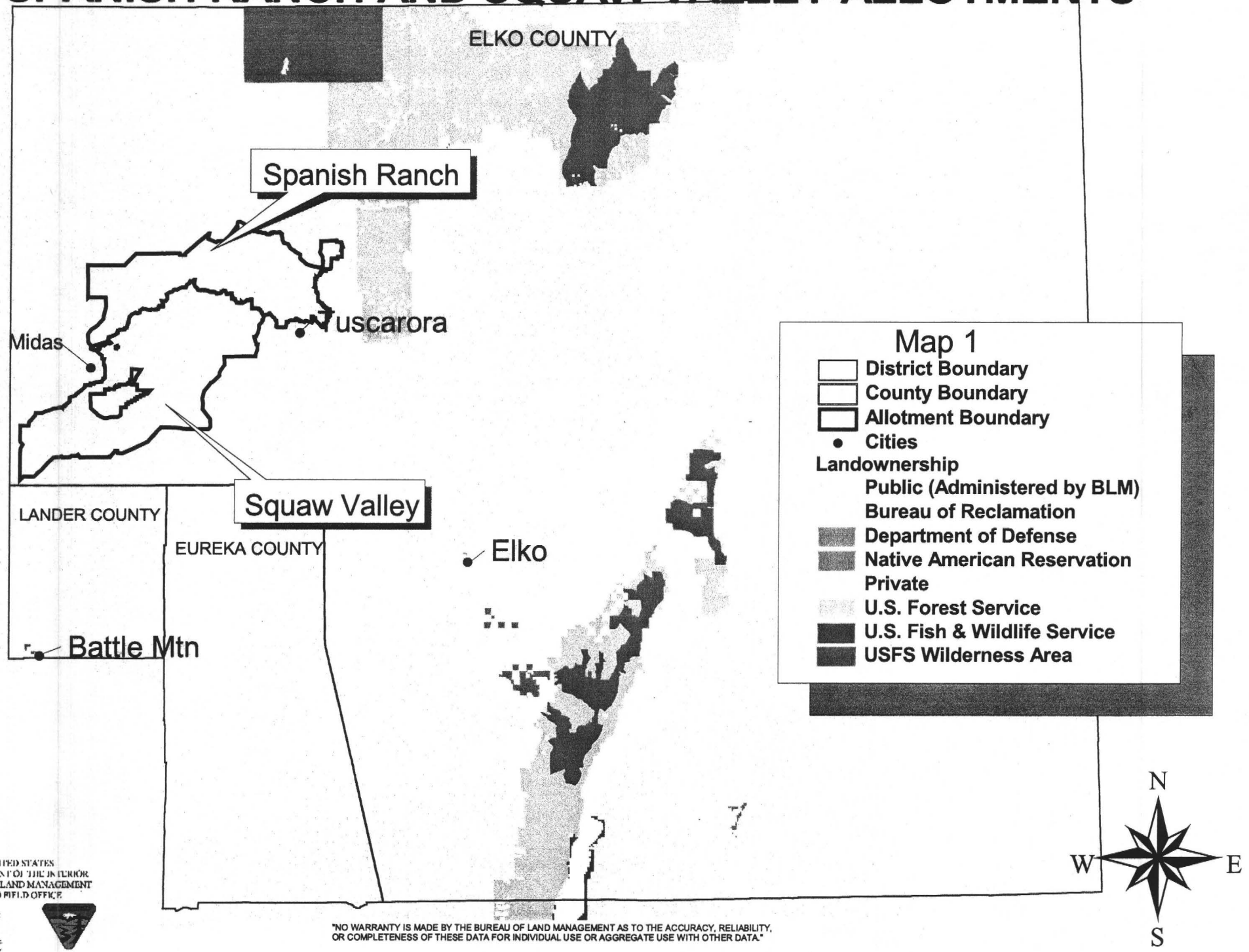
SPANISH RANCH AND SQUAW VALLEY ALLOTMENTS



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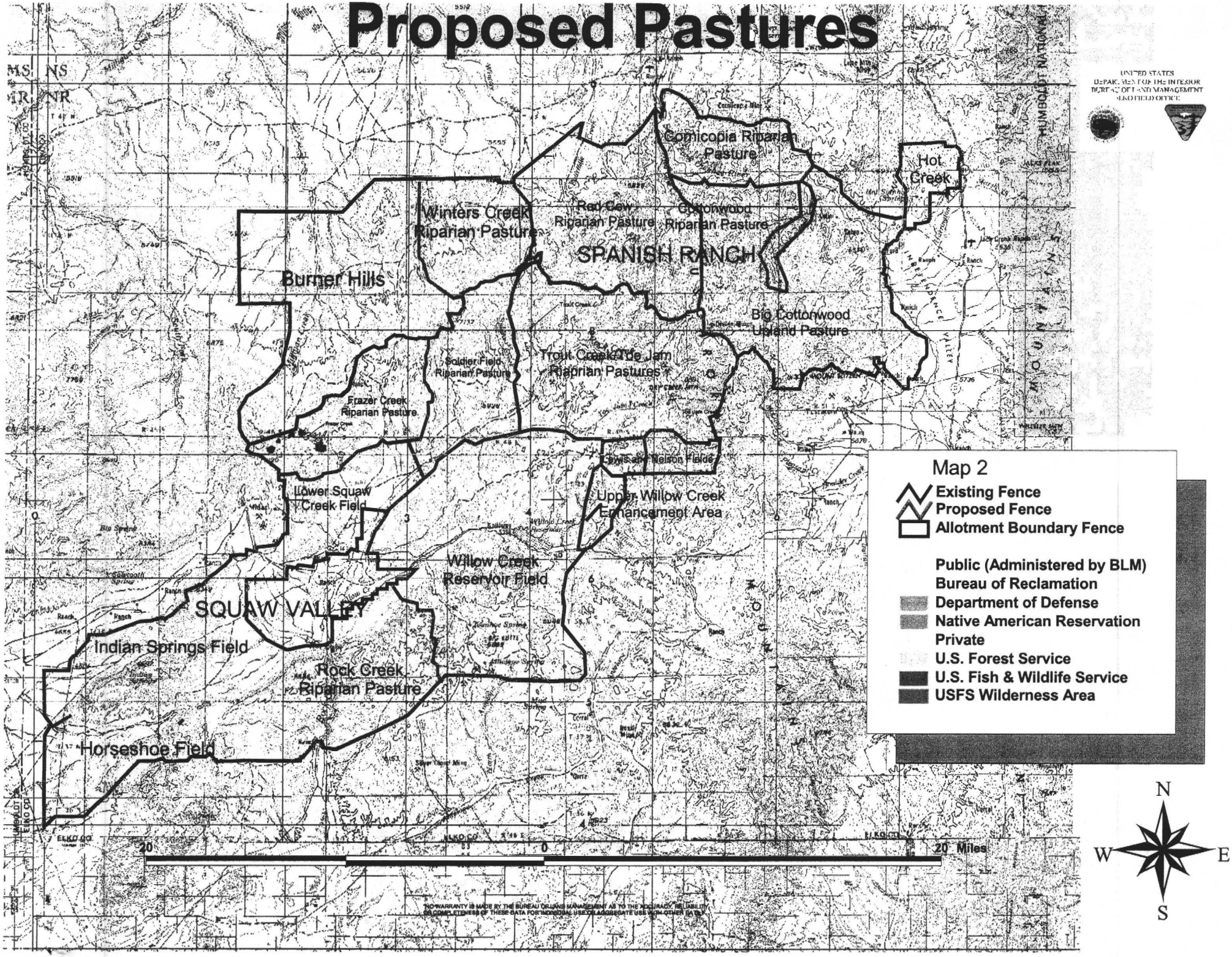
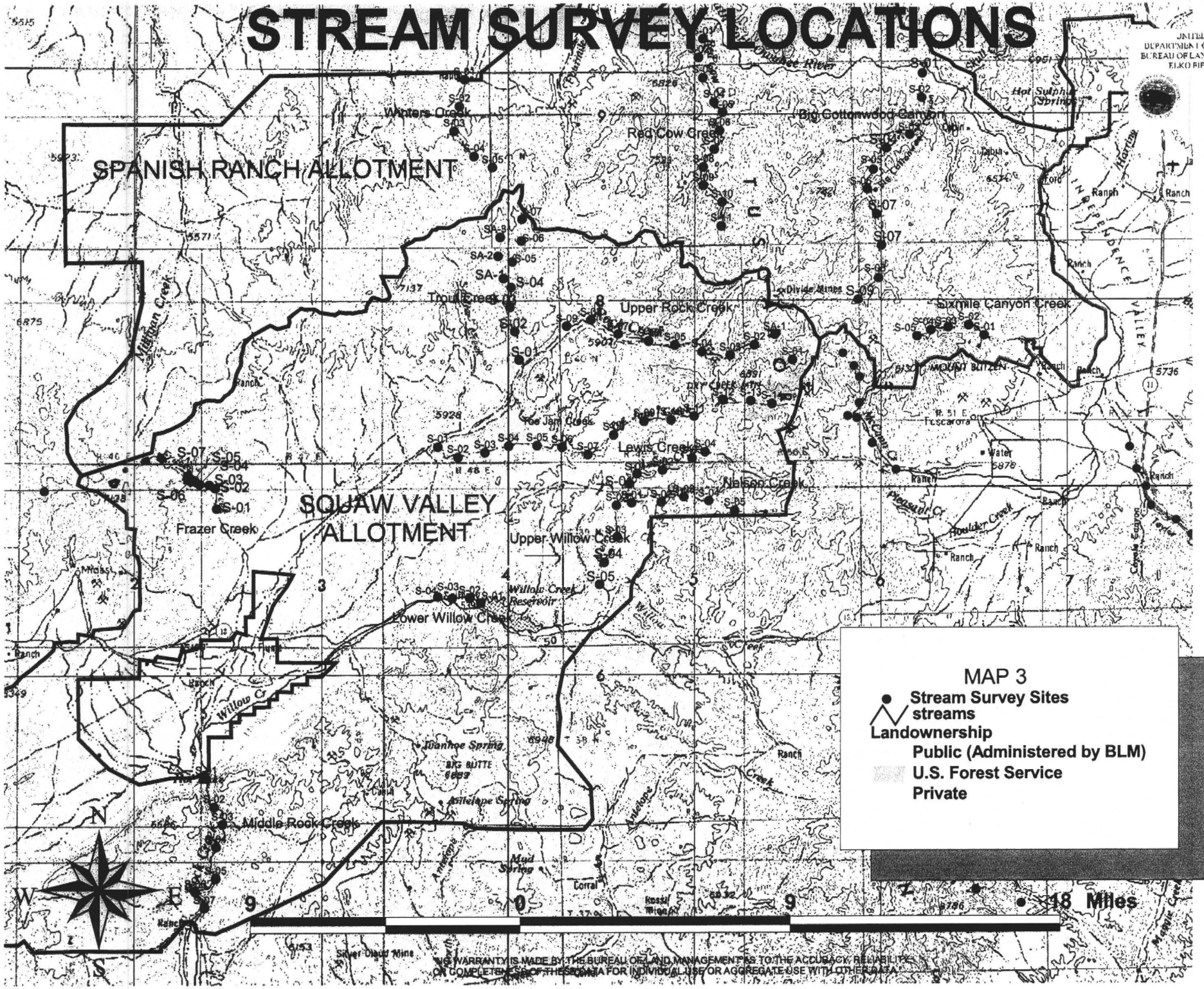
Proposed Pastures



STREAM SURVEY LOCATIONS



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ELKO FIELD OFFICE

2003

APPENDIX 1

RESPONSE TO COMMENTS

APPENDIX 1

Nelo Mori

1. ***Comment:*** *In the future, livestock AUMs should not be sacrificed or reduced to accommodate other species such as antelope, bighorn sheep, elk, wild horses, etc.*

   Response: The public lands within the Elko Field Office are managed for multiple uses. We strive to achieve a balance with grazing and other uses. The balance among multiple uses may result in changes to grazing use including time of use, levels of use, and specific management practices. At this time, we do not specifically allocate forage to wildlife, although forage is allocated to wild horses within herd areas.

2. ***Comment:*** *The existence of a road through some of these meadow areas has definitely caused or contributed to some erosion problems.*

   Response: Comment noted.

3. ***Comment:*** *(P. 91) It is highly unlikely that livestock graze bitterbrush from April-June since there is always other green forage that is more desirable to them during this time of year. This time frame is when basically all the livestock grazing occurs on the Andrae Allotment.*

   Response: Cattle have been observed actively consuming bitterbrush in the Wilson Mountain Allotment on May 13, 1994, and in the Cornucopia Allotment on May 28, 1997; these allotments either adjoin or are in close proximity to the Andrae Allotment. Observations on the Boise Wildlife Management Area in Idaho show that cattle preferred bitterbrush from mid-May through June and again in September and October. Although cattle have not been observed by the BLM actively consuming bitterbrush in the Andrae Allotment, it is likely that livestock seek bitterbrush as a source of nutrients (protein, minerals, vitamins, and energy producing compounds) to supplement dietary intake. The need of livestock to supplement with nutrients from bitterbrush might vary from year to year and season of year depending on the availability, palatability or phenology of other forage species and a given animal's nutrient needs. On paper, approximately 15 head of cattle owned by Ellison Ranching Company have been permitted to remain in the allotment after June 30; this permitted use has been allowed during the evaluation period to account for an unknown number of cattle that might not be gathered by this date. However, the BLM does not have any records submitted by the permittee on the actual number of livestock that have remained on the allotment on a yearly basis into the fall period. The potential for bitterbrush overutilization by livestock and dietary overlap with mule deer is most likely to occur during the late summer to fall period.

   Generally livestock, specifically cattle, do not graze bitterbrush until the mid to late summer when grasses are cured and lower in protein value. The majority of use on bitterbrush has been noted in late July through September which is why the

recommendation was made to limit cattle grazing to a July 10 off-date.

4. ***Comment:*** *Utilization levels have not been exceeded, except on bitterbrush, and we question the validity of this use by livestock. The graph on Page 99 illustrates this point.*

Response: While the utilization measurements do not distinguish between livestock and mule deer use, actual use records indicates that a small number of cattle have remained on the allotment until September 30.

Ellison Ranching Company

5. ***Comment:*** *Page 5: Horses be removed from private land. Ellison Ranching Company (ERC) has not requested this in the past, but now with the possible land exchange this will be a certain request. If this is a Bureau of Land Management legal requirement, why doesn't the BLM just comply with the law and remove the horses on private lands rather than have to be asked to do it? Have any horses been removed in the past?*

Response: The Wild Horse and Burro Act of 1971 (PL 92-195) as amended by The Federal Land Policy and Management Act of 1976 (PL94-579) and the Public Rangelands Improvement Act of 1978 (PL 95-514) Sec. 4. states: If wild free-roaming horses or burros stray from public lands onto privately owned land, the owners of such land may inform the nearest Federal Marshal or agent of the Secretary, who shall arrange to have the animals removed.

The Code of Federal Regulations at 43 CFR '4720.2-1 state: Upon written request from the private landowner to any representative of the Bureau of Land Management, the authorized officer shall remove stray wild horses and burros from private lands as soon as practicable. The private landowner may also submit the request written request to a Federal marshal, who shall notify the authorized officer. The request shall indicate the numbers of wild horses or burros, the date(s) the animals were on the land, legal description of the private land, and any special conditions that should be considered in the gathering plan.

It is not clear what is meant by the last question... "Have any horses been removed in the past"? Removed from the Rock Creek Herd Area? or removed from private lands? Horses have been removed from the Rock Creek Herd Area in 1994, 1996 and again in 2002. The removal area included intermingled areas of private lands. There have been occasions where the BLM has removed horses from exclusively private lands at the request of the landowner. This is more common when a wild horse has gotten in with domestic horses inside a fenced private pasture and the BLM has removed the problem animals. It is not a high priority with the BLM to remove horses from unfenced private lands that are intermingled with public lands. This is usually accomplished during a regularly scheduled gather within a herd area.

6. ***Comment:*** *Page 8: Wildlife use - mule deer.*
I understand the existing number in 1986 of 2093 deer; however, I don't understand the reasonable number (4181). How did someone arrive at that number? What reasoning did that someone use? And what is the reasonable number now?

Response:

Existing and Reasonable Numbers:

Mule deer reasonable numbers shown in Table 5 (of the evaluation) were inappropriately totaled under the Wildlife Use heading of the evaluation (Page 8). Mule deer reasonable numbers were also inappropriately totaled in the allotment evaluation. The number for each should stand alone per season of use and cannot be totaled since this may result in multiple counting of individual animals. For example, a buck that summers on Walker Mountain may winter in the Indian Springs area, both areas are in the Squaw Valley Allotment. The tally would show the animal both under crucial summer range and crucial winter range resulting in a double count. However, both the reasonable and existing AUM demand could be double-counted for each season-of-use period for the animal since forage would be utilized.

These figures will be corrected to only total existing and reasonable AUMs for mule deer.

How BLM "Arrived at Reasonable Numbers and Existing Numbers":

During the development of the land use plan, reasonable numbers of big game and associated AUMs were estimated by BLM and NDOW for each allotment by season-of-use based on seasonal use distribution maps. BLM background paperwork on-hand for work with NDOW for the RMP show that, "NDOW developed reasonable numbers in the late 1970's to be used for BLM forage allocation." Per Instruction Memorandum No. NV-79-175: " [Big game] Monitoring, preferably based on a 15 year average, will determine these estimates." Our interpretation was that an average estimated number of mule deer for a 15-year period prior to the draft 1985 RMP were used for all allotments for the Elko Resource Area per season-of-use by a given number of animals for each allotment. It is our best understanding that **existing numbers** were an estimated number of mule deer during the 1984-85 period just prior to the signing of the draft 1985 RMP for all allotments on the Elko District per season-of-use by a given number of animals.

This effort was not intended to allocate forage for wildlife but rather to recognize that if big game species were evenly distributed (does not occur), each allotment would receive some level of use. Big game habitat condition ratings have been used to evaluate whether or not reasonable numbers of big game are being supported for the existing habitat. For example, poor to fair habitat ratings indicate that reasonable numbers of big game are not being supported. Conversely, a good or better habitat rating indicates that reasonable numbers are being supported.

"What is the reasonable number now?"

No reasonable numbers or AUMs for mule deer were submitted by NDOW nor have the same been requested by BLM for the allotments. We have evaluated the allotments with information that existed for the final 1986 RMP. For informational purposes only, the mule deer population estimates for Management Area Six (encompasses entire western half of Elko County and northern portions of Lander and Eureka Counties), where the allotments are located, was 11,718 animals in spring 1986 and 15,024 animals in spring 1998.

7. ***Comment:*** *Page 14: Number 5*
When you use the wording, "Considered likely", to me that means now, today; whatever you're talking about is not there. True or false?

Response: The wording listed as "likely", as shown for some species in Table 10 in the evaluation, is based on the high probability that the given species is found on the given allotment on a yearlong or seasonal basis due to availability of habitat although the BLM is not aware if the species has been formally documented on the given allotment. For example, the northern goshawk, a highly mobile bird, has been documented on the Squaw Valley Allotment and not on the Spanish Ranch Allotment, within the same land section, although both allotments have similar habitat features and adjoin each other. So it is likely that the northern goshawk occurs on the Spanish Ranch Allotment for various reasons. The designation for likelihood of occurrence per species in the table is tempered by input provided by the U. S. Fish and Wildlife Service and review by BLM and NDOW personnel.

8. ***Comment:*** *I understand, also, that the BLM has an obligation under the Endangered Species Act, but I don't understand the management under the Sensitive Species Policy. Who develops this list?*

Response: The 1997 Nevada BLM Sensitive Species List includes species designated by the BLM State Director, in cooperation with the State of Nevada Department of Conservation and Natural Resources. BLM policy is to provide the species on this Sensitive Species List with the same level of protection as is provided for candidate species under BLM Manual 6840.06 D.

9. ***Comment:*** *Page 17: Number 7*
You use the wording, "throughout", concerning the Spanish Ranch Allotment. This is very misleading when you state that the only documented sighting was 147 years ago on only the Tuscarora Mountains which is only a small part of the Spanish Ranch Allotment or maybe the part of the Tuscarora Mountains not on our allotment at all. Please clarify. McQuivey, 1978, documented this, I suppose in 1978. If he happened to talk to someone about this sighting, that someone would have been 128 years old.

Response: A map that depicts historic bighorn sheep distribution in Nevada prior to

1850 is shown as Figure 3 in the McQuivey reference. The script for the map states, *"Historic distribution of bighorn sheep prior to 1850 based on petroglyph locations, archeological evidence, and documented observations."* All upper elevation areas of the North Tuscarora Range are blocked as bighorn habitat on this map. This would include the eastern portions of the Squaw and Spanish Ranch Allotments. BLM would like to clarify that the McQuivey map depicts this mountainous area of the Tuscarora Range as historic Rocky Mountain bighorn sheep (*Ovis canadensis canadensis*) habitat , not California bighorn sheep (*Ovis canadensis californiana*) habitat. However, recent evidence has shown that Rocky Mountain and California bighorns outside the Sierra Nevada Range are genetically and morphologically the same species with these California bighorns reclassified as such. It is anticipated that there will be "long debates about this re-classification." Per archaeological evidence in the Big Butte and Rock Creek areas, it is suggested that bighorn sheep, inhabited suitable areas on this portion of the Squaw Valley Allotment. There were no barriers to prevent bighorn sheep from inhabiting suitable habitat throughout the Squaw Valley or Spanish Ranch Allotments.

10. ***Comment:*** *Page 34: Table 24*
Only three key areas for the entire Spanish Ranch Allotment and these are in very poor locations and don't by any means represent the entire allotment. But that is what BLM has to use. This does not give a true accurate evaluation.

Response: The key areas established provide the best information for long-term evaluation of range conditions on the allotment. We agree that additional sites will help to give a more complete picture in monitoring the allotment and have recommended establishment of additional key areas for future monitoring.

11. ***Comment:*** *Page 38 and 39: Last paragraph on page 38 and continues on page 39. This paragraph is very confusing. Also, should the word "wildlife" be "wild horses"?*

Response: Yes, the wording should have been "wild horses" and the correction has been made.

12. ***Comment:*** *Page 46: Disturbance Factors*
The method you used indicated a good to excellent rating. If this is the method you are going to use then you shouldn't state that additional factors could affect the rating. There seems to always be something.

Response: The discussion of habitat components are included under this heading for consideration as part of the 6630 rating system and to let the reader be aware of possible oversights of the 6630 habitat condition rating system where wildlife habitat conditions could be improved. For example, with the numerical rating system, a good to excellent habitat condition rating can be obtained with poor forage diversity, poor key browse age and form class, or factors that would be considered major disturbance or interference factors. The improvement of these habitat components are considered to be extremely important factors in regard to managing big game habitat.

13. ***Comment:*** *Page 46: Roads*

BLM states it is unknown how many roads were created as a result of the livestock operator. (None by Ellison Ranching Company). Miners and hunters create roads, not permittees. Livestock follow roads rather than graze in a normal manner. We, like you, do not like roads.

As you are aware, the law does not prohibit anyone from driving anywhere they wish, at least on ERC Allotments. If this is a problem to wildlife then I would suggest that the BLM make an effort to change the law.

Response: Short of any official designation that would restrict off-road travel and enforcement to back any official designation, it is likely that the creation of new roads will continue.

14. ***Comment:*** *Page 47:*

This page gives the impression that all is lost. Whoever wrote this is a very negative person that sees only the bad and never anything good. Some of the wording is:

(1) Poor habitat condition has prevailed
(2) Chronic symptoms
(3) Heavy utilization by livestock
(4) Chronic lack of
(5) Negatively impacted
(6) Wide scale loss has occurred
(7) Continues to occur
(8) Erosion due to livestock action
(9) Over utilization by livestock
(10) Livestock trampling
(11) Years of livestock shading in areas
(12) Unless action taken anticipated loss will accelerate
(13) Heavy use by livestock

This is not the case on a wide scale. Some isolated areas maybe but not as implied. This was written from reports back in 1977. What is the present condition? I would hope that this section is based on some kind of science rather than one person's opinion and from information from 1977.

Response: We would like to reiterate, as addressed in the evaluation, that the majority of quaking aspen loss has occurred at low to mid-elevation woodland sites. Quaking aspen loss has been observed in most major drainages during stream surveys from 1977 to 1995 and water inventories completed in the early 1980's and 1993. Loss observed ranged from likely extinction of stand(s) and/or stand clones (example given: Red Cow Creek Stream Stations S-7 to S-9) to major deterioration where scattered individual or small groups of mature to overmature trees exist (example given: Six-Mile Creek Stream Station 5 and Big Cottonwood Creek Stream Stations S-8 to S-10). For present conditions, please see Non-stream Riparian Habitats narrative on pages 61 and 62 and

Stream Habitat narrative starting on page 61 in the evaluation.

15. ***Comment:*** *page 49:*
How can you have utilization of current years growth at zero percent and only have a rating of good? Which is best - good or satisfactory?

Response: Utilization is considered as a factor that could affect shrub age and form class for the BLM 6630 Manual rating system. The rating for shrub form and age class is part of the Mule Deer Habitat Condition Rating Summary Form where overall total score, that considers several factors, could be result in an overall rating of poor, fair, good or excellent habitat conditions for a given key habitat monitoring area.

16. ***Comment:*** *Page 51 and 52: Cornucopia Fence - Hoag Fence*
I will once again try to explain why ERC put the 5th wire on part of the fence. It was impossible to keep ERC steers in the allotment and impossible to keep the neighbor cattle out of the allotment. Therefore, it was impossible for the BLM to record any kind of an accurate utilization study. Also, when our season of use ended the outside cattle were still drifting in. During my discussion with Gary Back (when he was employed with the BLM), I told him of the reasons and necessity for the 5th wire. Gary suggested that we watch close some key areas and see if there was a problem. So far no one has indicated to ERC of any problem.

I also talked with NDOW and they indicated to me that deer migration was East and West and not North and South; therefore, the fence shouldn't be a problem.

Response: Thank you for explaining ERC's reason for modifying the Hoag Field Fence. It is BLM's intention to complete a cooperative agreement with responsible parties to modify all allotment boundary fences in question that were initially completed under government authorization back to specifications that facilitate big game movements. The mule deer seasonal use map for the Andrae Allotment, which was completed in coordination with NDOW prior to the draft 1985 RMP, shows one migration corridor running north to south through the allotment near Long Hollow about two miles to the east of the Hoag Fence tie-off to the remainder of the allotment fence. In the early 1990's, new and modified 5+-strand private fencing along Deep Creek has likely become an effective barrier for deer in this same area. What compounds the problem was the fact that this private fencing was reconstructed/constructed on steep angled slopes along Deep Creek west to where it ties off to in-question allotment boundary fencing. The private fencing, built on steep angles, makes the fence an effective barrier for deer trying to move in or out of the allotment. The eastern Andrae Allotment boundary fencing also occurs on steep angles along Chicken Creek south to Chicken Creek Summit. The Hoag Field Fence, with what should have Bureau-specified fencing, comes into the picture as one area where the deer could better negotiate the maze of fence work in the area. Regardless of mule deer migration, the fence also occurs in mule deer yearlong range and pronghorn summer range. BLM resource specialists will coordinate all options for fence modifications on the Andrae Allotment with ERC and the livestock

permittee for the adjoining Cornucopia Allotment.

17. ***Comment:*** *Page 52: Table 31*
Do you use the same key areas for all different species?

Page 59: Number C Riparian area condition
When we use the multiple use concept, what is normal for cattle may not be good for a strutting habitat or what is good for deer might hurt some nesting areas. How do you reach some kind of a balance when you use the same key areas to monitor for all the different uses?

Response: As stated in the evaluation, as applicable due to suitable habitat, data collected at the given key area was also used to evaluate sage grouse habitat. The poor condition of said riparian areas on the allotment, as described, is a causal factor in non-attainment of RPS objectives for wildlife. Under Technical Recommendation W, Monitoring and Re-evaluation, on Page 143, it is recommended that Proper Functioning Condition assessment would be used to help monitor lentic habitat (springs and seeps) for livestock and all wildlife species on the allotment.

18. ***Comment:*** *Page 61: Number J*
What were the results of all this?

Response: As shown in Table 32, most streams were in rated Poor for overall habitat condition, with the exception of Lewis Creek, which was in Fair habitat condition. These streams are not currently meeting objectives for fisheries habitat.

19. ***Comment:*** *Page 79: Land use plan objectives*
Number one of the objective states "Public Rangeland". Are you sticking to this or are you including private land?

Response: Objectives in the land use plan and Rangeland Program Summary were developed for public lands only.

20. ***Comment:*** *Page 80: RPS objective*
Not one thing is mentioned in the allotment evaluation to increase to the goal of 57,530 AUM's for livestock grazing. Please explain. If this is an objective, why aren't we trying to reach it?

Response: The land use plan developed goals for the entire Elko Resource Area based on the mix of resource values and products outlined in the alternative selected. For the entire Elko Resource Area, the objective was to increase grazing use. The RPS pro-rated that increase to each allotment; however, through the allotment evaluation process, carrying capacity is identified for each specific allotment. Because resource values and concerns vary for each allotment, the objective to increase grazing for the Resource Area

is not likely to be appropriate for each allotment at the same level.

21. ***Comment:*** *Most important to me is to just let me use my preference.*

Response: As noted in the technical recommendations, the current level of permitted grazing would remain the same in the Spanish Ranch Allotment, although it may require fewer numbers of cattle than Ellison Ranching Company currently grazes. However, the recommendation was to maintain current permitted grazing use (total AUMs) to provide as much flexibility as possible within the constraints of the grazing system. As noted in the recommendation on flexibility, future monitoring will determine how the grazing system is working and determine the need for any adjustments in stocking rates.

22. ***Comment:*** *Page 81: 60 percent of deer winter killed.*
As a permittee in that area, you would think we would have noticed some 1800 dead deer. I believe any animal would move from an area rather than stay and starve to death.

Response: Most of the mule deer perished on the upper alluvial plain areas and mountains of the Rooster Comb - Sixmile Hill area (Izzenhood Mountains) west to Indian Springs and Guard Corral, an area which covers approximately 90 to 100 square miles. Some groups of deer moved out into the Elevenmile Flat area, which is a relatively flat area with intact stands of Wyoming big sagebrush that afforded food and cover. Low-angle drainages also provided some cover. However, the majority of deer stayed in the traditional upper alluvial-foothills and mountain areas and were reluctant to move too far away from escape cover, which in this case is steep, rocky terrain. A large percentage of the lower elevation winter range was dominated by annual vegetation. NDOW confirmed the large winter kill in the said area and estimated the number of deer that died based on ground and aerial surveys. Individual animals were examined by NDOW biologists. For perspective of how severe this winter period was, as you know, uniform snow depths were 18 to 21 inches on the valley floor with increasing depths at upper elevations. These snow depths persisted for several weeks in January and February of 1993.

23. ***Comment:*** *Page 83: Middle page Not met*
If horses are not remaining in Herd Area, they should be removed. Please explain. Why are they leaving their herd area?

Response: As is explained on page 7 of the evaluation, when the population of wild horses within the Rock Creek HA exceeds 300 horses, social factors are causing the horses to leave the HA during the winter months. Excess horses are pushing through the fence and open gates in attempt to access less crowded are more desirable winter range on the Owyhee Desert. Technical Recommendation F is to remove wild horses down to a level which can be supported within the herd area and should eliminate the problem of horses leaving the herd area.

24. ***Comment:*** *Page 86: 2A Not met*
Exceeded 2 out of 9 year's - not too bad is it? This is an example of good management.

Response: This section reflects whether or not the utilization objective established for a particular key area has been met during the evaluation period. While use levels exceeded objective levels only 2 out of 9 years, the objective was still not met. However, through this allotment evaluation, the utilization objective for the Spanish Ranch and Squaw Valley Allotments will be changed to include an average for the evaluation period and a maximum level for any one year.

25. ***Comment:*** *Page 97: Table 47*
Would prefer the larger number of cattle to be there the first year. That way ERC can plan the remaining three years. This is for the Spanish Ranch Allotment.

Response: As noted in Table 47, the number of cattle is approximate and will vary each year depending on which pasture is rested and length of time that cattle may graze specific pastures, especially those with additional monitoring criteria.

26. ***Comment:*** *page 99: Bitterbrush utilization chart*
Something is very wrong here. There is no way that a few steers can use that much bitterbrush. If you will notice all of the steers are out of the Andrae Allotment on June 30. ERC permits up to 15 head until September just in case we miss a few. We try not to miss any and some years there could be one to five or even zero steers left after June 30; we just permit them so I'm never in trespass. But even if there were 15 head common sense would tell you this graph is incorrect.

Response: See response to comment #3.

27. ***Comment:*** *Page 105: Rationale*
The five day flexibility could be a problem. We have to get our men and camps to those areas. Roads will have to be maintained by BLM on a regular basis. This year was a good example. High water with lots of run-off washed out many roads. We were unable to get to the sheep camps, cowboy camps, etc. until the roads were fixed.

Response: The flexibility is 5 days on either side of move dates between pastures, except riparian pastures, which have no flexibility on the off dates. ERC should plan accordingly based on conditions on any given year. If the camps won't be able to make the off-date, it is suggested that camps and livestock be moved earlier in order to meet the date.

28. ***Comment:*** *page 108: Table 50*
Red Cow should have one year of late use, probably the year before the rest year.

Response: The proposed grazing system for Red Cow is early season only and is designed to accommodate the natural movement of livestock from early spring range in the Burner Hills area to the higher elevations of the Cottonwood and Six Mile Canyon

areas while still allowing for improvement of stream and riparian habitat conditions.

29. **Comment:** *page 109: Bottom of page*
BLM must realize that they and the permittee are partners out on these allotments. Each must do their part. This plan tells ERC what it can and cannot do. If I'm to follow this plan, the BLM must get the range improvements completed within the five years. If not the grazing system cannot be implemented until they are complete. ERC cannot work with imaginary lines on the Squaw Valley Allotment.

Response: We concur that the grazing systems proposed for both Spanish Ranch and Squaw Valley Allotments cannot be fully implemented until the range improvements are constructed. However, through the allotment evaluation process, we have identified the need for specific interim grazing systems. This interim grazing system is designed to allow grazing while the projects are being constructed. Refer to technical recommendations #3 and #4 for the grazing systems.

30. **Comment:** *Concerning the interim system and the utilization criteria for Squaw Valley Allotment.*

Utilization criteria for the LCT riparian on Squaw Valley would affect virtually the entire allotment (everything except the seedings). How could we stay in business if we had to leave the allotment after a couple of months?

Response: Establishing utilization criteria is one of many tools that can be considered as an action to ensure significant progress toward meeting a standard. However, the proposed grazing systems for the LCT pastures will not have any utilization criteria. The interim system for all of the identified riparian pastures with LCT habitat will include total rest for at least three years.

31. **Comment:** *2A Best) comes closer to balancing, but should change Upper Rock/Toe Jam on year two from 7/16 - 8/31 to 7/16 - 8/15. This way the number of cattle in Middle Rock/Toe Jam would be approximately the same.*

Response: This system will not be a selected action within the MASR.

32. **Comment:** *Page 115: Winters - Horses*
I do not agree that the Winters Pasture will not be horse free. You say that all will be gathered every three (3) years. I would like that in writing. Have you ever maintained a three year record where you have AML set? What happens, rather than just incidental use, if lots of horses get into the Winters Pasture?

Response: Any changes to the Rock Creek Herd Management Area boundaries will be done through a Land Use Plan Amendment which requires public consultation and NEPA documentation. The fiscal year 2001 appropriation for the Wild Horse Program

provided additional funding to implement a strategy desgined to achieve AML on all herd management areas by fiscal year 2005. The *Gather Policy and Selective Removal Criteria for Wild Horses, Washington Office IM 2002-095*, was implemented with the following priorities: **1) Age Class Five Years and Younger;** Wild horses five years of age and younger may be removed and placed into the national adoption program. **2) Age Class Ten Years and Older;** Wild horses ten years of age and older may be removed and placed into long-term holding. Long-term holding facilities contracted by the BLM used to house wild horses that have been determined unadoptable. These facilities provide forage, water, veterinarian, and all other needs for these animals on a permanent basis. **3) Age Class Six to Nine Years;** Wild horses aged six to nine years old should be removed last and only if the HMA cannot achieve AML without their removal. Once AML is reached it is the goal to remove horses in each HMA once every four years. However, since this is not a regulation or requirement and solely depends on the amount of money allotted to the Wild Horse Program by Congress, there is no way the BLM can "put this in writing". The BLM would adjust wild horse numbers in the Rock Creek Herd Management Area by gathering down to the low end of the AML range during the first gather. This would allow four years before the upper level of the AML was reached triggering the next scheduled gather.

33. ***Comment:*** *Winters Pasture is only three wire. I would suggest five but would settle for four. ERC would install the additional wire.*

Response: A change has been made to the selected management actions to address the need to modify the Mahogany/Winters Creek Fence to 4-wire, 16.5 ft post spacing.

34. ***Comment:*** *When the land exchange is complete, will the BLM remove the horses from the private land? This would then include the Winter Pasture. This might be a good trial for a rancher horse gather. This has been discussed before.*

Response: As of January 4, 2002, the land exchange will no longer be considered.

35. ***Comment:*** *Page 117: We would prefer Option One. However, we should take the Wild Horse Commission comments made in a public meeting that we should use RMP numbers. That would be 119 horses. This I would support.*

Response: RMP numbers are not an option in Nevada unless they were set based on current monitoring data and most were not. The wild horse numbers in the Elko RMP were not based on monitoring data and the Interior Board of Land Appeals (IBLA) rendered a decision (IBLA 88-591, 88-648, 88-638 and 88-679) which clarified that a wild horse herd size is to be established based on the concept of maintaining a "thriving ecological balance".

ERC's preference for Option 1 (RMP Percentage) is noted. The BLM may consider this.

36. ***Comment:*** *Page 118: Horses*
A BLM person from the Winnemucca District opened the gates from Bullhead Allotment into the Squaw Valley Allotment so the Bullhead horses could go for water. That being the case, I'm sure those horses stayed. This happened during the summer of 1996. I would like an explanation for this.

Response: The Elko District cannot confirm that this incident occurred. Although, if wild horses were in danger of dying from lack of water on the Bullhead Allotment, it seems reasonable to open gates between different grazing allotments of public land rather than to let horses die. If the horses were desperate enough, they would have pushed through the fence anyway. The Elko District conducted a gather in the summer of 1996 so any Winnemucca horses would have been gathered and removed along with the Elko horses.

37. ***Comment:*** *Page 120: Table 57*
The range improvements, as you put it, are critical for implementation of this grazing system. ..... These improvements could be funded, in part, with the Barrick mitigation fund already in BLM's possession.

Response: The Wetland Mitigation Fund established in 1991 as mitigation for Barrick's Goldstrike Mine's groundwater pumping and water management operations will be used to fund the division fence between the Squaw Valley and Spanish Ranch. Barrick has also proposed to fund construction of fencing required for the implementation of the Upper Willow Creek Habitat Enhancement Plan (UWCHEP).

38. ***Comment:*** *page 124: Middle Rock Creek Gorge*
Good - I agree with the fence suggestion.

Response: Due to the Hot Lake Fire in 2001, the burned area was fenced and the Rock Creek Riparian Pasture was created, which will protect the Rock Creek Gorge. The need for additional fencing will be evaluated once the grazing system has been implemented.

39. ***Comment:*** *Page 129: Bighorn Sheep*
Before any reintroduction of Bighorn be made, a cooperative agreement must be in place, as is stated. However, why do you even consider an area close to domestic sheep. There are only about one dozen sheep operators' left in the State of Nevada and BLM has to consider an area next to one of them. Why not consider the other millions of acres in the state. I want it to be known that I'm not willing to change my sheep operation for this program. I also would suggest that if the possibility of disease is a fear, then do not come close to domestic sheep -go elsewhere for the good of both of us.

Response: The reintroduction of bighorn sheep was a 1987 RMP-ROD prescription stated as, "Jointly evaluate and analyze availability and condition of habitat areas

identified by the Nevada Department of Wildlife to provide for reestablishment, augmentation, or introduction of bighorn sheep and other wildlife species."
It was the intent of the BLM to analyze any reintroduction considerations in the evaluation and either recommend going forward with the reintroduction or dropping any consideration until further notice. At this time, future reintroduction proposals would be considered in suitable habitat as any needed NEPA analysis, including coordination with affected parties and interested public, dictate.

40. ***Comment:*** *Page 134: Wildlife*
The information provided shows existing numbers at the time of the RMP and gives reasonable numbers (where they came from, I don't know). What are the current actual numbers for all three allotments?

Response: See response to comment #6.

41. ***Comment:*** *Page 144: Bottom page*
States that studies will be in accordance with Nevada Rangeland monitoring handbook but then states "not limited to". This leaves an open end, doesn't it? Either we use the handbook or state what will be used so we are all on the same course and using the same methods.

Response: The "not limited to" statement refers to the studies to be conducted and not the methodologies. However, methodologies are part of the dynamic science of range management. As new issues and problems arise, new studies and methodologies may have to be established. Any new studies would be coordinated with the permittee and interested public.

42. ***Comment:*** *I noticed on allotment studies summary that the key area out of eleven years, eight of those years were not read, yet you can make a management decision from this information?*

Check Appendix D - same as above - one chart only one year out of eight.

Response: There is no set number of years needed to make a decision. Decisions can and have been made with only one year of information. While it is ideal to read utilization studies on an annual basis, factors such as time, personnel, and weather may contribute to this not being accomplished. You must remember, however, that wild horse, wildlife, and riparian monitoring data are also being collected. An evaluation of all the monitoring studies provides an overview of the conditions on the allotments and helps to identify where there are resource concerns.

43. ***Comment:*** *This document shows that carrying capacity is more than the preference. To me this indicates good management on the allotments. The limiting factors are fisheries and riparian areas. ERC has plenty of AUM's; we just can't use them. I would*

suggest rather than putting the grazing system into effect as written and then evaluate it in four years that we put the plan into effect, let me use my preference and then evaluate in four years. I believe it is worth a try.

By putting this plan in effect as written there will be a 22% to 26% AUM reduction on the Spanish Ranch Allotment without the land exchange. In plain English, I stand to lose approximately 25% of my income. This plan, also as written, is very labor intensive. It's going to require a lot more work and labor to accomplish what BLM is wanting. As you may or may not realize is that the only place a ranch can cut expenses is by cutting labor. Costs remain the same or go higher and of that I have no control.

Response: Having more carrying capacity than preference does not necessarily indicate good management. If distribution is poor, such as around riparian areas, uplands may remain in good condition while the riparian areas may be heavily grazed. Limiting factors are riparian areas, but the AUMs are not being used throughout the allotment. Your suggestion is noted, but the BLM believes that if your preference is used for four years, it will only continue to put pressure on riparian areas with little or no help of moving the livestock to the uplands as has been for many years. While BLM understands that more labor will be needed to move cattle than is required when cattle are just allowed to "drift" or move through an area, BLM has a responsibility to ensure that management changes are made when necessary to ensure progress toward attainment of multiple use objectives and Standards for Rangeland Health.

44. ***Comment:*** *One option to consider would be to add one or two bands of sheep to the Spanish Ranch Allotment through October 31st to utilize the AUM's we can't use with cattle (would still be under preference). I would prefer cattle use but would consider sheep use. The Allotment Evaluation explains that sheep grazing has not had an adverse impact on any of the Allotment.*

Response: The permittee may request the BLM to have permitted cattle AUMs converted to sheep AUMs on the Spanish Ranch Allotment. Conversion of AUMs must be done through proper NEPA compliance and public consultation.

45. ***Comment:*** *When are you going to re-evaluate the system, the carrying capacity, riparian areas, etc.? We know the carrying capacity is there. If ERC is meeting the objectives on the short term, can we expect an AUM increase? If so, what does that entail? How long and what is the process?*

Response: In summary, this evaluation of the existing monitoring data indicates that we are not meeting multiple use objectives and Standard for Rangeland Health for the Spanish Ranch and Squaw Valley Allotments. While the carrying capacity calculations indicate that more AUMs are present, evaluation of all the monitoring data indicates that there are problems, especially in the riparian areas. The evaluation proposes that a reevaluation be completed after the first four-year cycle of when the grazing systems are fully implemented. Full implementation of the grazing system would be upon completion

of all the proposed range improvements. Monitoring data would continue to be collected and evaluated, as was through this process, to determine progress toward attainment of the multiple use objectives and Standards for Rangeland Health. Any required changes in management or carrying capacity would be determined through this same process.

46. **Comment:** *Would like in writing that the horses be down to AML in 1999.*

Response: In 2002 an Emergency Gather was conducted on the Rock Creek Herd removing 1,231 horses. Currently there is no AML set in the Rock Creek Herd Area, but the BLM is proposing to set AML at 150-250 horses. Once AML is established, the area will be put on the schedule to be gathered down to AML.

47. **Comment:** *Would like for BLM to consider all cross fences being four wire.*

Response: BLM will analyze projects on a case by case basis and determine where 4-wire fences are feasible and will not impact wild horse and wildlife movements.

48. **Comment:** *Would also suggest that just the Spanish Ranch Allotment be put on hold until a final decision is made on the land exchange. The other allotments we could implement the new grazing system. In other words, put the system in steps rather than all at the same time. This would give all of us time to adjust, get range improvements completed and to evaluate to see if any of this is going to work.*

Response: As of January 4, 2002, the land exchange will no longer be considered.

49. **Comment:** *We may want to consider just managing the public land areas.*

Response: Your comment is noted. BLM is only responsible for management on public lands. ERC can certainly fence off private lands and manage them separately. Without fencing, how would ERC propose to keep cattle off of public lands? To minimize ERC costs and improve the overall conditions of rangelands and riparian areas in the Spanish Ranch and Squaw Valley Allotments, it would benefit ERC to work with BLM on designing management strategies that would benefit the renewable resources.

50. **Comment:** *I would also like some guarantee that range improvements be in place before the grazing system is enforced.*

Response: Refer to response to comment number #29 above.

51. **Comment:** *I cannot find anything in this document that indicates anything wrong with the Six Mile country. There are no fish and never have been. I can't understand all the concern. Please explain.*

Response: A stream survey conducted in 2002 shows the majority of the public land

portion of Six Mile Creek is in fair to good condition. Much of the stream is situated in steep, rocky canyons inaccessible to livestock. However, localized problems in the form of channel downcutting and overuse of the riparian zone exist in headwater areas and in open areas accessible to livestock. Although no fish have been documented in this stream primarily because of a lack of consistent perennial flows, management geared towards improving or maintaining the productive aspen/willow riparian corridor is important to a wide variety of wildlife species.

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52. ***Comment:*** *The evaluation states that all crucial deer habitat is in at least good condition. We disagree with this statement for the following reasons:*

1) Only three areas with sufficient data were used to evaluate crucial habitat within the Rock Creek Allotment.....

Response: Dual livestock/wildlife key areas that were established in 1983 and 1988 were monitored to help determine if wildlife objectives were being met. In regard to the "92 square miles per key area", these key areas were established on public lands likely for reasons that include the sake of simplicity of keeping key areas on public lands and avoiding "gray areas" regarding open range laws and interspersed large blocks of private lands in the upper elevations of the Squaw Valley and Spanish Ranch Allotments. However, private lands could have been selected for key area locations in cooperation with the permittee/private landowner. No additional key areas were established or removed when the draft evaluation was included in the planning schedule in the early 1990's or during the draft write-up in 1996-97.

53. ***Comment:*** *...2) The use of early sagebrush and snowberry as key species on crucial deer summer ranges is not an adequate reflection of the quality or condition.*

Response: As intended, the evaluation process and comments from interested parties will be used to identify areas where new monitoring studies could be added or new key browse species should be considered. As a result of the evaluation and meetings held with interested and affected parties, it is recommended that new studies are established in specific areas and that new key browse species are monitored for existing key areas on the Squaw Valley and Spanish Ranch Allotments. These recommendations are in addition to those already recommended in the evaluation.

Discussions where habitat components could be improved are included to let the reader be aware of possible oversights of the 6630 habitat condition rating system. Some of these habitat components are considered to be extremely important factors in regard to managing wildlife habitat. The habitat components under this heading include those considered as part of the 6630 rating system where wildlife habitat conditions could be improved. For example, with the numerical rating system, a good to excellent habitat condition rating can be obtained with poor forage diversity, poor key browse age and form class, or factors that would be considered major disturbance or interference factors.

54. ***Comment:*** *3) At least 50 percent of the crucial deer winter range has burned within the Rock Creek Allotment. A high percentage of these burned areas are now dominated by cheatgrass and other exotic weeds. No key areas are established within crucial winter ranges that have burned even though these areas represent a very significant portion of the total wintering habitat.*

Response: Monitoring of seeded areas has been completed and will continue on the Northwest Izzenhood Seeding in the Squaw Valley Allotment; a study transect on this seeding could be considered as an additional transect to help determine big game habitat condition ratings. Rehabilitation of additional crucial winter range areas is being considered as technical recommendation in this evaluation. Furthermore, as a result of evaluation meetings, rehabilitation of additional areas will be considered as time and schedules are prioritized to initiate and complete projects. The technical recommendation regarding winter range rehabilitation efforts will be modified to consider rehabilitation of annual plant-dominated big game winter range areas throughout the Squaw Valley Allotment. As you know, BLM has been actively involved with rehabilitating tens of thousands of acres of degraded or fire-affected big game winter range in several areas in Management Area Six during the 1991-2003 timeframe including those in the Squaw Valley Allotment.

55. ***Comment:*** *Use pattern mapping for native pastures in the Rock Creek allotment is virtually nonexistent. Without this data, we question whether or not key area locations are representative sites. The evaluation accurately documents the utilization problems along stream/riparian areas but fails to document use levels in many upland sites, including upland riparian zones. Consistent use pattern mapping would have been a valuable tool in the process of designing non-riparian grazing systems. Since utilization data was used exclusively to develop carrying capacity figures, we have some concern as to how use at just key areas can be representative of an entire pasture.*

Response: In addition to Technical Reference 4400-1, (Planning for Monitoring), page two of the Nevada Rangeland Monitoring Handbook states that "Proper selection of key management areas is an essential step in developing or establishing a monitoring program. Because it is impractical to measure or sample every part of a grazing unit, one or more key areas are identified. A key area is a relatively small portion of a unit selected because of its location, use, or grazing value as a monitoring point for measuring change in soil and vegetation and the impacts of grazing. It is assumed that key areas, if properly located, will reflect the current grazing management over similar areas in the unit. They should serve as representative samples of range conditions, trends, and seasonal degrees of use and forage production". The key areas were established in accordance with policy and procedure.

56. ***Comment:*** *Obviously, the key areas did not represent the documented overgrazing of stream and non-stream riparian area, nor would they represent areas where "a wide scale loss of quaking aspen and willows has occurred". The evaluation states, "the*

complete loss of aspen stands and retreat of stands in upland areas is attributed to overutilization of aspen regeneration by livestock". Key areas did not represent these "upland areas".

Response: There were no specific livestock or wildlife key areas located in aspen or willow stands on the allotments. One of the purposes of the evaluation is to bring forth issues regarding the condition of wildlife habitat work with interested or affected parties to remediate these problems. As stated in the evaluation, the management of quaking aspen recruitment is an issue. Quaking aspen or willow stands in close proximity to established upland wildlife key areas are potentially considered as part of the 6630 rating system as being a component of mule deer habitat. Documented disturbance or interference factors that have been judged by the evaluator as being negatively affected by the management actions in place are considered in the overall rating system. However, problems with stands are an oversight with the numeric rating system since upland key areas can rate out as being in good condition in close proximity to aspen or willow stands that are in poor condition. The management of the vast majority of aspen and willow stands will be considered as part of grazing systems for the allotments.

57. **Comment:** *Therefore, we question the carrying capacity figures derived from just the areas selected as we feel they don't reflect conditions throughout the allotment.*

Response: While upland key areas were used to calculate carrying capacity there were no increases proposed for the uplands due to the problems with livestock distribution and riparian conditions.

58. **Comment:** *It is somewhat difficult to understand how utilization figures that have consistently been well below the 50 percent level at several of the key areas relate to statements about overutilization of upland areas to the level that cause the complete loss vegetative communities.*

Response: Please see Disturbance/Interference Factors input regarding quaking aspen on page 47. In addition to potential factors listed in the evaluation that have likely affected aspen communities, young age class aspen could have been a preferred and readily available forage in specific low gradient grazable areas at times when herbaceous key species were available but cured and not as palatable in comparison to aspen. This situation, over the course of a long period of time, could contribute to the complete loss of aspen communities in a given area.

59. **Comment:** *The trend data and discussion for the native areas is very confusing. The rationalizations of why any one species is increasing or decreasing and the relationship to precipitation, fire, grazing or other factors doesn't produce any clear picture of trend. We feel this data is rather meaningless. Nine sites in an area of this size don't appear to be adequate.*

Response: In addition to Technical Reference 4400-1, (Planning for Monitoring), page two of the Nevada Rangeland Monitoring Handbook states that "Proper selection of key management areas is an essential step in developing or establishing a monitoring program. Because it is impractical to measure or sample every part of a grazing unit, one or more key areas are identified. A key area is a relatively small portion of a unit selected because of its location, use, or grazing value as a monitoring point for measuring change in soil and vegetation and the impacts of grazing. It is assumed that key areas, if properly located, will reflect the current grazing management over similar areas in the unit. They should serve as representative samples of range conditions, trends, and seasonal degrees of use and forage production". The key areas were established in accordance with policy and procedure.

60. ***Comment:*** *The disturbance/'interference factors in seasonal deer habitat are well documented and often in sharp contrast to ratings of key areas. The statement; "a wide scale loss of quaking aspen and willows has occurred, and continues to occur, within their historic range in the allotments", gives a more accurate picture of habitat conditions than does the key area ratings. The dominance of wyethia in many areas is also a factor. For example, the Burner Hills pasture under both options shows grazing management that will not improve these upland riparian sites. In fact, we feel that annual use (3/25 - 10/21) could cause an overall deterioration of sage grouse habitat. We realize the importance of LCT but other species habitat should not be ignored.*

Response: Neither of these options will be proposed and the issue of annual use (3/25 - 10/21) has been resolved and overall deterioration of sage grouse habitat will be considered. The proposed grazing system for Burner Hills Pasture has been modified to resolve season long grazing by authorizing use between 3/25-6/30.

61. ***Comment:*** *We understand the BLM has listed sage grouse as a sensitive species. Under this criteria, would there be a higher priority to protect and enhance sage grouse habitat?*

Response: Sage grouse have been a "designated priority management species" on the Elko District since, at least, a 1979 instruction memorandum (IM #79-6). Other BLM considerations prior to this date include the Western States Sage Grouse Committee's June 1974 *Guidelines for Habitat Protection in Sage Grouse Range*. Habitat management objectives are listed in the Rangeland Program Summary of the 1987 Elko Resource Management Plan on those livestock grazing allotments where sage grouse habitat management was considered as of 1987. Since the 1997 listing as a Nevada BLM Sensitive Species, BLM policy is to provide sage grouse with the same level of protection as is provided for candidate species in BLM Manual 6840.06C. In effect, there is a higher priority to protect and enhance sage grouse habitat since the 1997 listing to help preclude the need to list the species under the Endangered Species Act.

62. ***Comment:*** *Red Cow Pasture - This pasture contains fishery values. We feel there is excessive hot season use.....Cottonwood/Six Mile Pasture - This pasture also contains*

fishery values. Again, we feel there is excessive hot season use to allow for any improvement of stream/riparian habitat.

Response: Under the proposed grazing system, hot season use on Red Cow Creek is limited to approximately two to four weeks (from about mid to late June to mid July) annually over a four-year cycle. No grazing will occur during the remaining 12+ weeks of the hot season in any year. One year of rest may be introduced into the four-year cycle depending on the results of monitoring.

Under the proposed system, the high priority fisheries habitat (Big Cottonwood Canyon Creek) has been fenced out of the Big Cottonwoods Uplands pasture and incorporated into a separate riparian pasture. Other important riparian habitats including Sixmile Canyon Creek and aspen stands, seeps, and springs remain vulnerable to hot season grazing. These areas will be monitored and evaluated for fencing or other management as necessary. Although Six Mile Creek has historically been grazed during the hot season, much of it is in good to fair condition as a result of steep canyon walls and poor access by livestock.

63. **Comment:** *Option lb: Burner Hills Pasture - This option further compounds the concerns stated under option 1 a. If option la would not allow for any improvement in riparian areas, this option could cause serious deterioration. Season long grazing is simply not acceptable for the same reasons as stated previously.*

Response: See response for comment #60 above.

64. **Comment:** *Red Cow/Cornucopia Pasture - We concur with the grazing system except for the option of 8 weeks of hot season use. We reference again the 10-12 day recommended hot season use from the workshop. Uplands will improve in Red Cow if the grazing system improves riparian areas.*

Response: See response for comment #62 above for Red Cow Pasture. In the proposed grazing system, Cornucopia Pasture will be used early (3/25-5/31) every year, eliminating the concern for hot season grazing. This will improve upland, riparian, and wildlife conditions throughout the pasture.

65. **Comment:** *Squaw Valley Allotment*
Willow Creek Ridge/Ivanhoe - Under options 2a and 2b the proposal is essentially season long use. Under these grazing systems valuable upland riparian areas in this pasture can be expected to remain in poor condition or possibly deteriorate. These upland riparian areas are critical to sage grouse and numerous other wildlife species.

Response: Neither of the options described above have been selected. Under the proposed grazing system, hot season use will be reduced. Fencing and other management strategies including vegetation treatments and water developments will be implemented

to reduce impacts to key riparian habitats in the Willow Creek Ridge/Ivanhoe areas.

66. ***Comment:*** *We may have missed seeing any strategy to address the riparian condition along Rock Creek in the lower gorge. If there is no strategy for improvement of that stretch of stream/riparian, it must be addressed. The entire length of Rock Creek from Squaw Valley to the Rock Creek Ranch is in public ownership. Several years ago there were plans to gap fence the rim to preclude livestock entirely from the canyon. We suggest that proposal again be seriously considered.*

Response: Due to the Hot Lake Fire of 2001, a new proposed pasture, the Rock Creek Riparian Pasture, will constitute a riparian friendly grazing system with a early off date annually or fall use (after September 15th) in no more than one year in three designed to allow for improvement of stream/riparian habitat within the gorge.

67. ***Comment:*** *Willow Creek Riparian - Under options 2a and 2b we fully concur with the strategy for this pasture and it should allow for rapid and sustained recovery. Scraper Springs/Soldier Creek - Under options 2a and 2b season long use would maintain upland riparian areas in currently poor condition and possibly cause deterioration. This area contains an abundance of springs and meadows that are critical to sage grouse and numerous other species. We strongly recommend some different options be developed to address annual season long use.*
Frazer Creek - Options 2a and 2b allow for early off on 3 years out of 4 if riparian conditions are compromised on the 7/1 off date every 3 years, then modifications need to be addressed. We recommend that such a provision be added to the strategy to allow for early removal if riparian conditions deteriorate with the 7/1-removal date.
Middle Rock Creek/Toe Jam/Trout Creek - With this area supporting high priority LCT habitat, improved stream/riparian conditions must be assured. It is questionable if options 2a or 2b will allow for fully functional conditions along all stream segments. Again, we reiterate the recommendation to keep hot season grazing limited to a 10-12 day use period. In particular, the 7/2-8/15 use period is a concern and needs to be modified. A rest rotation system is not effective for stream/riparian systems in poor condition. We do not advocate a series of corridor fences. If the stream/riparian system can be improved through a grazing strategy, uplands will also improve. We strongly recommend further modifications of grazing use periods for this pasture.
Upper Rock Creek/Toe Jam - With high priority LCT habitat, we again state our concern over hot season use. There is far too much hot season use in this pasture. Recommendations are the same as stated for the Middle Rock Creek/Toe Jam/Trout Creek pasture.

Response: All of the pastures within the Squaw Valley Allotment with riparian concerns will now have minimal if any hot season use in order to improve stream/riparian habitat. Frazer Creek will now be a riparian pasture due to the Buffalo Fire Rehabilitation Fence and have limited hot season use, see technical recommendation 4. within this report

68. ***Comment:*** *Numerous nongame wildlife species use this allotment complex in all seasons of the year. Most were not mentioned in the "other terrestrial wildlife" section.*

Response: Per BLM Elko District Mammal, Bird and Reptile/Amphibian Lists, there are approximately 350 species of vertebrate wildlife that occur in northeastern Nevada and many of these inhabit the allotment complex on a seasonal or yearlong basis. Since it is impractical to actively manage the specific habitats of so many animals, the Resource Management Plans focused on "priority species". The Elko RMP was an "issue driven" plan that centered on resource issues associated with these priority species as well as high resource values such as riparian habitat. The goals and objectives for priority species generally involve maintaining or improving waters and native plant communities, including riparian habitat. Wildlife utilize riparian habitat more than any other habitat type. For example, approximately 79% of all terrestrial species known to occur in the Great Basin are either directly dependent on riparian habitats or utilize them more than other habitat types. Therefore, the management decisions and standard operating procedures outlined in the RMP Record of Decision, will benefit more species than just those for which the actions are specifically intended. The management decisions outlined in the RMP Record of Decision were made more allotment specific by the Rangeland Program Summary. Only those objectives outlined in the RMP and RPS for the allotment complex were evaluated. The RMP and RPS identified management objectives and priorities for both game and nongame habitat.

69. ***Comment:*** *Attached are additional sight records of nongame wildlife in and adjacent to the allotment from the spring of the year. Most of these species breed within the allotment boundary.*

Response: See response to comment #68 above.

70. ***Comment:*** *We were hoping to see a stronger commitment and shorter time frames relative to completion of range improvements. The evaluation states, "depending on BLM funding and manpower and outside (non-BLM) funding opportunities, construction of the necessary range improvements to implement the proposed grazing system options may begin as early as 1997 and are expected to be completed within 5 years". This leaves a major objective relative to LCT without a reasonable assurance of being reached within 5 years. We would recommend that all structural improvements be completed within 3 years.*

Response: Some structural range improvements have been completed as a result of the Clover, Hot Lake, and Buffalo Fires. Projects need to be prioritized among other district priorities. Higher priority will be placed on range improvements that are critical to riparian improvement, listed species, and where there is cooperative funding.

71. ***Comment:*** *The evaluation should allow for the rehabilitation of crucial deer winter ranges and/or green stripping of areas that have burned along the western flank of the Izzenhood Range and along the south and west side of the Dinosaur Hills (Indian Springs*

area). This action would help rehabilitate crucial deer winter ranges in areas devastated by past wildfires and where perennial shrub and grass vegetation has been lost and natural vegetation would not be expected to reestablish in the foreseeable future. This action would also help protect existing native vegetation within the Izzenhood Range and Dinosaur Hills from future fires. NDOW could be the primary funding source for these projects.

Response: Due to the Izzenhood, Clover, Upper Clover, Hot Lake, and Buffalo Fires, thousands of acres have been seeded and rested to restore wildlife habitat. In the fall of 2002 an additional 5,134-acre seeding was completed to help protect crucial deer winter range. Over 2,050 acres was seeded in fall 2002 and spring of 2002 as the first phase of the 1999 Izzenhood Fire Seeding with seed bed preparation on over 3,500 acres for a second phase, of four planned phases, being completed in spring 2003. The BLM in cooperation with NDOW, have completed large scale seeding efforts in this area in order to try to improve range conditions and lessen the frequency of fire occurrences. The BLM appreciates NDOW's concerns in this area and will look forward to working with the agency on future proposed projects concerning crucial deer winter range.

As a result of meetings with affected and interested parties on November 6, 1997, under Technical Recommendation Q and P. (Page 126-127) for the Squaw Valley Allotment, the technical recommendation wording will be changed to: "Manage critical mule deer winter range within the Squaw Valley Allotment through the use of vegetative treatments including fuel breaks/greenstrips to protect intact stands of sagebrush communities, and vegetative seedings to increase forage and cover for wintering mule deer. Types of vegetative treatments may include the following: disk/drill seeding, aerial seeding, shrub planting, prescribed fire, and the use of herbicides to reduce cheatgrass.

For the reader's information, this technical recommendation takes into account the fact that rehabilitation efforts will be considered under the allotment evaluation process in lieu of Habitat Management Plans.

72. ***Comment:*** *Crucial deer summer ranges should be monitored to determine the status of shrub diversity, especially those preferred by deer.*

Response: See response to comment #52 and #53.

73. ***Comment:*** *We recommend that all non-allotment fences that are planned to be modified or constructed adjacent to a riparian area meet a three-strand fence standard.*

Response: In most areas, non-allotment fences that are planned to be constructed adjacent to a riparian area are built to BLM specifications with three-strand fence. Where there is heavy fence pressure from wild horses or livestock, the BLM would consider construction of four-strand fence.

74. ***Comment:*** *We recommend that additional key areas be established in all pastures.*

Key areas should include aspen, mountain brush communities and riparian areas.

Response: New key areas have been proposed to include every pasture in the Spanish Ranch and Squaw Valley Allotments. Please refer to technical recommendation #17 within this report for new key area locations.

In addition, after the Clover, Buffalo, Hot Lake, and Upper Clover Fires many key areas were established to monitor post-fire rehabilitation and seeding establishment. These key areas may also be used for long term monitoring in the future.

75. ***Comment:*** *All key areas should be used in calculating carrying capacity.*

Response: All key areas are used in calculating carrying capacity, but some data may not be used due to the high variation.

76. ***Comment:*** *Was any consideration given to adjustments in carrying capacity in pastures where fire has resulted in a dominance of annual exotic plant species?*

Response: No, the dominance of annual exotic plant species was not given any consideration in adjusting carrying capacity. Most of the cheatgrass dominated areas occur near the southwest end of the Squaw Valley Allotment in the Indian Springs and Horseshoe Pastures where early use is permitted. Cheatgrass greenup provides a portion of AUMs in these pastures during this time. Key areas established in the burned areas for monitoring purposes may help determine if any changes in carrying capacity are needed.

77. ***Comment:*** *We did not find any reference to a Cornucopia Field fence proposal to protect this reach of the South Fork Owyhee River floodplain. This was discussed at a 8/29/95 meeting on this allotment.*

Response: The grazing system selected will included fencing to create the Cornucopia pasture. The system will allow use in Cornucopia Pasture from 3/25-5/31. This will enhance riparian areas along the South Fork of the Owyhee River and improve wildlife habitat.

78. ***Comment:*** *....However, we did not find utilization objectives for woody riparian vegetation. We would suggest an average of 25% of current year's growth, not to exceed 30% on willow, alder and aspen in any one year for all riparian habitats.*

Response: Utilization objectives of 10-20% of the current year's growth for aspen and willow have been established for the UWCHEP in the Squaw Valley Allotment and for Red Cow Creek and Big Cottonwood Canyon Creek in the Spanish Ranch Allotment.

79. ***Comment:*** *We hope that any decisions on this allotment will not be made until the outcome of the proposed land exchange is determined.*

Response: As of January 4, 2002, the land exchange will no longer be considered. All options associated with the proposed land exchange are also not being considered.

Barrick Goldstrike Mines, Inc.

80. ***Comment:*** *PAGE 3: PERCENT PUBLIC LAND*
How were percent public land calculations made? Is there a commensurability report available or is this based on more recent production studies?

Response: Percent public land calculations were completed in the 1988 Rangeline Agreement which divided the Rock Creek Allotment into the Spanish Ranch and Squaw Valley Allotments. This report is available at the Elko BLM Field Office.

81. ***Comment:*** *PAGE 4: PARAGRAPH 4*
The existing Evans Creek fence is apparently not needed for resource management. The fence is causing a hindrance to livestock movement and requires a great deal of maintenance while serving no purpose. The initial construction and continuing maintenance represent unnecessary costs to the affected ranch owners.

Response: The Evans Creek Fence was put in to protect the 1993 Evans Creek Seeding. Due to drought and competition by cheatgrass, the seeding was a failure and the fence served no management purposes. After the 1999 Clover Fire more rehabilitation efforts have been made in the Indian Springs Pasture and in the Horseshoe Pasture. Starting in 2000 the Indian Springs Pasture was rested for two years to allow adequate rest for seeded species to establish. After the two-year closure in Indian Springs seeding efforts moved to the adjacent Horseshoe Pasture, which will be closed till at least 2005. Without the Evans Creek Fence it would not be possible to keep livestock from entering the rested pastures. In addition the fence will serve resource management by being able to manage the seedings in the future.

82. ***Comment:*** *PAGE 4-7: WILD HORSE AND BURRO USE*
This section appears to contradict itself. On page 4, a "Herd Management Area (HMA)" is defined as an area established for the maintenance of wild horse and burro herds. In Contrast, a "Herd Area, (HA)" is simply recognition of an area which was wild horse habitat in 1971. According to the text on page 5, the first true census, after the claiming period, occurred in March of 1978 and detailed distribution maps were not prepared until the years following 1984. How was it established that the identified herd areas were horse habitat in 1971? Since the Elko RMP did not establish HMA's, the Rock Creek Area is designated only as a Herd Area.

Response: To quote the Draft Elko Resource Management Plan (RMP):

"All the herd areas have been established based upon historical horse use and inventory

data. The assignment of specific animals and lands to a herd area varies, as there is some movement between herds."

Complete counts were not made in the herd areas in 1971. There were some partial counts made between 1969 and 1972.

The four existing herd areas in the Elko Resource Area will undoubtedly become herd management areas through a land use plan amendment. In the interim they will be managed as HMAs.

83. ***Comment:*** *If the identified areas are simply Herd Areas, and not HMAs, why are maintenance and management objectives established?*

Response: See response to comment to #82 above.

84. ***Comment:*** *At the bottom of page 4, the AE states that "Herd areas with extensive inclusions of privately controlled lands and waters, such as the Rock Creek HA, must be carefully reviewed for management in light of the legal requirement that wild horses be removed from private lands upon request by the landowner. As the landowner of the Squaw Valley Ranch, Barrick hereby requests the removal of wild horses from all private lands within the Rock Creek Herd Area as well as adjacent private Lands.*

Response: The Code of Federal Regulations at 43 CFR '4720.2-1 state: Upon written request from the private landowner to any representative of the Bureau of Land Management, the authorized officer shall remove stray wild horses and burros from private lands as soon as practicable. The private landowner may also submit the request written request to a Federal marshal, who shall notify the authorized officer. The request shall indicate the numbers of wild horses or burros, the date(s) the animals were on the land, legal description of the private land, and any special conditions that should be considered in the gathering plan.

85. ***Comment:*** *PAGE 8: WILDLIFE USE*
The geographical location of the Nevada Division of Wildlife-delineated Management Area 6, Units 066, 067, and 068 is not clear in the AE. How do these areas correspond to the Squaw Valley Ranch Allotment boundaries?

Response: The Deep Creek Road divides Units 066 (west) and 067 (east) in the northwestern part of the allotment. Old State Route 18 (Midas-Tuscarora Road) divides Units 067 (north) and 068 (south) in the central portion of the allotment. For clarity, please refer to latest NDOW Big Game Hunting Map.

86. ***Comment:*** *Clarification regarding the percentage of the Existing and Reasonable Wildlife Numbers that fall within the Squaw Valley Ranch Allotment boundaries would provide more effective information for determining future management objectives. The AE states these numbers as a combined figure including both the Spanish Ranch and the*

Squaw Valley Ranch.

Response: The AE states these numbers as a combined figure including both the Spanish Ranch and the Squaw Valley Ranch to help track the RMP and RMP objectives.

87. ***Comment:*** *Additional questions and needed clarifications include:*

1. Use of the term "Reasonable Numbers" as it relates to mule deer.

2. How were the Existing Herd Numbers and Reasonable Numbers determined?

3. Does the concept of "Reasonable Numbers" include a recognition of other multiple uses of the land or the number supportable by single-use deer management?

4. Is the number based on existing forage following the several fires in the area, or is it based on an ideal carrying capacity in the absence of fire?

5. What is the potential for the burned acres to provide maximum forage production in the future?

Response: Note on Existing and Reasonable Numbers:

Mule deer reasonable numbers, shown in Table 5 (of the evaluation) were inappropriately totaled under the Wildlife Use heading of the evaluation (Page 8). Mule deer existing numbers were also inappropriately totaled in the allotment evaluation. The number for each should stand alone per season of use and cannot be totaled since this may result in multiple counting of individual animals. For example, a buck that summers on Walker Mountain may winter in the Indian Springs area, both areas are in the Squaw Valley Allotment. The tally would show the animal both under crucial summer range and crucial winter range resulting in a double count. However, both the reasonable and existing AUM demand could be double-counted for each season-of-use period since forage would be utilized.

These figures will be corrected to only total existing and reasonable AUMs for mule deer.

Comment: "How were the Existing Herd Numbers and Reasonable Numbers determined?"

During the development of the land use plan, reasonable numbers of big game and associated AUMs were estimated by BLM and NDOW for each allotment by season-of-use based on seasonal use distribution maps. BLM background paperwork on-hand for work with NDOW for the RMP show that, "NDOW developed reasonable numbers in the late 1970's to be used for BLM forage allocation." Per Instruction Memorandum No. NV-79-175: " [Big game] Monitoring, preferably based on a 15 year average, will determine these estimates." Our interpretation was that an average estimated number of mule deer for a 15-year period prior to the draft 1985 RMP were used for all allotments for the Elko

District per season-of-use by a given number of animals for each allotment. It is our best understanding that **existing numbers** were an estimated number of mule deer during the (1984-85) period just prior to the signing of the draft 1985 RMP for all allotments on the Elko District per season-of-use by a given number of animals.

"Does the concept of "Reasonable Numbers" include a recognition of other multiple uses of the land or the number supportable by single-use deer management?"

The reasonable numbers calculations were completed under the multiple use concept recognizing other multiple uses of the land. This effort was not intended to allocate forage for wildlife but rather to consider a level of big game use on grazing allotments where big game species occur.

"Is the number based on existing forage following the several fires in the area, or is it based on an ideal carrying capacity in the absence of fire?"

See above regarding 15-year average. NDOW has recognized winter range limitations and has proposed antlerless mule deer harvest strategies geared to keep the populations compatible with the carrying capacities of winter ranges. No recommendation to adjust reasonable numbers or AUMs for winter ranges have been requested by BLM or suggested by NDOW for this evaluation.

"What is the potential for the burned acres to provide maximum forage production in the future?"

Unknown. Potential of the burned areas is partly based on successful rehabilitation efforts in areas dominated by exotic annual vegetation, natural succession in upper elevation areas, protection of intact areas using vegetative firebreaks coupled with other fire management and grazing management actions.

88. ***Comment:*** *PAGES 10 & 11: PRONGHORN ANTELOPE*
The same comments regarding Existing and Reasonable Numbers, as stated above for deer, apply to pronghorn numbers. The AE implies that pronghorn habitat has increased while mule deer habitat has decreased as a result of fires over the last decade. Please comment on the following:

1. *If management is designed to increase deer habitat, what will the impact be to pronghorn habitat?*

Response: We do not agree that the evaluation implies that pronghorn habitat has increased and mule deer habitat has decreased as a result of fires as a management action. One intention of the allotment evaluation process is to identify where habitat can be improved within the scope of the objectives listed. To our knowledge, there are no recommendations to improve habitat for mule deer to the detriment of pronghorn. On the contrary, as an example, the Northwest Izzenhood Seeding efforts aimed at improving

mule deer winter range should also improve pronghorn winter range.

2. *Are the maximum "Reasonable Numbers" achievable for both species at the same time, or are these objectives mutually exclusive?*

Response: Reasonable number should be attainable for both species at the same time.

3. *It appears that a management choice must be made as to the most desirable wildlife species. Given this trade-off, how do changing proportions of mule deer and pronghorn antelope affect carrying capacities of other wildlife species, wild horses, and domestic livestock?*

Response: We disagree with your perception of a management choice scenario. Improvement in forage diversity at study areas where both mule deer and pronghorn habitat was evaluated would help to allow "good" habitat ratings for both species. On a case-by-case basis, the same improvement in forage diversity for wildlife would likely improve forage diversity for livestock and wild horses.

89. ***Comment:*** *PAGE 11: SAGE GROUSE*
The AE states that "Sage grouse numbers are considered to be at moderate levels but below long-term historic levels." On what data is this statement based? Do long-term historic sage grouse population data exist? Current numbers of sage grouse are not provided in the AE. Without quantifiable data of either point, how can a comparison be made? It appears that there is a tremendous lack of information available on sage grouse populations in all three allotments.

Response: "...Sage grouse numbers are considered to be at moderate levels but below long-term historic levels.": The 1993 Nevada Division of Wildlife status report for Region II sage grouse populations states, "Sage grouse populations in Elko, Lander, and White Pine Counties are estimated to be at moderate levels and stable." Additional input regarding "long-term historic levels" were added by BLM. This statement is a consideration based on anecdotal evidence (Sydney Tremewan historical accounts) within 10 to 15 miles of the allotment boundary that present sage grouse populations levels are lower than long-term historic levels (between 100 and 150 years ago).

"On what data is this statement based? Do long-term historic sage grouse population data exist?": There was no specific population data requested from NDOW for the evaluation.

Current numbers of sage grouse are not provided in the AE. Without quantifiable data of either point, how can a comparison be made? It appears that there is a tremendous lack of information available on sage grouse populations in all three allotments.: There were no specific population objectives for the allotments. The evaluation was never intended to be used to compare specific sets of sage grouse population data but rather to evaluate if

sage grouse habitat objectives have been met. The conclusions section of the evaluation indicates causal factors including the poor condition of sage grouse habitat features, such as meadow and riparian areas that have likely negatively affected sage grouse populations on the allotments.

90. ***Comment:*** *PAGE 12-14: FISHERIES AND THREATENED, ENDANGERED AND SENSITIVE SPECIES*

Barrick is committed to proper management of fisheries and T & E species. As stated above in the comments regarding the interactions of mule deer and pronghorn populations, it will be necessary to identify and quantify existing species and determine preferred species in order to make defensible management decisions. In reference to T & E species, the use of the phrase "considered likely to be present" does not provide identification and quantitative information necessary to set management objectives. The AE states that it covers a twenty-year period. If these species have not been identified in that period of time, what is the real likelihood that they are present?

Response: The wording listed as "likely", as shown for some species in Table 10 in the evaluation, is based on the high probability that the given species is found on the given allotment on a yearlong or seasonal basis due to availability of habitat although the species has not been formally documented on the given allotment. For example, the goshawk, a highly mobile bird, has been documented on the Squaw Valley Allotment and not on the Spanish Ranch Allotment although both have similar habitat features, adjoin each other and were both formerly one allotment. So it is likely that the northern goshawk occurs on the Spanish Ranch Allotment for various reasons. The designation for likelihood of occurrence per species in the table is tempered by input provided by the U. S. Fish and Wildlife Service and review by BLM and NDOW personnel.

91. ***Comment:*** *PAGE 17: TERRESTRIAL NATIVE WILDLIFE CONSIDERED FOR REINTRODUCTION*

How will introduction of Bighorn sheep affect existing domestic sheep permits? The AE states that bighorn sheep historically inhabited areas throughout the Spanish Ranch and Squaw Valley Allotments, however, the exact areal extent, number and timing of this historical use is very vague. Information on the following questions would help in this area:

1. *McOuivey, 1978 refers to documented sightings prior to 1850. How many sightings were made and in what locations?*

Response: A map that depicts historic bighorn sheep distribution in Nevada prior to 1850 is shown as Figure 3 in the McQuivey reference. The script for the map states, *"Historic distribution of bighorn sheep prior to 1850 based on petroglyph locations, archeological evidence, and documented observations."* All upper elevation areas of the North Tuscarora Range are blocked as bighorn habitat. This would include the eastern portions of the Squaw and Spanish Ranch Allotments. We would like to clarify that the McQuivey map depicts this mountainous area of the Tuscarora Range as historic Rocky

Mountain bighorn sheep habitat, not California bighorn sheep habitat. However, recent studies have shown that Rocky Mountain and California bighorns are genetically and physically the same animal. Per archaeological evidence in the Big Butte and Rock Creek areas, it is suggested that bighorn sheep, most likely California bighorn sheep, inhabited suitable areas on this portion of the Squaw Valley Allotment. There were no barriers to prevent bighorn sheep from inhabiting suitable habitat throughout the Squaw Valley or Spanish Ranch Allotments.

2. *Were the referenced excavated bones ever dated? If so, what is the estimated time of their existence in the area?*

Response: The information is presented to suggest that bighorn sheep inhabited suitable habitat on the allotments. The references are available in the BLM Elko Field Office for information regarding dating and time of existence of bones.

92. ***Comment:*** *PAGE 17: ALLOTMENT PROFILE*

The AE states that Squaw Valley became a separate allotment following a 1988 Rangeline Agreement. It continues to state that, according to "Grazing regulations then in effect, the authorized officer may designate or adjust allotment boundaries after consulting with Permittees. Are Squaw Valley Allotment boundaries still subject to change at the discretion of the authorized officer?

Response: According to the 43 CFR 4110.2-4 Allotments, the authorized officer after Consultation, Cooperation, and Coordination with the affected grazing permittees or lessees, the State having lands or responsible for managing resources within the areas, and the interested public, may combine or divide allotments, through an agreement or by decision, when necessary for the proper and efficient management of public rangelands.

93. ***Comment:*** *PAGE 20: MANAGEMENT EVALUATION AND DATA SUMMARIES*
Was Natural Resource Conservation Service (formerly Soil Conservation Service) data used to determine key species frequency potentials and production potentials for key areas based on soil type, slope, aspect, etc?

Response: Key species production potentials came from NRCS soil description sites. Frequency potentials are not included in the NRCS soil description sites.

94. ***Comment:*** *PAGE 23: WILD HORSE MANAGEMENT*
According to statements on page 7 of the AE, the Elko RMP RPS management objective was to provide forage to sustain 1,428 AUMs (119 head) of wild horse use in the Rock Creek Allotment and Herd Area. The IBLA decision apparently resulted in a more flexible level, stating that the objective would be to "Manage for a wild horse herd size which will maintain a thriving ecological balance consistent with other multiple uses while remaining within the wild horse herd area." The AE fails to demonstrate that a thriving ecological balance can be maintained when wild horse numbers are allowed to

increase in the manner shown on Table 18, page 23 & 24. According to this table the 1996 wild horse use amounted to 7,953 AUMs. This is more than five times the carrying capacity considered reasonable just ten years ago and represents a 457% increase in AUMs from the 1428 figure established in 1984. It also appears that use may be somewhat understated given the large variation in the number of horses counted at different seasons of the same year. During the years, 1992,1993, and 1994, the number of wild horses counted almost doubled depending upon the season of the count. When the early season low numbers were incorporated into the spring count during 1995 and the estimate for 1996, the AUMs increased by as much as 21%. Comments and questions relating to this issue include:

95. ***Comment:*** *1. Were livestock numbers allowed to increase by the same percentage over that time? How have wildlife numbers changed over that time?*

Response: The Interior Board of Land Appeals (IBLA) has ruled in several appeals concerning the removal of wild horses from public lands. The Board stated that "the appropriate management levels established in most resource management plans (RMPs) were established for administrative convenience, rather than based on a determination of the optimum number of wild horses which would maintain the range in a thriving natural ecological balance and avoid a deterioration of the range" (IBLA 89-285,89-286).

The initial number of wild horses to managed in the Rock Creek Herd Area as given in the 1987 Elko RMP was not based on monitoring or carrying capacity calculations and hence was not a number which could be used after the ruling by IBLA. In the time since that ruling, the BLM has engaged in an extensive rangeland monitoring program which has allowed for the determination of the proper carrying capacity of the Rock Creek Herd Area. During the period of data collection, the BLM could not conduct wild horse removals as a viable AML was not yet determined. This cessation of wild horse gathers caused the enormous increase in numbers as given in Table 18 of the allotment evaluation. Any comparison of numbers from the 1987 Elko RMP to the present is not relevant.

Census flights conducted in the winters of 1993 and 1994 resulted in far fewer horse numbers than the flights conducted in the spring of the same years. As we attempted to explain on page 41 of the allotment evaluation, when the population of the Rock Creek Herd Area exceeds 250-300 horses, it has been observed that up to 50% leave the herd area during the winter months in search of better habitat. The horses were not missed during these winter census flights, they were not in the herd area, and so we cannot incorporate the missing horses into the carrying capacity calculations as suggested.

96. ***Comment:*** *2. The AE does not appear to address the impact to other multiple uses by this uncontrolled increase in numbers.*

Response: We believe that the allotment evaluation adequately addresses the impacts of the increase in horse numbers and the data shows that a reduction in numbers is

needed.

97. ***Comment:*** *3. The BLM is failing to adhere to the IBLA decision to "maintain a thriving ecological balance consistent with other multiple uses.*

Response: The BLM is setting AML based on monitoring data as directed by the IBLA decision. That horse numbers increased while this data was being collected was inevitable.

98. ***Comment:*** *4. Barrick restates its request to remove wild horses from Squaw Valley private lands within the Allotment and Herd Area.*

Response: The BLM restates the necessity required by law that Barrick provide the dates, number and location of horses on private lands before action can be considered.

99. ***Comment:*** *PAGE 25: UTILIZATION - SQUAW VALLEY SEEDINGS APPENDIX C, D, G, J & M*
Utilization in the Horseshoe seeding is read at the end of the grazing season use by both cows and domestic horses. If utilization were read at the time that cattle were removed from the pasture and then again after removal of domestic horses, use could be separated and valuable information could be provided as to future management.

Response: The total carrying capacity for the Horseshoe Seeding is based on total actual use by livestock/domestic horses, times objective use level, divided by actual utilization by livestock/domestic horses. While reading utilization when livestock are removed and again when domestic horses are removed would provide us with how much use each is making, the BLM is not seeking to distinguish use, but rather establish a carrying capacity based on total use by livestock and domestic horses.

100. ***Comment:*** *The desired utilization level for all three Squaw Valley Seedings is stated as 55% on page 25. However, on page I of Appendix G, it is stated that the desired utilization level for the Midas Seeding and the Rock Creek Seeding is actually 65%. These figures should be changed to reflect the actual utilization objective. It appears that the correct figures were used in calculations.*

Response: Objectives developed for the 1988 evaluation utilized a 55% utilization objective. However, we recommend that Midas and Rock Creek Seedings utilization objectives remain at 55%, which is the figure used in recalculating the carrying capacity (Appendix G within this report) and as shown under technical recommendations.

101. ***Comment:*** *The Horseshoe Seeding is limited to a desired 55% use level because, the AE states, it has a downward trend. What is this statement based on? The Frequency study data shows that frequency of crested wheatgrass has significantly increased since 1983. Sandberg Bluegrass has also increased while both cheatgrass and lupine have*

significantly decreased in frequency. There is no raw data provided to enable evaluation of the Forage Value, #/Acre values listed in Appendix C. Use pattern mapping from 1986 showed moderate use and 1987 maps show light to moderate use. Ecological Status for Key Area RC-01 is not provided (or expected) as this is a crested wheatgrass seeding.

Response: In the Horseshoe Seeding the frequency of crested wheatgrass was maintained at the 1988 level. Due to the late fall brush beating treatment which occurred after seedripe of big sagebrush and the high level above the ground of the brush beater, the overall frequency of big sagebrush increased. There are fewer mature big sagebrush plants but there are numerous seedlings and small plants. In comparing the production data collected in the Horseshoe Seeding in 1988 and 1996, there is a large decline in the percent composition of crested wheatgrass. There is also a large increase in the total production of Wyoming big sagebrush. The production information indicates that the brush beating treatment, at a level of about eight inches and on the type of soils found in the Horseshoe Seeding, is fairly short-lived. In this situation, seven years after treatment no benefits can be observed. The trend for this seeding is downward. See page 33 and top of page 34 in the allotment evaluation.

102. **Comment:** *A more in-depth description and explanation of Utilization Sampling Methodology would be helpful for the evaluation of sampling results. The Nevada Rangeland Monitoring Handbook, 1984 describes the Key Forage Plant Utilization Method as using six utilization classes as follows:*

CLASS	*USE RANGE*	*MIDPOINT*	
No Use	*0%*	*0%*	
Slight	*1 - 20%*	*10%*	
Light	*21 - 40%*	*30%*	
Moderate	*41 - 60%*	*50%*	*Horseshoe Seeding in this range*
Heavy	*61 - 80%*	*70%*	*Midas and Rock Creek in this range*
Severe	*81 - 100%*	*90%*	

Response: The BLM uses the Key Forage Plant Utilization Method outlined in the Nevada Rangeland Monitoring Handbook to record utilization. Utilization cages (cages built so no utilization is possible) are set at key areas in order to see how much growth occurred during the current year. Ocular estimates of utilization are then recorded at 20 different points on key species. BLM records 20 "hits" on at least one key species, and at least 10 "hits" on the remaining key species.

103. **Comment:** *The manual also states that a witness post should mark the starting point of the transect and that the transect direction should be set by compass bearing and documented. A paced transect should be followed along this bearing and at a specified number of paces, the utilization of the nearest plant(s) of each key species falling within a 180 degree arc, five feet from the toe is recorded using six utilization classes. There should be a minimum of 10 hits on every key species.*

Based on this information, clarification of the following items would be helpful:

1. Were the above described steps followed in the collection of utilization data?

Response: Yes. See response to #102 above.

104. ***Comment:*** *2. Were actual measurements of ungrazed heights and grazed heights obtained to determine the utilization class of each species recorded?*

Response: Ocular estimates were used to determine utilization of each species based on use class descriptions described in the utilization form NV 4400-12.

105. ***Comment:*** *3. If measurements were not made, how were estimates of utilization classes made?*

Response: See response to #104 above.

106. ***Comment:*** *Comments:*
1. If utilization was estimated by class, then utilization was calculated based on the mid point of each class. A 55% utilization objective falls into the Moderate Utilization class (41% - 60%) with a midpoint of 50%. The 1996 Utilization value of 58% also falls within this range and should therefore be acceptable. It is not significantly different.

Response: The difference between 55% and 58% utilization is not significant in this case, but can be. Utilization is estimated on individual plants and then an average is taken. For example, if a key species has use recorded at 58% (moderate class) and 20 points recorded, 12 points may have been read in the moderate class (41-60%), and 8 points may have been read in the heavy class (61-80%). If those points in the heavy class are in the higher end of the class (70%+), then this is significant use on individual plants and these plants can be severely impacted if utilization continues at that level. The difference between 58 and 55% utilization is not significant, but if you take this example and have a plant with 30% utilization, which is in the light class, and another plant has a utilization of 90%, which is in the severe class, this only averages to 60% utilization. A utilization of 90% will severely impact a plant, especially if it is grazed to that utilization year after year. As you can see by these examples, as higher utilization is recorded, that means more hits are being recorded in the higher use classes, which can be significant to individual plants. In an addition, the objectives are proposed to be changed to include an average of 50% use on native range. Therefore, during the evaluation period, while one year may exceed the use objectives, the overall objective may still be attained.

107. ***Comment:*** *2. If estimations were used, and an insufficient number of points were observed, even the 70% and 75% utilization values from 1994 and 1992 could be*

statistically insignificant.

Response: Whether an individual plant is estimated or measured, it is categorized into a use class as described in form NV 4400-12 Range Utilization key Forage Plant Method and calculations are the same. In this case, sufficient numbers of points were observed in these determinations.

108. ***Comment:*** *3. More reliable and defensible data can be obtained if utilization calculations are based upon measured data, eliminating observer bias.*

Response: An individual can measure plants initially to get calibrated and then do ocular estimates and be just as accurate within the use classes.

109. ***Comment:*** *PAGE 25: UTILIZATION - NATIVE PASTURES*
RC-14
The sampling comments as noted above also apply to the one year where estimations show that utilization on Great Basin Wild Rye exceeded the desired level. The objective is set at 50% the midpoint of the Moderate Class. The estimated use was 61%, the very bottom of the Heavy Class. Based on the method of data collection and number of samples acquired, this is very likely not a significant difference.

RC-13
The sampling comments, as noted above also apply to the one year that estimated use of 60% exceeded the 50% objective.

Response: Refer to the response on #106.

110. ***Comment:*** *USE PATTERN MAPPING*
Use Pattern Mapping for 1986 shows that 100% of the Midas Seeding (RC-02) fell into the heavy use category implying that there is a problem. The AE should recognize that the objective for this pasture is 65% use which also falls within the heavy use category. Based on the comments above, it is probable that the estimated 70% use level is not a significant difference from the objective.

Response: See response from comment 106 about differences in utilization. Page 25 of the AE, under use pattern mapping is simply stating that the Midas Seeding was mapped as heavy use, and you are incorrect in stating that the objective level is 65%. Current utilization objective levels are 55%, through the AE we were proposing to change utilization objectives to 65%, but have decided to keep utilization objectives at 55%. There were no implications made in this section that this was a problem, the facts are strictly being stated.

111. ***Comment:*** *PAGE 26: UTILIZATION BASED ADJUSTMENTS*
The statements on page 26 regarding desired utilization levels are contradictory to those

on page ' I' of Appendix G. Page 26 text states that the "key area objectives for the Squaw Valley Allotment had specified a desired utilization level of 55% for all three seedings. However, for developing carrying capacity estimates, these desired utilization levels were modified. Desired utilization for the Midas and Rock Creek Seedings is 65% and 55% for the Horseshoe Seeding".

Response: Page 26 states the current objective utilization level. The allotment evaluation had proposed to change utilization objectives to 65%, but was decided later that objectives should remain at 55%. The new carrying capacity calculations based on the proposed changes to objective levels can be found in Appendix G within this report.

112. ***Comment:*** *On page `i' of Appendix G, it is stated that "Normally, 65% is the objective level of utilization for seedings. However, the Horseshoe Seeding has a downward trend so the recommended level of used in the carrying capacity calculations is 55%." The AE should be consistent in its description of how items are defined or established. Corrections should be made to these pages and should coincide with the aforementioned additional comments regarding misstatement of desired utilization levels.*

Response: See response to #101 and #111.

113. ***Comment:*** *The next paragraph on page 26 discusses how carrying capacity is adjusted by the crop yield index so as to reflect the carrying capacity that is expected based on a "normal year's production." Please define "normal year's production."*

Response: "Normal Years Precipitation" is based on a long term average of precipitation. A "crop yield index" or "CAF" of 1 is considered to be an average precipitation year, above 1 is above average, and below 1 is below average. In this report Appendix G was modified to calculate carrying capacities with updated monitoring data and did not use "crop yield index" in the new calculations.

114. ***Comment:*** *If this is considered an average value, then please provide the justification for eliminating high production years. When dramatic decreases are found in data, they have not been eliminated. The Great Basin is known for its extremes in weather patterns. The "average year" rarely, if ever, occurs. Instead, extremes in values should be expected. When extremes in precipitation coincide with warm spring growing conditions, dramatically higher production values have been observed. Extreme, and therefore eliminated values, occur in several years of sample data. It does not appear to be a rare occurrence easily explained by sampling error. The elimination of these data reduces the carrying capacity. What is the justification for the non-inclusion of this [sic] data?*

Response: Refer to #113 above. Technical Reference 4400-7 (Analysis, Interpretation, and Evaluation), states, "The analysis of biological information should be logical and well documented. Interpretation and evaluation are thought processes that deal with unique biological situations rather than more restrictive cookbook processes.

There is no simple formula that can be used to analyze, interpret, and evaluate grazing use and its effects on the public rangelands". The technical reference further states that "Because of the variety of monitoring data collected through the BLM, no single format is feasible or recommended. To facilitate the analysis of specific data, the format must be designed on a case-by-case basis. Complete documentation of the analysis is essential. The analysis may be as basic as visually comparing cover values from successive readings of trend or as complex as conducting a computer-aided analysis of variance of large amounts of data". Many years of data and many types of data have been analyzed to draw the conclusions on attainment or non-attainment of multiple use objectives. The BLM feels the revised carrying capacity calculations presented in Appendix G are appropriate and within BLM guidance, policy, and procedure.

115. ***Comment:*** *PAGE 30: ECOLOGICAL STATUS*
Table 21 and the following text is somewhat confusing. The text states that "Key Area RC-12 was only sampled in 1983 and 1988 within the Claypan 12-1 6" range site....Note that the frequency was read within a Loamy Slope 12-16" range site." Does this mean that the Column headed 1994 Seral State refers to Frequency studies, while the other columns refer to Ecological Status (ESI) or is this a typographical error?

Response: The column headed 1994 Seral State refers to seral state. All that the footnote means is that frequency and production (weight estimate) studies in 1994 were read in a different range site than they had been in 1983 and 1988 for RC-12. The seral state in 1983 and 1988 are for a claypan 12-16" site while seral state in 1994 is for a loamy slope 12-16" site.

116. ***Comment:*** *The conflicting results between ESI and Frequency sampling at RC-11 are also confusing. In addition to other discrepancies, the ESI study shows a decline in Bluebunch wheatgrass while the Frequency study results show a significant increase.*

Are changes in ESI numerical values tested for statistically significant changes?

Other possible influences to ESI can be the methodology used to determine Total Dry Weight. The production sheets are not supplied with the AE. In recent years, the BLM has often determined Total Dry Weight by using a phenological factor based on an observed phenological stage in plant growth. The new phenological adjustment includes a percent dry weight factor and an adjustment factor based on the life cycle of the plant species. Barrick consultants have compared this method to actually measuring percent dry weight of clipped samples and found a high degree of variation. Use of the Phenological factor can bias the data in either direction.

BLM methodology also includes sampling 2 or 3 sites out of ten and estimating the rest. The method used by range conservationists for calibrating their estimates or calculating their correction factors can impact the results. Production values based on actual clipped and dried weights would provide more defensible data. If clipping is not possible, at least three plots should be clipped to determine the correction factor. Plots

for clipping should not be chosen until all ten plots are estimated and evaluated for species composition. Clipping and weighing green weights partway through the sampling will influence estimations on the balance of the plots, thereby biasing the data.

If standardized phenological adjustment factors are to be used, the BLM should return to using the older adjustment factors that separated percent dry weight from phenology. At least a few samples should be dried and weighed to verify the applicability of the adjustment factors.

Response: All study sites read are in accordance with BLM Manuals. Ecological Site Inventory is done using the double sampling method as per guidelines in the Nevada Rangeland Monitoring Handbook. The ESI numerical values are not tested for statistically significant changes, but the frequency data is tested. While there may be differences in data, there are other factors that need to be looked at, such as: precipitation, utilization, and actual use, when drawing conclusions on attainment of objectives.

117. ***Comment:*** *PAGE 32-34: SEEDINGS - FORAGE VALUE CONDITION AND TREND (Frequency)*

Forage Value Condition was determined based on production studies conducted in 1988, 1994, and 1996. Raw data from the production studies are not provided to enable an evaluation of sampling methodologies and/or variations in sampling methodologies in different sampling years. The AE recognizes that differences may have occurred. Other questions and comments include:

1. Please clarify whether or not production was collected for utilization in all years.

Response: No, production is not collected annually, but utilization is read almost every year. As stated in the AE, production was collected in 1988, 1994, and 1996.

118. ***Comment:*** *2. Comments included above with regard to the use of adjustment factors also apply to production and forage values rating calculations. Were the same methods applied to data in each of the sampling years?*

Response: Yes, the same methods were applied to data in each of the sampling years.

119. ***Comment:*** *3. Improper brush beating techniques appear to be responsible for increases in sagebrush plants within the Horseshoe seeding. The conclusion that no benefits can be observed from brush beating is misleading. If proper beater levels were used at the proper time of year, this seeding might be in much better condition. The result is a decrease in allowable livestock use. A follow-up brush beating, based on the successful methods employed at the Midas Seeding, could provide the desired improvements on the Horseshoe Seeding.*

Response: A follow up brush treatment has been added to the Management Action Selected Report under technical recommendation #14.

120. ***Comment:*** *PAGE 35: FREQUENCY*
Please provide information regarding the selection of key areas within the Squaw Valley Allotment. Was selection based upon specific monitoring goals, movement of livestock, proximity to water or other criteria?

Response: Refer to response on #74 for selection of key areas.

121. ***Comment:*** *PAGE 38 & 39: WILD HORSE HABITAT*
According to the last paragraph on page 38, pre-livestock utilization has not been collected because "the allotments receive season-long livestock use". According to the tables in Appendix C, turnout in most of the native pastures occurs sometime during March and turnout in the seedings is usually sometime in April. Why can't utilization data be collected prior to these times?

Response: The lower pastures and seedings are not used by wild horses, so pre-livestock utilization is not necessary. Because there are not pastures in the higher country and access to do monitoring early in the year can be a problem, the hope is that once an organized grazing system is in place it will be easier to collect per-livestock use. Under the current grazing system, the period of use by livestock is generally March through November on the native range. Pre-livestock data cannot be collected for current years utilization by wild horses in March because the plant has not yet started growing.

122. ***Comment:*** *The last sentence of the first paragraph on page 39 under heading 1G is confusing. Should the term "wildlife" be "wide horses" or should wild horses be added to the sentence?*

Response: See response to #11.

123. ***Comment:*** *PAGE 40: ESTABLISHING APPROPRIATE MANAGEMENT LEVELS*
If wild horse numbers were maintained at the original population level of 119 head (1428 AUMs) efforts by livestock operators to improve streamside utilization would be more effective. Management priorities need to be established with respect to horses, T&E species and livestock. It is not possible to manage for maximum benefits to all of these uses at the same time.

Response: As stated above, the horses numbers given in the Elko RMP are not valid as they were set for administrative convenience rather than on sound monitoring data. 119 head is not an option.

The BLM has considered several alternatives for managing wild horses within the Rock Creek Herd Area. Obviously consideration was given to the many uses in the area

including T&E species, livestock grazing and the large amounts of private land. We believe that the selected option for setting AML is the best considering these uses. Many miles of fence is planned for the protection of riparian and T&E species and it is proposed that the herd area boundaries be changed to eliminate the private land conflicts. These actions are proposed at the expense of wild horses in favor of other uses.

124. ***Comment:*** *PAGES 45 & 46: CRUCIAL DEER SUMMER HABITAT*
The evaluation of deer summer habitat begins by stating that overall habitat conditions are rated as good at all key area location sampled. In contrast, Paragraph 2 on page 46 gives the impression that the writer is looking for something bad to say even though condition ratings are good and Disturbance or interference Ratings have not resulted in a decline in condition.

Response: The discussion of habitat components are included under this heading for consideration as part of the 6630 rating system and to let the reader be aware of possible oversights of the 6630 habitat condition rating system where wildlife habitat conditions could be improved. For example, with the numerical rating system, a good to excellent habitat condition rating can be obtained with poor forage diversity, poor key browse age and form class, or factors that would be considered major disturbance or interference factors such as the unregulated creation of roads. Roads and associated disturbances can affect how mule deer use habitat areas. Vehicle use on roads in specific areas can also negatively affect habitat. The improvement of many of these habitat components are considered to be extremely important factors in regard to managing big game habitat.

125. ***Comment:*** *PAGE 47: TRENDS IN ASPEN STANDS*
Paragraph 3 makes the statement that "a wide scale loss of quaking aspen and willows has occurred, and continues to occur within their historic range in the allotments....

Comments and Questions:
1. Are there any quantifiable data available which document the claim of "wide scale loss" of aspen stands?

2. Regeneration around Aspen stand edges, often occurring on the up-hill slopes above existing stands is sometimes overlooked when evaluating current undergrowth within the stand. Available sunlight and water conditions, as well as less use by livestock, may make these areas more conducive to aspen regeneration.

Response:

1. The BLM has not quantified the specific loss of quaking aspen on the allotments.

2. Any evaluation of given stands would take into account sampling of recruitment throughout the stand including the potential outer extent of the root system(s).

126. ***Comment:*** *3. Development of valid methods for tracking aspen stand regeneration*

and changes in overall aspen stands should take priority over unsubstantiated claims of loss and "anticipation" of future loss.

Response: A literature search has been completed for quaking aspen regarding what criteria would help define a deteriorated stands and the minimum number of saplings needed for stand maintenance would reinforce the likelihood that the given stands will be lost without some type of management action that would help maintain recruitment.

In regard to Appendix S, Aspen Recruitment and Form Class, the number of single-stemmed aspen saplings per acre is in error due to incorrectly converting measurements from stems per hectare to stems per acre. The stems per acre are lower than those shown in the evaluation. The new recommended Appendix S Target and Monitoring is as follows as of Spring 2003 pending any future BLM-adopted guidelines for quaking aspen management:

Target
Aspen Recruitment

Short Term (within three years of implementation of the selected grazing system): Improve young aspen age class recruitment by increasing the number of single-stemmed saplings[1] by at least 10% above baseline values per acre in deteriorating[2] stands.

Short Term (within 10 years of implementation of the selected grazing system: Improve* young age class recruitment by making significant progress toward an equivalent of at least 850 single-stemmed saplings[1] per acre in deteriorating[2] stands identified in first year of grazing system with a tenth year overstory canopy cover class[3] of 20% or less.

Long Term (within 20 years of implementation of the selected grazing system): Maintain* young age class recruitment by allowing an equivalent of at least 850 single-stemmed saplings[1] per acre in deteriorating stands identified in first year of grazing system with a twentieth year overstory canopy cover class[3] of 20% or less.

* Short term improvement of identified deteriorating stands and long term maintenance of young age class recruitment in identified deteriorating stands would take in consideration site potential, disease and natural mortality factors, and potential need for disturbance treatments and/or fencing.

[1] Saplings, as mentioned for these objectives as of spring 2003, are defined as single-stemmed aspen that are at least 5 to 7 feet in height and less than 4 inches in diameter at breast height (4.5 feet). The sapling definition for these objectives take in consideration a minimum height needed to help allow terminal growth out of reach of browsing animals which is 0.5 to 2.5 foot higher than saplings defined by Natural Resource Conservation Service (NRCS) range site descriptions for aspen woodland sites on the allotment. The maximum diameter (less than 4 inches) at breast height for saplings is considered because

stems less than 4 inches in height usually constitute reproduction while larger stems usually contribute to the overstory.

[2] Deteriorating stands, as mentioned for these objectives, include those existing stands in immature, mature, and overmature woodland successional stages as defined by NRCS range site descriptions, with (1) an open canopy (10% or less canopy cover class), (2) abnormally large amounts of aspen residue (standing or fallen), and (3) sagebrush invasion. Such deteriorating stands will be identified during monitoring efforts in coordination with the permittee and interested publics who wish to participate; baseline values will be determined at that time.

[3] Canopy cover class of 20% or less, as mentioned for this objective, is expressed as the percent cover class where young age class recruitment is less likely to be influenced by competition by older age class aspen in immature, mature, and overmature stands.

Aspen recruitment studies considerations:

1) Density of single-stemmed saplings sampled in fixed 1/100-acre circular plots (5-10 plots per stand).

2) Dr. Charles Kay aspen study methodologies including 2X30-meter belt transects. The Winters Creek area of the Spanish Ranch Allotment was included in the summer 2001 study entitled *The Condition And Trend Of Aspen Communities On BLM Administered Lands In North-Central Nevada - - With Recommendations For Management* by Dr. Charles Kay, contractor. A second study on a larger portion of the Spanish Ranch and Squaw Valley Allotments was completed in summer 2002 and is in draft form as of May 2, 2003. The study methodologies outlined by Dr. Charles Kay for determining the condition and trend of aspen communities are scientifically valid and would also be considered for future studies on the allotments.

We would like to reiterate, as addressed in the evaluation, that the majority of quaking aspen loss has occurred at low to mid-elevation sites. Quaking aspen loss has been observed in most major drainages during stream surveys from 1977 to 1995 and water inventories completed in the early 1980's and 1993. Loss observed ranged from extinction of stands (e.g. Red Cow Creek Stream Stations S-7 to S-9) to major deterioration and fragmentation of stands where scattered individual or small groups of mature to overmature trees exist (e.g. Six-Mile Creek Stream Station 5, Big Cottonwood Creek Stream Stations S-8 to S-10 and Rock Creek below Falcon Mine) with either no regeneration to some stands with adequate regeneration. This information could be quantified to a large extent with the use of aerial photographs. For present conditions, please see Non-stream Riparian Habitats narrative on pages 61 and 62 and Stream Habitat narrative starting on page 61 in the evaluation and Kay studies mentioned above. For examples of livestock use pattern of drainage areas without specific livestock grazing system in place for the Squaw Valley Allotment, see Maps 14 and 15. Unless younger age class aspen is protected by some natural barrier in heavy to severe use areas, it is

likely to be have been, and continue to be, negatively impacted by livestock grazing.

127. **Comment:** *PAGE 48: DEER INTERMEDIATE HABITAT*
The first paragraph under this heading includes a sentence which states that "Shrub canopy cover was 21% in 1988 which exceeds the upper limit (20%) in this vegetation type to where herbaceous plant cover could decrease due to competition. A 1% change can cause this?

Response: Please note that the Winward quotation for early sagebrush 20% upper shrub cover limits in the evaluation was in error. The Winward studies were for basin, and mountain big sagebrush at 20% and Wyoming big sagebrush at 15%. Respective to the *Artemesia* plant genus for early and big sagebrush, a conservative upper limit of 20% was considered for early sagebrush for this evaluation. A one percent change or more change is the direction where it is likely that herbaceous cover could start to decrease due to competition.

128. **Comment:** *Are the negative impacts of shrub canopy cover outweighed by the provision of cover for mule deer?*

Response: With consideration as 20% shrub foliar cover as an upper limit versus a compromise in cover for mule deer, a narrative for the key area would have been written to reflect shrub foliar cover that would likely help provide a balanced herbaceous understory and improved forage diversity versus any compromise in cover values on this site due to less foliar cover. The cover rating at this key area was adjusted upward to reflect topography and ecological site potential.

129. **Comment:** *How were the Overall habitat condition ratings for key areas on the Squaw Valley Ranch determined? It is not clear from the AE how various factors are determined to be limiting. At some locations, lack of shrub cover or height is used as a limiting factor while, at others, the condition rating is less than possible due to an abundance of shrub cover and height. This is obviously tied to wildlife species under consideration. For example, at Key Area RC-14, it appears that the same study site is used to evaluate habitat for mule deer, pronghorn antelope and sage grouse. Optimum habitat requirements differ among these species.*

Response: It is our understanding that this comment questions "classic" pronghorn habitat (wide open, flat terrain) versus habitat that occurs at the key area, and in general, on Willow Creek Ridge. On a seasonal basis, pronghorn, mule deer and sage grouse can exist on low sage, big sage, big sage-bitterbrush vegetation types which all exist on rolling topography on the Willow Creek Ridge. This is not an unusual circumstance in northeastern Nevada. Large numbers of deer have been documented using this open rolling terrain as intermediate range seeking green-up mainly during the spring period. As stated in the evaluation, rolling topography and big sagebrush inclusions offer hiding cover for mule deer adjacent to the key area transect. Willow Creek Ridge also has a relatively high density of documented sage grouse to the remainder of the Squaw Valley

Allotment.

130. **Comment:** *It is not possible to achieve good to excellent ratings for all three species. Please explain how this conflict is resolved during the evaluation or, alternatively, how management is designed with species priorities so that any efforts directed toward improvement for one species will not result in a poor rating for another.*

Response: For pronghorn and mule deer ratings, the main difference in the rating system is the height of cover which has been adjusted for mule deer to reflect topography and potential shrub species that would likely grow on the range site. Forage diversity was a habitat component that could be improved for deer, pronghorn and sage grouse as indicated by monitoring in 1994. Please note that BLM recommends Desired Plant Community objectives to improve overall wildlife habitat with consideration to ecological site potential as shown under the Technical Recommendations for the Evaluation.

131. **Comment:** *PAGE 56: ECOLOGICAL STATUS*
How are numerical changes evaluated for statistical significance? Key areas at RC-11 and RC-1 2 are rated at mid-seral to late seral for all key areas, however, the paragraph stresses the numerical (percent) rating decline. Was this a significant change or a normal fluctuation that is expected due to differences between years?

Response: Ecological status is classified into four categories, 0-25 early, 26-50 mid, 51-75 late, 76-100 PNC. So while the KA remained within the same seral state, the numerical value within the category declined. These changes may be significant and not considered normal fluctuations. Other studies like use, frequency, and precipitation also need to be looked at to determine what is causing this decline.

132. **Comment:** *PAGES 61 & 62: STREAM HABITAT*
The introduction to this section lists the many studies conducted by both the BLM and NDOW. Is this data available for review? Findings are not included in the AE except in summary form.

Response: All habitat monitoring data collected by BLM is available upon request.

133. **Comment:** *Were data measured or estimated?*

Response: Data shown in Table 32, pages 61 and 62 of the allotment evaluation were measured.

134. **Comment:** *The text on page 61 states that "recent observations show an increase in willow growth in portions of Upper Rock and Toe Jam Creek...," but the "Estimated Trend" is shown as down on Table 32, page 62. If the objective is to increase willow growth, shouldn't the trend determination reflect the noted increase? Please explain the*

term "Estimated Trend." Is this an ocular determination or are quantifiable measurements being collected which can be used to determine actual trend?

Response: Field observations in 1996 showed localized increases in willow growth along the lower reaches of Toe Jam and Upper Rock Creeks. The increase in willow growth followed a series of good water years. However, habitat problems in the form of channel downcutting, heavy use of riparian vegetation, streambank erosion, and excessive sediment deposition were noted in significant parts of both drainages. Although measured quantifiable data were collected Toe Jam and Rock Creeks prior to development of the allotment evaluation, the most recent survey was completed in 1986. In the absence of more current data at the time the allotment evaluation was completed, trend is described as "estimated". Since the allotment evaluation was completed, more current data have been collected on streams in both the Spanish Ranch and Squaw Valley Allotments.

135. **Comment:** *PAGE 68: RIPARIAN - TOE JAM CREEK*
Is there a plan to deal with sediment releases into Toe Jam Creek resulting from road bed traffic?

Response: Although this is potentially an important issue, we do not propose to address this problem through the multiple use decision process for the Squaw Valley Allotment.

136. **Comment:** *PAGE 80: RPS OBJECTIVES*
Item 2: "Improve ecological status from late to PNC on 800 acres." Is this an achievable objective? The location is not specified and no mention is made in the evaluation as to site potential evaluation. Is there an area of 800 acres that has the potential to improve to PNC?

Response: Because of the unclarity of the objective as noted in the evaluation, a technical recommendation is being made to modify and requantify the RPS objectives and combined them with the key area objectives. A complete list of the objectives to be used in the next evaluation can be found in Appendix T in the allotment evaluation. This objective was removed.

137. **Comment:** *Item 3: "Maintain or enhance the current forage value condition on non-native range." As mentioned above, forage value condition could have been improved through the proper application of brush-beating techniques. Due to errors in timing and beater height, this seeding condition declined. Barrick proposes a properly designed brush beating to achieve desired improvement.*

Response: See response to comment 119.

138. **Comment:** *Item 5: Are separate geographical areas identified for improvement of deer habitat and pronghorn habitat? As mentioned above, their habitat requirements*

conflict.

Response: See responses to #129 and #130 above.

139. **Comment:** *PAGE 81: RPS MULE DEER OBJECTIVES*
Item 5 continued:
There is a statement in the second paragraph that claims that browse species monitored at the key area have been limited to low, early and big sagebrush. Does this mean that the monitoring has been limited to sagebrush species or does it imply that shrubs are limited to sagebrush?

Response: The monitoring has been limited to sagebrush species.

140. **Comment:** *What data was [sic] used to make the determination that up to 3,000 mule deer died due to starvation and the lack of thermal cover? Were actual counts made of dead mule deer? Were individual animals autopsied to determine that they died due to lack of thermal cover? Is it possible that mule deer not killed in the fire migrated to other areas?*

Response: Please note that the evaluation made reference to over 60% of 2,500 to 3,000 mule deer that overwintered on said crucial winter ranges died during 1992-93, not that 3,000 deer died on the same areas. NDOW confirmed the large winter kill in the said area and estimated the number of deer that died based on ground and aerial surveys. NDOW biologists examined individual animals. Most of the mule deer perished in the alluvial areas, foothills, and mountains of the Rooster Comb - Sixmile Hill area west to Indian Springs and Guard Corral, an area which covers approximately 90 to 100 square miles. Some groups of deer moved out into the Elevenmile Flat area which is a relatively flat area with intact stands of Wyoming big sagebrush that afforded food and cover. Low- angle drainages also provided some cover. However, the majority of deer stayed in the traditional upper alluvial plain, foothill and mountain areas and were reluctant to move away from escape cover, which in this case is steep, rocky terrain. A large percentage of the lower elevation winter range was dominated by annual vegetation. For perspective of how severe this winter period was, uniform snow depths were 18 to 21 inches on the valley floor with increasing depths at upper elevations. These snow depths persisted for several weeks in January and February of 1993.

141. **Comment:** *PAGE 83: WILD HORSES*
Item 10: The issue of uncontrolled population increases in the wild horse population and the resulting impact to resources was addressed above. Barrick restates its desire to have a sufficient number of wild horses gathered from the affected areas of the Squaw Valley Allotment to allow for improvements in resource conditions.

Response: The BLM has conducted three wild horse gathers in the Rock Creek Herd Area, both without the benefit of an established AML. The first gather was conducted in

1994 to allow for rehabilitation after a range fire. The second and third gather were conducted in 1996 and 2002 to prevent death loss to horses due to drought and also to prevent further damage to rangeland resources. With the issuance of a FMUD for the Rock Creek HMA an AML will be set for wild horses. With AML set the BLM will be able to schedule a gather to obtain proper numbers of wild horses throughout the HMA.

142. ***Comment:*** *PAGES 85-89: KEY AREA OBJECTIVES*
Page 85, Item 1: If a properly designed brush beating had resulted in forage improvements, the reduction to 55% annual utilization would not be necessary. Limitations of Utilization methodology were addressed above.

Response: See response to comment 119.

143. ***Comment:*** *Page 86, Item 2: What is the justification for decreasing utilization to 55%? Crested wheatgrass seedings are generally set at 65%. Limitations of Utilization methodology were addressed above. Note that trend is stable.*

Page 86 Item 3: What is the justification for decreasing utilization to 55%? Crested wheatgrass seedings are generally set at 65%. Limitations of Utilization methodology were addressed above. Note that trend is upward by a statistically significant amount.

Page 86. Item 4: There is a large and inconsistent variation in percent composition data. Is there an explanation for this? Limitations to production study methodologies are addressed above.

Page 87, Item 6: Utilization methodologies were address previously. It is probable that 54% use of Idaho Fescue does not reflect a statistically significant difference from the utilization objective of 50%. Both values fall within the same utilization class.

Response: This section of the AE is simply providing conclusions on attainment/non-attainment of existing objectives that were evaluated. Through this AE, some of the concerns you raised were also noted by the BLM. Therefore, as noted in comment 136 above, a technical recommendation is included to modify and requantify multiple use objectives. The proposed objectives for the next AE are outlined in Appendix T

144. ***Comment:*** *PAGES 89 & 90: WILDLIFE*
Item 14: Is this an achievable objective? How, other than by fire, does the BLM propose to reduce shrub height to an optimum level of 10-20 inches?

Response: This objective is achievable but was not carried out as a project. It was a carryover from the allotment file that was evaluated and will be recommended to be dropped as a management action. New multiple use Technical Recommendation "S" would be a management action for efforts that include the manipulation of shrub cover for multiple use values.

144. **Comment:** *Item 15: Large variations in perennial and especially annual forbs occurs due to annual weather conditions. In addition. the number of forbs present and the ability to correctly identify individual species varies greatly over the growing season. How are these factors included in the evaluation?*

Response: In many cases, a significant increase in air-dry weight (forage production), or large increase in composition by cover (line intercept) of annual forbs would be needed to affect overall forb composition. Forbs that are not identified in the field are brought back to the Field Office for identification at least to plant genus. Individual forb species that are encountered in the field during forage production monitoring that are not positively identified and would also not contribute significantly to forage production are noted as such on production forms. Most monitoring is completed for a given year during the late spring -early summer when it is most likely that shrubs, grasses and forbs would be represented and reflects production for the crop year. However, it is also not uncommon to have years when forbs do not desiccate and are still well represented on low elevation range sites well into the late summer period; this has occurred several times in the 1990-98 period.

See Technical Recommendations for Allotment Specific Objectives starting on Page 131 of the evaluation that will replace wildlife key area objectives #12, #14, and #15 shown on Pages 89-90.

145. **Comment:** *PAGE 91: STANDARDS FOR RANGELAND HEALTH*
Item 1: How, exactly, is the determination made that "Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and land form?" The AE states that this is achieved based on evaluation of RPS and allotment specific objectives. How does evaluation of objectives determine infiltration rates and permeability? The actual method is unclear. Are infiltration and permeability tests conducted?

Response: The BLM does not measure infiltration and permeability rates. Ecological status, utilization, cover and frequency studies shows that there is sufficient ground cover present to ensure proper soil infiltration and permeability rates appropriate to ecological sites within the allotments.

146. **Comment:** *PAGE 99: BITTERBRUSH UTILIZATION*
How are cattle utilization amounts separated from wildlife utilization amount on bitterbrush? Isn't bitterbrush a key browse species for deer during the season where high use is noted? How can utilization of current year's growth fluctuate so much over one season? For instance, Graph 1 shows 50% utilization on or about July 12, but only 30 percent utilization on July 16 or 17? Utilization on August 12 is supposed to be 60%, but declines to objective levels by October. What is the rationale for this variation? It appears that the sampling methodology should be evaluated.

Response: The highest bitterbrush use by mule deer is anticipated during the mid to

late fall (October14 to December14) period as they move through the allotment seeking browse within an intermediate range area. To a lesser extent, mule deer use could also occur during milder winter periods between December 15 and March 15. The allotment provides summer range for a limited number of deer where incidental use is anticipated. The graph on Page 99, which shows point in time monitoring and collective bitterbrush utilization, was based on the table below. BLM agrees that the graph on Page 99 could confuse the reader. See footnotes in table below for methods used to differentiate cattle use from big game use.

Key Browse Utilization at CDW-2-T-01/Livestock Key Area #3

Year	Summer Utilization and Date Monitored		Winter Utilization and Date Monitored		Annual Utilization* and Date Monitored		Comments
1987	46%	8/12/87	n/a	n/a	n/a	n/a	
1988	32%	9/15/88	n/a	n/a	n/a	n/a	
1989	10%	7/5/89	n/a	n/a	54%	5/22/90	
1990	37%	7/3/90	n/a	n/a	n/a	n/a	
	38%	11/15/90	n/a	n/a	n/a	n/a	
1991	50%	7/10/91	25%	5/8/92	75%	5/8/92	
1992	33% 69%	7/16/92 ..... 11/4/92	n/a	n/a	55%	5/27/93	Spring 1993 regrowth likely affected monitoring
1993	26%	10/28/93	n/a	n/a	n/a	n/a	
1994	0%	7/6/94	n/a	n/a	n/a	n/a	
1995	3%	7/10/95	n/a	n/a	n/a	n/a	
1996	0%	6/3/96	n/a	n/a	n/a	n/a	

*Summer utilization is generally livestock and incidental deer use of current year's growth monitored in the summer or fall at the end of livestock season-of-use. Winter utilization is generally mule deer and incidental livestock use monitored prior the start of the current year's growing season as measured in the early spring; the summer utilization reading forms the base measurement for the winter utilization reading. Annual utilization is combined summer and winter utilization from preceding year's growing season monitored the following spring prior to start of current year's growth.

147. ***Comment:*** *PAGE 105: RATIONALE*

Barrick supports flexibility regarding livestock movement. Does "five days flexibility on either side of the move dates.." result in a 10 day flexibility period? How can extreme conditions of road wash-outs, and weather be addressed by the permittee if this flexibility

time period proves insufficient?

Response: The five-day flexibility before and after the on/off dates cannot be extended and riparian areas have no flexibility. If the livestock won't be able to make the off-date, it is suggested that camps and livestock be moved earlier in order to meet the date. The permittee should be going out to the allotment to check fences and other range improvements prior to turnout, so problems such as washed out roads should be known and taken care of prior to livestock turnout.

148. ***Comment:*** *PAGE 109: SQUAW VALLEY GRAZING SYSTEMS*
Completion of necessary range improvements would result in the greatest benefits to Lahontan Cutthroat Trout. The AE states that construction will depend upon funding. Please clarify the current status of the substantial mitigation monies paid to the BLM by Barrick and other mining companies. Have any of these funds been used as of this date? Is there any reason why a portion of these funds cannot be used for protection of T & E species through the construction of fences?

Response: Please refer the response to question 37.

149. ***Comment:*** *PAGE 110: OPTION 2a*
Option 2a appears to represent a more workable alternative in terms of timing and numbers of livestock. Seasonal on/off dates for each pasture should be adjusted if large difference in the allowable numbers of livestock occur between pastures. It is more manageable to proceed through the grazing schedule with a fixed number of cattle in a herd.

Response: Please refer to the proposed grazing system for the Squaw Valley Allotment which is based on balancing livestock numbers through various pastures or treatment areas.

150. ***Comment:*** *PAGE 115: WILD HORSE USE OF WINTER CREEK PASTURE*
The proposed three year interval of wild horse gathers should help to alleviate current overpopulation related issues. Is it possible to make changes to the Winters Creek Fence to better protect this pasture from wild horse influx?

Response: See response to comment #33.

151. ***Comment:*** *PAGE 116 & 117: WILD HORSE MANAGEMENT LEVELS.*
Option 1 "RMP Percentage" is more in line with original objectives for the allotment. Option 4/5, preferred by the BLM represents a 110% increase in horse use over the original RMP objectives. Option 1 appears to be the better choice to achieve multiple use objectives.

Response: As stated above, any comparisons between the RMP horse numbers and

the present are irrelevant. As stated in the allotment evaluation, if multiple use objectives cannot be attained in a reasonable amount of time using Option 4/5, the option of proportioning carrying capacity based on the percentage outlined in the RMP would be implemented. 250 head represents a 49% decrease in actual horse numbers.

152. **Comment:** *PAGE 118: WILD HORSE HERD STABILITY*
Reductions accomplished through Option 5's three-year gather cycles should occur regardless of which other option is used to determine population size.

Response: It is the intent of the BLM to conduct gathers on a four year schedule once AML is set, regardless of how it is set. The wording will be clarified to indicate this.

153. **Comment:** *PAGES 120 & 121: TABLE 57*
If the Range Improvements listed in this table are "Critical" for implementation of the proposed grazing system, they must be constructed prior to implementation of the system. Mining Company Mitigation monies are not listed under Potential Funding Sources. If the proposed fence construction will result in (1) resource (vegetation) improvements (2) benefits to wildlife, and (3) protection for T & E species, is there any reason that a portion of the mitigation funds cannot be used for these fences?

Response: Refer to Technical Recommendation #6 for a revised list of range improvement projects. Refer to the response to question 37 for a description of proposed uses of the Barrick Goldstrike Mine mitigation funds.

154. **Comment:** *PAGE 124: STREAM RIPARIAN IMPROVEMENT*
Item I: Fencing appears to represent the best option for achieving the desired objectives. What are fence building alternatives?

1. *Can this be considered a temporary fence for a specified number of years to accomplish resource objectives?*

2. *Can an electric fence or drop fence be used during the time that livestock are in the pasture?*

3. *Can mitigation funds be used?*

Response: Two pasture fences have already been constructed and are proposed to remain permanent as a result of wildfires in 2001. The Buffalo Fire Fence was constructed following the 2001 Buffalo Fire in order to protect the burned area and allow for adequate regeneration of vegetation. This will now serve as the Frazer Creek Riparian Pasture. The Rock Creek Gorge is also included within a riparian pasture as a result of the 2001 Hot Lake fire fence as well. The BLM will also construct the Squaw Valley Division Fence, the Lower Squaw Fence, and the Upper Willow Creek Habitat Enhancement Plan Fence with Barrick Goldstrike Mines Inc. monies, through the use of the Conservation and Mitigation of Wetland/Riparian Areas Trust Fund.

155. **Comment:** *Item J: It appears that an evaluation of the benefits of suggested improvements to roads needs to be conducted in order to recommend the extent of road design changes.*

Response: Technical Recommendation I "Develop a plan that would decrease the sediment production from the road along Toe Jam Creek" will not be selected since this action falls outside of the scope of the plan being developed for livestock management.

156. **Comment:** *PAGE 129: WATER DEVELOPMENTS*
Would funding for wildlife guzzlers from the Bighorns Unlimited organization be dependent on the introduction of Bighorn Sheep?

Response: The funding for wildlife guzzlers from the Elko Bighorns Unlimited organization would not be dependent on the introduction of bighorn sheep. Elko Bighorns Unlimited is a wildlife conservation organization that has contributed funds for many projects that benefit Nevada's big game and wildlife, in general.

The use of mitigation funds to pay for water developments that would benefit both wildlife and livestock would possibly be considered on a case by case basis.

157. **Comment:** *Can mitigation funds be used to pay for water developments that would benefit both wildlife and livestock?*

Response: The use of mitigation funds to pay for water developments that would benefit both wildlife and livestock would possibly be considered on a case by case basis.

158. **Comment:** *PAGE 134: WILDLIFE*
What are the current Mule deer and Pronghorn population numbers? Does the Reasonable number presented on page 134 represent an increase or decrease in current numbers?

Response: No reasonable numbers or AUMs for mule deer were submitted by NDOW nor have the same been requested by BLM for the allotments for this evaluation. We have evaluated the allotments with information that existed for the final 1986 RMP. For informational purposes only, the mule deer population estimates for Management Area Six (encompasses entire western half of Elko County and northern portions of Lander and Eureka Counties), where the allotments are located, was 11,718 animals in spring 1986 and 15,024 animals in spring 1998. At the time the draft evaluation went to the public, April 1995, the estimate was 9,956 animals for the same area. All estimates are for numbers prior to given year's fawning period. Also for informational purposes only, pronghorn use during the summer period on the Squaw Valley and Spanish Ranch Allotments has increased substantially from 1986 to 1998 with major increases observed between draft of the Rock Creek allotment complex evaluation and fall of 1998. Per conversation with the NDOW Management Area Six biologist, several hundred

pronghorn now utilize seasonal habitat provided on the Squaw Valley and Spanish Ranch Allotments with the highest increases observed in the southern half of the Squaw Valley Allotment. However, even with this increase, use is so dispersed that utilization is hard to discern.

Mule deer and pronghorn reasonable numbers were inappropriately totaled under the Wildlife Use heading of the evaluation (Page 8) and page 134 . Only wording regarding AUMs should be stated.

*For clarity, where key area objectives are being met, this wildlife habitat objective for reasonable AUMs is also being met. Discussions where habitat components could be improved are included to let the reader be aware of possible oversights of the 6630 habitat condition rating system. Some of these habitat components are considered to be extremely important factors in regard to managing wildlife habitat.

159. ***Comment:*** *PAGE 135: RIPARIAN*
Were the creeks listed in the tables on page 135 and following pages evaluated as to their potential for achieving the stated objectives? Are these reasonable and accomplishable objectives? Some stream types are not capable of developing undercut banks with overhanging woody bank cover.

Response: Objectives for streams in both the Spanish Ranch and Squaw Valley Allotments have been revised (refer to technical recommendation #16). Objectives are based on channel types and have been demonstrated elsewhere on the district to be both reasonable and easily achievable with proper changes in grazing management.

Idaho Watersheds Project (IWP) and Committee for Idaho's High Desert's [sic] (CIHD)

160. ***Comment:*** *Nine Streams with acknowledged fisheries values are listed: Cottonwood Creek, Fourmile Creek, Red Cow Creek*, Rock Creek*, Sixmile Creek, Toe Jam Creek, Trout Creek, Willow Creek*, and Winters Creek*. Those marked with an asterisk were reported as not meeting BLM objectives for riparian utilization (>50%) and having a non-functioning riparian condition in non-compliance with state water quality criteria. Riparian condition, overutilization of meadow areas and fisheries habitat for redband trout and Lahontan cutthroat are key concerns for BLM.*

Most Lahontan cutthroat and redband trout populations are presently insecure. A primary factor is degraded habitat, especially for spawning and rearing. An Interagency Review (January 18, 1989) of the Lahontan Cutthroat Program concluded that, "If populations are being lost because of degraded habitat, then agencies may be in violation of Section 9 of the ESA". All options presented by BLM in this evaluation inadequately protect these fisheries.

Response: It is our contention that the proposed grazing systems for the Spanish and Squaw Valley Ranches will result in improved stream and riparian habitat conditions for

fisheries. Both systems are predicated on the reduction or elimination of hot season grazing, a strategy which has been shown to be effective on the Elko district and elsewhere.

161. ***Comment:*** *Although Red Cow Creek is not meeting riparian objectives, which include satisfactory fisheries habitat, it is proposed for option 1a to rest affected riparian areas only I year in 4 while protecting key habitat areas with small exclosures. The key fisheries areas for the proposed exclosures have not yet been identified for Red Cow, Cottonwood and Sixmile Creeks (p.11).*

Response: Under the proposed grazing system, hot season grazing will be substantially reduced or eliminated on Red Cow and Cottonwood Canyon Creeks. Public land portions of Six Mile Creek are mostly in good condition. Note that Six Mile does not support fisheries values.

162. ***Comment:*** *Trout reproduction is most commonly limiting in degraded streams where spawning gravel is washed away or buried by sediment; favorable habitats can also be eliminated by unacceptable stream flows and temperatures. Lahontan cutthroat spawning migration is initiated after minimum temperatures reach 5 C (April-July) with incubation in acceptable substrate (6-50 mm gravel with dissolved oxygen >5 mg/ 1) taking 4 to 6 weeks.*

Response: Comment noted.

163. ***Comment:*** *Option la provides for grazing of Winters and Fourmile Creek pastures as early as March 15 which could lead to damage of thawing and saturated streambanks with the sloughing banks interfering with successful incubation; those pastures would also have grazing as late as July 31 when summer heat could be expected to congregate cattle in the riparian areas where their presence would add sediment and lower water quality to a point incompatible with Lahontan cutthroat incubation and larval survival.*

Response: Under the proposed grazing system, grazing in Winters and Fourmile Creeks would start on 3/25. In our experience, livestock use of streamside areas is essentially not detectable in early spring since uplands provide a preferred source of succulent forage during that time of the year. On Winters Creek, grazing will be concluded by 6/30. On Fourmile (Chino) Creek grazing is proposed to be concluded by 7/15.

164. ***Comment:*** *Although fisheries valued for Hot Creek are unknown, year round (March 1 to February 28) grazing is not compatible with protection of riparian habitat.*

Response: Under the proposed grazing system, use of Hot Creek will be limited to early spring (off by 6/15) and fall (October). Depending on monitoring, the public portion may be fenced to exclude livestock.

165. **Comment:** *Option 1b calls for land exchange which would privatize Winters, Fourmile, Cottonwood and Sixinile Creek pastures. All of those drainages have recognized fisheries values and BLM stipulated that if the exchange occurred there would be no riparian objectives for those drainages.*

Response: As of January 4, 2002, the land exchange will no longer take place.

166. **Comment:** *Option 2a calls for exclosures to protect small sensitive areas although Rock and Willow Creeks are currently not meeting riparian objectives. Grazing would be allowed in those areas as early as March 16 and as late as August 15 which would be expected to contribute to the deterioration of trout habitat and their threatened populations.*

Response: This option is no longer being considered; see technical recommendations not selected in the MASR.

167. **Comment:** *Option 2b does not provide for exclosures, but provides for riparian pastures. Proposed grazing plans can be expected to have negative impacts on trout populations. Cattle would trail through Willow Creek and grazing would be allowed as late as July 1 at Frazer Creek, August 15 at Trout Creek, Middle Rock and Toe Jam Creeks, and during the hottest period (August 16 to September 15) at Upper Rock and Toe Jam Creeks.*

Response: See response to comment #166 above. The selected grazing system for the Squaw Valley Allotment can be found under technical recommendation #4 within this report.

168. **Comment:** *Allotment long-term objectives call for the provision of forage to sustain "the total number of AUMs". The amount of potential livestock grazing should not be estimated until riparian objectives for maintenance of the fisheries of special concern are achieved. The number of AUMs cannot be established when allotment objectives are not being met.*

Response: Although the data indicate that there is sufficient carrying capacity to support an increase in total number of AUMs of specified livestock grazing on both the Spanish Ranch and Squaw Valley allotments, not all of the multiple use objectives have been met on both allotments. Failure to meet at least some of these objectives can be attributed to livestock grazing. Until those objectives that are directly related to livestock management are met, no increase in total number of AUMs of specified livestock grazing in those affected pastures is recommended.

169. **Comment:** *Table 1 shows the long-term objective for the Spanish Ranch and Squaw Valley Allotments of 57,530 AUMs of forage as unmet, yet Tables 3 and 4 show an*

estimated carrying capacity recommendation of 61,988 AUMS. The former indicates that the carrying capacity is less than the unmet objective. Table 2 shows an unmet long-term objective for the Andrae Allotment of 4,580 AUMS, but the estimated carrying capacity recommendation (Table 5) is 7,082 AUMS. Ellison Ranching Company has a term grazing permit for 56,224 AUMs and Nelo Mori 224 AUMs for a total of 57,021 AUMs. Failure to meet allotment objectives in the past does not support management for this many AUMs.

Response: See response to comment #168 above.

170. **Comment:** *The Lahontan cutthroat is listed under the Endangered Species Act as a threatened species. Few pure populations have been identified. The Rock Creek, Frazer Creek and Nelson Creek populations have been biochemically evaluated as pure; Willow Creek, Toe Jam Creek and Lewis Creek also appear to be pure. Those populations may prove critical to the survival of the species; their habitat should be managed accordingly--very conservatively. Only long-term watershed rehabilitation can protect and restore these trout populations.*

Response: We concur. A conservative strategy towards livestock use of these areas is being proposed. Refer to the proposed grazing system (Technical Recommendation #4).

171. **Comment:** *The AE fails to provide information to allow the reader to adequately assess the direct, indirect and cumulative impacts of cattle and sheep grazing on lands in the allotments. We could not locate specific current information on which areas are grazed by both kinds of livestock.*

Response: By referring to the selected grazing system outlined under technical recommendations selected #3 and #4 in the MASR, both sheep and cattle can graze in the Big Cottonwood Uplands Pasture and the Hot Creek Pasture in the Spanish Ranch Allotment, and the Horseshoe, Indian Springs, Lower Gorge Pathway, North and South Willow Creek, and Trout Creek Pastures in the Squaw Valley Allotment. These are historically the same areas that Ellison had both sheep and cattle grazing prior to the evaluation.

172. **Comment:** *Where clues to use are presented, it is evident that grazing by both species is seriously impacting wildlife habitat and recreational uses of the allotments.*

Response: The proposed term permit for the Squaw Valley and Spanish Ranch Allotments will have specific stipulations regarding trailing sheep. This will include the following: sheep will not be allowed to bed on the same bedding grounds more than two nights in a row. Sheep will not graze or trail along streams, springs, or aspen stands. Each band will use alternate trailing routes and different bedding areas. Sheep, ***when trailing***, will be trailed at least five miles per day. Movement to and from bedding sites will be random to avoid the creation of trails.

173. ***Comment:*** *It is generally accepted that grazing both cattle and sheep in the same area is devastating to native plant communities. Trailing can have significant adverse impacts on both upland and riparian areas.*

Response: See response to #172 above.

174. ***Comment:*** *Although we are by no means advocates for exotic wild equids on public lands, we note a strong bias in the AE to sacrifice horse habitat to livestock interests. For example, various options provide wild horses with no more than 15% of the forage.*

Response: Those options are no longer being considered. Please see technical recommendation #5 within this report.

175. ***Comment:*** *Wildfires (such as the 24,000 acre Izen Fire) have significantly altered the composition of native plant communities, resulted in the great increases in cheatgrass and other exotic species. Wildlife habitat - food and cover have been significantly diminished. Available livestock forage has decreased.*

Response: Prior to the Clover and Izzenhood fires of 1999, the plant communities within much of the area were in below satisfactory condition, with cheatgrass dominating most of the vegetation, especially in the low elevation areas. Cheatgrass is a highly invasive annual grass that has the tendency to increase wildfire frequency. Over the last several decades wildfires in Northern Nevada have limited the amount of deer winter range that is available, including the area burned in the 1999 Clover fire. In an effort to protect existing habitat and improve lower quality critical deer winter range, the Bureau of Land Management and the Nevada Division of Wildlife (NDOW) implemented similar greenstrip projects on public and private lands to provide a fuels break to help reduce wildfire size, intensity, and frequency. In addition, extensive wildlife seedings were completed in an effort to provide forage and cover for large groups of wintering deer.

See Initial Stocking Level narrative for mule deer on Pages 8-9, Management Evaluation and Data Summaries on Page 49, and Conclusions on Pages 80-81 for more input regarding this comment.

176. ***Comment:*** *BLM must significantly reduce livestock numbers in burned areas until lands achieve mid seral stage, [sic] and are in good or better condition. The AE p. 9 states: "Although native perennial vegetation, including Wyoming big sagebrush, has reestablished in some critical areas, many range sites... are currently dominated by exotic annual plant species or crested wheatgrass with little to no overstory shrub vegetation present".*

Response: Following wildfires, the Elko BLM has consistently closed entire allotments or areas of the burn from livestock grazing in order to ensure that native

perennial vegetation and seedlings have sufficient time to establish and obtain both above and below ground vigor. In areas that are currently dominated by exotic annuals such as cheatgrass, mid seral conditions may not be reachable due to the competiveness of the exotic annuals and the increased fire frequency that is associated with these fine fuels. Reducing livestock numbers may have no effect on improving the conditions of the site once it has been dominated by cheatgrass.

177. **Comment:** *All sheep grazing (sheep are notorious browsers of shrubs) must be eliminated in all sites where shrubs are now lacking.*

Response: Wildfires have converted thousands of acres of Wyoming sagebrush sites to areas dominated my cheatgrass and tumblemustard. Once this threshold has been crossed it becomes extremely difficult to re-establish sagebrush back into the community due to the increased fire frequency and competiveness of the annuals. Eliminating sheep grazing in these areas may have no effect on restoring the land back to a native plant community.

178. **Comment:** *BLM (p.11) cannot assume that suitability of pronghorn summer range has increased in fire areas if these sites have been invaded by exotics. Wildfires can devastate pronghorn winter range.*

Response: See Section II., subsection C. Wildlife Use. As stated in the evaluation, the suitability of pronghorn summer range has increased on a range site-specific basis on areas on the allotment burned between 1984 and 1994. In this instance the AE is referring to the increase of pronghorn habitat suitability following wildfire as a result of shrub thinning and the increase in native forbs and grasses. The BLM recognizes that wildfires can be extremely devastating to wildlife habitat if exotic annuals invade the area. Since this evaluation went to the public in 1997, limited pronghorn winter use, as a result of expanding pronghorn populations, has been documented in the extreme southwestern portion of the Squaw Valley Allotment. Seeding efforts (Evans Creek, Northwest Izzenhood Seedings, and Clover Greenstrip Phase I and II) have been completed in the same area from 1993 to 2002 to help rehabilitate crucial mule deer winter range. Pronghorn winter range would also be improved with the reestablishment of shrubs, perennial grasses and forbs in this area.

179. **Comment:** *AE p.11 states that 44 sage grouse strutting grounds have been documented within the SR and SV allotments, and 11 others are within 2 miles of the boundary. The AE does not provide information on population trends on leks, and fails to identify critical nesting, brood rearing, and winter habitats for grouse.*

Response: No specific information regarding population trend of leks was provided; however, as stated in the evaluation on page 11, populations on the allotments were considered to be at moderate levels. The allotments were evaluated to determine if Rangeland Program Summary and key area objectives for sage grouse were met. Included are objectives for strutting and nesting habitat, and riparian habitat associated

with brood-rearing/summer habitat. See pages 82, 83 and 90. See pages 11 and 12 and Map 8 for documented winter habitat areas.

180. **Comment:** *AE p. 12 states that the Rock Creek subbasin has been identified as an integral part of the recovery plan for Lahontan cutthroat trout (LCT). The AE documents terrible conditions for LCT directly attributable to livestock grazing. LCT have been extirpated from Willow Creek.*

Redband Trout (RBT): "Populations of native trout are critically low" in the South Fork Owyhee River; All fish have been eliminated from Six Mile Creek.

The general degradation of habitat in the allotment is shown throughout the AE. For example, poor habitat conditions (here for mule deer in riparian areas) include chronic symptoms of lack of bank cover, lack of bank stability, and heavy utilization of riparian vegetation by livestock", p. 47

Response: BLM does not have documentation that fish have ever existed in Six Mile Creek. Otherwise, your comments are noted.

181. **Comment:** *BLM relies on the excuse that only certain portions of streams in critical LCT and Redband Trout (RBT) habitats are administered by BLM. We remind BLM that according to the Nevada Open Range law Nevada Revised Statute 586.355, intermingled, unfenced private lands and the public lands are considered "open range". Unless these co-mingled (unfenced) private lands are fenced separately, they are subject to the grazing management actions authorized on the adjacent public lands. Mismanagement of grazing on any unfenced private lands is thus BLM's responsibility. It cannot shun this.*

Response: The proposed grazing system will provide proper management on public and unfenced private portions of important fisheries stream habitat.

182. **Comment:** *AE fails to provide current information on the California floater, a freshwater mussel known from the South Fork Owyhee and in portions of Rock Creek.*

Response: The information on distribution of the California floater included in the allotment evaluation (page 14) was the most current data available at the time the evaluation was completed. In August of 2001, two California floater shells with intact hinges were found by BLM in the Middle Rock Creek Gorge.

183. **Comment:** *Table 10 simply lists T & E and candidate species which may occur in allotments. For all of the terrestrial animal species, BLM fails to provide information on current population status or habitat condition in the allotment. BLM clearly has no idea what rare species occur on the allotment.*

Response: The allotments were evaluated to determine if specific Rangeland Program

Summary and key area objectives for wildlife were met. No specific objectives for threatened, endangered, or candidate terrestrial wildlife species were considered or evaluated for the evaluation. See Table 10 footnotes #1 and #2. The table is based on input by the U.S. Fish and Wildlife Service (1995 and 1996), field observations, surveys, and discussions with Bradley (1996) of NDOW and Price (1996) of BLM.

184. ***Comment:*** *There is NO discussion of T&E plants, or how proposed grazing changes will impact meadow pussytoes, grimy Ivesia, or Packard's stickleaf. No list of sensitive or other special status plants is even provided to the reader. As in previous ACES which we have reviewed from this office, BLM ignores any discussion of impacts of livestock grazing in the allotment on rare plants.*

Response: Upon further review of the location of the sensitive plants meadow pussytoes, grimy Ivesia, and Packard's stickleaf, it has been determined that the locations of these plants do not exist in the Spanish Ranch Allotment as identified in the allotment evaluation. Currently there is no documentation of any sensitive plant species existing in either the Spanish Ranch or Squaw Valley Allotments.

185. ***Comment:*** *Although mountain quail occurred in the allotment until the 1970's, they have been eliminated "the population is believed to be absent from the allotment due to critical habitat loss associated with degraded riparian conditions." Cattle and sheep have recently destroyed habitat for this native quail. What is BLM doing to restore habitat, and prevent further degradation?*

Response: Please see technical recommendations for grazing systems, range improvements, stream riparian improvements, and wildlife habitat improvements considered for improvement of upland and riparian habitat conditions on the allotments.

186. ***Comment:*** *p. 25. Use pattern maps from SV and SR allotments are incomplete. Current information is lacking (the most recent mapping, and this was "partial". occurred in 1992). The incomplete use pattern mapping in Maps 10-15 does, however, clearly show that heavy or severe livestock use occurs near virtually all perennial and most intermittent drainages in the allotments. Use pattern maps fail to differentiate between sheep, cattle, and combined use.*

Response: Per discussion with the livestock permittee, the high elevation areas have been used as a traditional domestic sheep trailing route during the entire allotment evaluation period and likely since or prior to the early 1900s. Use pattern mapping and key area monitoring completed on the upper elevations of the allotment have determined that the area has been impacted by cattle concentrations due to factors including open topography, low gradients, easy access to water, and continuous season-long use. Per key area monitoring at the Pole Creek and Toe Jam Creek study sites in the Rock Creek subbasin watershed, impacts on shrubs described in the upper Rock Creek and Cottonwood drainages do not typify severity of impacts on a watershed scale. Technical recommendations regarding livestock grazing have been made to improve the condition

of uplands and riparian areas in the described area.

187. **Comment:** *The Ecological Status Inventory of 1984 shows that less than half of the allotment is in late seral stage. Given the large number of fires which have occurred since then, far more of the allotment is in early seral status.*

Response: BLM recognizes that several wildfires have burned throughout both the Squaw Valley and Spanish Ranch allotments and that the Ecological Status Inventory completed in 1984 does not show the changes caused by these events.

188. **Comment:** *The AE fails to provide information on current ecological status.*

Response: This information has not yet been collected due to other priorities within the Elko District.

189. **Comment:** *Table 23, p. 33 shows that Forage Value Condition for 2 of the 3 Squaw Valley seedings has declined significantly since 1988. This demonstrates a clear need for reduced livestock numbers in the seedings.*

Response: After crested wheatgrass seedings are established, big sagebrush can reestablish its self back into the plant community. In the fall of 1989 a "brush beater" was used to kill mature big sagebrush plants while leaving big sagebrush seedling and herbaceous species unaffected. The goal was to decrease big sagebrush and to increase crested wheatgrass production. The reason for the downward trend in the Horseshoe Seeding is due to the late fall treatment which occurred after seedripe of big sagebrush and the high level above the ground brush beater, the treatment was not successful. The production information indicates that the brush beating treatment, at a level of about eight inches and on the type of soils found in the Horseshoe Seeding, is fairly short-lived.

In the Midas Seeding, crested wheatgrass frequency has been maintained at 1983 levels. Production data indicate an increase in the percent composition of crested wheatgrass from 77% to 82%. . In this seeding, the increase in crested wheatgrass production and the decrease in big sagebrush is very evident seven years after the brush beating treatment. This data shows the trend for the Midas Seeding as upward.

190. **Comment:** *Most Key Areas in the SV and SR allotments show a significant decrease in forbs. (p. 35). Forbs are of great significance to sage grouse, antelope, and many other native wildlife species. Despite documented declines in forbs, BLM somehow determines that trends are stable. Mixed data collection methods at some Key areas obfuscate trend.*

Response: In most range sites, a significant amount of forbs may represent an early seral plant community. Prior comments state a desire of "mid seral stage". The decrease of forbs may be a result of moving from early to mid seral plant communities. Forbs are

a great significance to many wildlife species. The BLM manages for multiple use and various resource values to meet changing needs and conditions for all aspects managed by the BLM.

191. **Comment:** *Cheatgrass is increasing dramatically in some Key Sites (RC-l3, - SV, SR, and Key Area 37 - A). Disturbance due to trampling or grazing causing death or loss of vigor in native species may be responsible. Where are the greatest increases in cheatgrass occurring? In areas grazed by both sheep and cattle? The information in the AE Is presented in a form where it is impossible for the reader to determine which kind of livestock are grazing at which key sites.*

Response: The greatest increase in cheatgrass is occurring in areas that have burned in recent wildfires. Some of these areas are grazed by both sheep and cattle, but this is most likely not the cause of the increase in cheatgrass. However historic grazing most likely did play a role in the increase of cheatgrass in the area. Cheatgrass is a highly invasive annual grass that has the tendency to increase wildfire frequency. Cheatgrass is one of the first plants to green up and one of the first plants to cure out, causing the species to depend on fire for invasive purposes.

192. **Comment:** *BLM (pps. 40 and 41) appears to have allocated NO forage for wildlife in the horse herd areas of the SR and SV allotments. Cattle and sheep get the lion's share, horses get a pittance, and wildlife gets NOTHING.*

Response: The Bureau of Land Management does not allocate forage to wildlife. Rather, the BLM has established a utilization objective on forage that wildlife depend on. Therefore, allowing wildlife an ample amount of feed at reasonable wildlife numbers. The Resource Management Plans (RMP) established a goal of reasonable wildlife numbers. The Elko Field Office has interpreted meeting the goals for reasonable numbers as having been met based on meeting good or better wildlife habitat condition ratings. Wildlife numbers are affected by various parameters in addition to habitat conditions, and many of these parameters are not controlled by the BLM.

193. **Comment:** *p.41. BLM must establish specific monitoring sites for sage grouse habitat, [sic] and cannot rely solely on big game or key site transects to monitor grouse habitat.*

Response: As appropriate, BLM will continue to use existing wildlife or livestock study transects to determine if objectives for sage grouse are being met. Additional study locations have been proposed in the evaluation where it has been determined that additional information is needed to evaluate objectives for this species.

194. **Comment:** *p. 42 AE describes the location of water and other "interference" factors that are taken into account when interpreting transect data. This is not interference, it is simply the reality of livestock abuse of lands near water, salt licks, etc. Data must be honestly collected, and ranching interests not always given every possible excuse for not*

looking bad.

Response: Comment noted.

195. ***Comment:*** *p. 45. BLM has not adequately monitored habitat condition for mule deer in the SV allotment. The only transect located in crucial deer winter range was not rated in 1994. BLM has only one data point here, [sic] and can not draw any conclusions.*

Response: The habitat was rated as being in good condition in 1988. The overall area is recovering from large scale wild fires (Lander and Rock Creek, Izzen) that occurred in 1984,1985 and 1995. As of 1994, the age and form class of the key shrub component was in satisfactory condition. However, the crucial winter range area and adjoining intermediate range areas were again affected by the 73,000 acre 1999 Clover Fire and 71,000-acre 2001 Hot Lake Fire. Several thousand acres were rehabilitated using Wyoming and basin big sagebrush seed in the seed mixture. Several thousand acres within crucial winter range, and adjoining this range, were seeded with plant species that would allow for succulent vegetation to provide fuel breaks to either slow down or stop wild fires and help protect remaining intact or recently rehabilitated crucial winter range. See narrative under key/critical management areas on Pages 8-9 for additional information regarding mule deer winter range conditions.

196. ***Comment:*** *Evidence of serious deleterious impacts of domestic sheep trailing and use is provided on p. 46 of the EA [sic], where "snowberry and serviceberry show poor form class as a result of severe utilization from sheep trailing, and cattle and sheep grazing". This is an LCT watershed, and impacts on shrubs described here may typify severity of impacts on a watershed scale.*

Response: See response to comment #186.

197. ***Comment:*** *The use of water sources by both cattle and sheep is documented on p. 46 as causing severe and heavy use in Rock Creek and Big Cottonwood Canyon.*

Response: Technical recommendations regarding livestock grazing have been made to improve the condition of uplands and riparian areas in the described areas.

198. ***Comment:*** *We are gravely concerned about the "wide scale loss of quaking aspen and willows", discussed under crucial summer deer habitat on p. 47. Livestock grazing is the cause. "Overutilization of regenerating aspen suckers by livestock, bank instability, and soil erosion due to livestock hoof action has caused a drop of the water table. Desiccation and desertification are being caused by grazing. Livestock have brought about COMPLETE LOSS of some stands. "Unless remedial action is taken soon, . . aspen loss will accelerate."*

Response: Remedial action would include technical recommendations for range

improvements (shown on pages 118-124) and wildlife habitat improvements (recommendations N, O, and U).

199. **Comment:** *The AE fails to provide necessary remedial action to address loss of plant communities vital to native wildlife ranging from warbling vireos to sapsuckers.*

Response: Please see livestock grazing system(s) alternatives addressed in this MASR, Technical Recommendations for Stream Riparian and Wildlife Habitat Improvements beginning on Page 124, and Monitoring and Reevaluation subsection beginning on Page 130. As conditions warrant, in concert with a livestock grazing system, implementation of Technical Recommendations would allow habitat improvements to help achieve habitat objectives on some upland areas. Consideration for this recommendation where vegetative fuel breaks area created would also help to slow down or stop future wildfires and help protect intact native vegetation.

200. **Comment:** *AE p. 47 continues to document chronic Symptoms of heavy grazing use in riparian area in SV and SR allotments, including "isolated regeneration, root exposure due to streambank instability, overutilization, and basal crowning."*

Response: Comment noted.

201. **Comment:** *The AE must act to limit increased roading in the SV allotment. and not just complain about the problem. What will BLM do to protect soil, plant and water resources from roading and Off Highway Vehicle (OHV) use? What will be done to protect areas from cumulative impacts of sheep, cattle, and roading/OHV use?*

Response: Technical recommendations regarding livestock grazing have been made to improve the condition of uplands and riparian areas in the described areas. Please see page 46 in the evaluation regarding special land designations needed to prohibit or restrict off-road vehicle traffic in specific areas on the allotment.

202. **Comment:** *AE states that Wyoming big sagebrush desired shrub cover is 30% or less; "desired" shrub cover is based on pristine, ungrazed communities. These do not exist in the allotments. Given the amount of habitat disturbance and fire which has occurred in these public lands, dense sagebrush cover (30% or greater) is desirable to low amounts of cover. BLM must acknowledge that livestock grazing abuses which destroy understory grasses, forbs, and cryptogamic crusts, are directly responsible for higher densities of shrubs on allotments. Until great reductions in livestock numbers are made, and sufficient recovery time has elapsed, it is futile to attempt to cure grazing-caused problems by reducing or eliminating shrubs. Most times, the best remaining native grasses and forbs occur at the bases of woody shrubs where they are somewhat protected from livestock. Killing shrubs to achieve artificially low density or cover quotas based on far-removed pristine condition, or the mistaken assumption that shrubs and not livestock are responsible for decreased forbs and grasses, simply leads to the loss of these previously protected herbaceous species. They are exposed to livestock, and lose*

vigor or die, and land condition spirals downward. The AE constantly quotes a Winward reference when referring to excessive shrub cover. We refer BLM to Peterson (1995) for a more recent, complete look at the benefits of sagebrush to native wildlife, and plant community structure.

Response: You have incorrectly quoted the AE; it states that the desired shrub cover in the Wyoming big sagebrush vegetation type is 15% or less. Desired shrub cover is not based on "pristine, ungrazed communities." The BLM Elko Field Office has data from big game habitat condition and livestock key area monitoring transects on allotments that are actively grazed by livestock where desired shrub cover exists and forage diversity or herbaceous forage production have responded favorably.

The Winward reference discusses studies in sagebrush steppe that indicate that the composition of perennial herbaceous plants in a range site could be negatively affected by excessive brush cover that has been favored by improper historic or present livestock grazing coupled with fire suppression efforts. Once excessive brush cover occurs in a range site, the plant community could be affected by low herbaceous composition even during "favorable precipitation years" due to shrub competition. BLM is well aware of the benefits of sagebrush and has no intention of removing it wholesale from areas on the allotment as a result of the evaluation under Technical Recommendation S. The intent of the recommendation is to consider actions that would help to improve wildlife habitat and overall range conditions. Shrub manipulation would be considered where existing native herbaceous vegetation would likely respond to reduced shrub competition and livestock utilization has been within objective levels. The likelihood of favorable response would be coupled by a livestock grazing system or temporary agreements with the permittee that would allow rest of treated areas and variations in time of grazing after the treatment. On page 38, Conclusions, of the Peterson reference, Peterson states, "...FWP recognizes situations may occur where there is potential for improving wildlife habitat for a particular species through sagebrush manipulation."

203. ***Comment:*** *PPs. 52-53. SA: "Spring sources are in poor condition and competition with cattle and wild horses is keen". SV: "Poor forage diversity was a limiting factor". "spring sources are in poor condition and competition with domestic sheep and cattle is keen."*

Table 31 summarizes habitat conditions for sage grouse in the SR, SV and A allotments. In 6 instances, riparian condition was "poor", in two instances "unsatisfactory", and only one site was in "fair" condition.

P. 59: Riparian habitat for sage grouse in vicinity of key areas was rated in poor condition - SR and SV allotments. "Seeps, springs and wet meadows in the allotment are characterized by heavy grazing, lowered water tables, moderate erosion, a loss of plant species associated with moist soil profiles, or a combination thereof".

The EA [sic] discussion of non-stream riparian habitat on p. 60 is an indictment of livestock grazing practices in the allotments, as well as the ubiquitous deep ecological harm being caused by livestock grazing in all allotments - springs and seeps heavily impacted, regeneration of woody vegetation suppressed, springs dried up and become weedy. Proposals in this document to rest or ease pressure on riparian areas will result in INCREASED pressure on these upland springs and seeps, and will accelerate downward trends. This alone is reason that large cuts in livestock numbers must be made. Livestock use cannot simply be shifted from riparian areas to uplands with reliance on upland water sources. Numbers must be drastically reduced to protect upland springs and seeps vital to wildlife and important ecological processes and to recreational users of public land.

Response: Little benefit to riparian and other habitats will be realized by simply reducing livestock numbers. Even small numbers of livestock can adversely impact plant communities if grazing occurs season-long on an annual basis. The proposed grazing systems are predicated on moving livestock at key times to reduce grazing impacts to plants during critical growth periods or to provide for adequate rest or recovery periods following grazing use in the same or subsequent years. The effectiveness of this approach has been demonstrated in the Elko District and elsewhere.

204. ***Comment:*** *pps. 61-79. STREAM AND RIPARIAN HABITAT CONDITIONS. The AE shows extreme ongoing damage to riparian areas throughout the SR and SV allotments. It states "Stream and riparian habitat conditions for nearly all streams in the SV and SR allotments are poor and have deteriorated over time". Factors include lack of pool habitat, heavy sedimentation, cut and eroding stream banks.*

Table 32 documents LCT and RBT habitat on grazed portions of streams almost universally in poor condition, with a CONTINUED DOWNWARD TREND.

Response: Comment noted.

205. ***Comment:*** *Localized improvement of habitat in small exclosure areas on Frazer and Winter Creek, and the better fish population in Frazer Creek, demonstrates the necessity of removal of livestock from all LCT and RBT drainages until all sections of streams achieve very good or excellent condition.*

Response: The Frazer Creek drainage is currently closed to livestock grazing under the Fire Closure Notice issued for the Buffalo Fire in 2002. Under the proposed grazing system, Frazer Creek will be rested for an additional three years (besides 2002 and 2003) before grazing is reinitiated. Beginning in approximately 2007, hot season use will be limited to no more than once in four years. Upper Rock Creek and Toe Jam Creek will be rested for an initial period of three years under the proposed grazing system. LCT streams in the Willow Creek drainage (Lewis, Nelson, and Upper Willow Creeks) will be rested livestock use until good habitat conditions are met under provisions of the Upper Willow Creek Habitat Enhancement Plan.

Initial periods of rest from livestock grazing are not planned for redband trout streams in the Spanish Ranch Allotment, although a year of rest is provided for on Winter's Creek during the course of the four year grazing cycle. Grazing use of Winters Creek, Red Cow Creek, and Fourmile (Chino) Creeks is limited to early season only. Proposed use of Big Cottonwood Canyon is limited to trailing. Both strategies are expected to result in improved stream and riparian habitat conditions.

206. ***Comment:*** *Fish populations have declined in the Rock Creek Subbasin between 1997 and 1996. Numbers of LCT per mile, length of stream supporting LCT, and age class structure of population show this decline. Fish have been extirpated in Upper Willow Creek. LCT are not "recovering". They are going extinct.*

Response: Proposed changes in livestock management are expected to bring about improvement in stream and riparian habitats for the benefit of LCT.

207. ***Comment:*** *BLM refers to water quality data on p. 63 but fails to provide the public this data. Complete water quality information must be provided in the AE. High fecal coliform counts in Rock Creek Subbasin and South Fork Owyhee drainage, and elevated pH levels demonstrate grazing practices are in violation of the Clean Water Act.*

Response: Limited water quality data has been collected within the Rock Creek Subbasin and South Fork Owhyee drainage. However, the proposed action is expected to improve riparian condition along streams and springs, and would also improve water quality. Reducing the amount of time that livestock spend congregating around springs and streams would decrease sedimentation and the amount of fecal coliform in the water. Increased vegetative cover would help improve water quality by reducing water temperatures and stabilizing soils, thus reducing total suspended solids, turbidity, nitrogen and phosphorus levels.

208. ***Comment:*** *Middle Rock Creek typifies BLM's complete sacrifice of all resource values to livestock grazing interests in the allotments. This creek is identified in the Resource Management Plan (RMP) as a high priority stream. Current habitat conditions on Middle Rock Creek are extremely poor and have deteriorated... Riparian vegetation is almost nonexistent, banks are totally unstable, the stream bottom is covered with sand, silt, algae, the stream flow is warm and sluggish... Livestock use is heavy to severe. BLM is in violation of the Endangered species Act, the Clean Water Act, and the RMP. Trend has continued downward over 20 years up to the present, even though BLM in 1988 was aware of continued decline in conditions. Current habitat conditions are extremely poor. 6 miles of this creek section are on public land. Yet BLM has done nothing.*

Toe Jam Creek, identified as a high priority stream in the RMP, once supported one of the highest densities of Lahontan Cutthroat Trout (LCT) in the Rock Creek subbasin. Populations have declined significantly. Conditions are currently deteriorating - "nick points" forming in banks in portions of creek currently in best condition. Large scale

erosion is imminent.

Habitat conditions for LCT have improved only in exclosure portions of Frazer Creek.

Upper Rock Creek continues to be in a downward trend, particularly in portions in better condition.

Willow Creek and Upper Willow Creek habitats continues to deteriorate - livestock use is heavy to severe.

BLM is currently in violation of the Endangered Species Act by fostering continued loss of LCT habitat through its mismanagement of livestock grazing. BLM has known about continued downward trends for at least 10 years, and has failed to act. LCT populations are jeopardized by continued habitat degradation.

Response: Comment noted.

209. ***Comment:*** *Recommended actions in "Options' are completely inadequate, perpetuate violations and place LCT in further jeopardy. LCT may be lost from the entire Rock Creek subbasin.*

Response: None of the technical recommendations identified for the Squaw Valley Allotment Grazing Systems are being considered. Please refer to technical recommendation #4 within this document for the proposed grazing system.

210. ***Comment:*** *In our discussions with Elko BLM managers about the wretched conditions on public lands throughout the District, we have been constantly told that BLM has had other priorities, and was addressing those issues first. The AE clearly shows that BLM has done very little to protect LCT, even in high priority areas. It is time for BLM to be accountable to the public, and stop being lackeys for livestock interests, Red Cow Creek was identified in RMP as a high priority stream. It is RBT habitat, and conditions have declined to the point that "the situation for RBT in Red Cow Creek is critical". Lethal water temperatures exist. Conditions on Big Cottonwood Canyon in RBT habitat have deteriorated.*

The situation for RBT on Fourmile Creek is indicative of BLM totally ignoring its legal responsibilities to maintain/enhance habitat. Behnke's identification of fish in this drainage as interior redbands heightened biological awareness of this species in this drainage. A small population has declined to the point where now trout are entirely limited to occasional poor quality pools. Livestock grazing is drying up the stream - the public land portion is now dry. Bank stability has declined, water temperatures are excessively high.

Response: Although public ownership of Red Cow and especially Fourmile Creeks is limited, BLM is concerned about the current state of habitat conditions on both these

streams. The proposed grazing system is designed to improve stream and riparian habitat conditions for these areas.

211. ***Comment:*** *The Winters Creek watershed was burned by a hot, devastating wildfire in 1994. BLM has current information that shows the system is severely stressed, and lethal conditions for RBT may exist. What is being done right now to restore habitat? Is the stream being grazed?*

Response: An early grazing system was initiated in 1998 and 1999 with excellent results; however, horse damage to fences has contributed to a return to season-long grazing by livestock and a reversal in the pattern of upward trend. BLM intends to work cooperatively with the livestock permittee to reconstruct the fences and implement a system of early only grazing in Winters Creek Field. Wild horse numbers in the area were substantially reduced in 2002.

212. ***Comment:*** *The entry/trespass of livestock inside exclosures (p. 72) indicates disregard for habitat protection measures by permittees.*

Response: The BLM has maintenance responsibility for these particular exclosures.

213. ***Comment:*** *The impacts of sheep use have not been adequately evaluated in the AE. BLM cursorily looked at use in only portions of grazed/trailing areas. BLM has not considered impacts of sheep use on upland sites and overall riparian health. This must be done in the AE. Sheep impact infiltration and permeability rates for upland soils, and lead to overall watershed deterioration. This has long-term and cumulative impacts on riparian areas and must be addressed in the evaluation.*

214. ***Comment:*** *The short and long term objectives for streams in Tables 135-142 are far too modest and slow to prevent extirpation of LCT and RBT from streams in the allotments.*

Response: Objectives for streams have been revised (refer to technical recommendation #16). Revised objectives are reasonable and attainable and represent desired conditions under proper management.

215. ***Comment:*** *The meager proposed management changes will not bring BLM into compliance with legal mandates under the Federal Land Policy Management Act (FLPMA), the Public Rangelands Improvement Act (PRIA) and required compliance with the fundamentals of rangeland health and the Northeast Nevada Standards and Guidelines 43 CFR 4180.*

Response: See response to comment 209. above.

216. ***Comment:*** *Given the extreme State of LCT and RBT habitat loss due to livestock*

grazing impacts in the allotments, it is unbelievable to us that BLM would propose an INCREASE in AUMS, as Table 47 proposes, in watersheds vital to these species.

Response: Although the data indicate that there is sufficient carrying capacity to support an increase in total number of AUMs of specified livestock grazing on both the Spanish Ranch and Squaw Valley allotments, not all of the multiple use objectives have been met on both allotments. Failure to meet at least some of these objectives can be attributed to livestock grazing. Until those objectives that are directly related to livestock management are met, no increase in total number of AUMs of specified livestock grazing in those affected pastures is recommended.

217. **Comment:** *Riparian pastures will not bring about needed changes in highly degraded streams. Only total removal of livestock will.*

Response: Excellent success has been demonstrated with riparian pastures on the Elko District.

218. **Comment:** *NECESSARY CHANGES IN GRAZING PRACTICES IN THE ROCK CREEK (Spanish Ranch & Squaw Valley) and ANDRAE ALLOTMENT*

IWP and ClHD believe that a minimum PERMANENT REDUCTION OF 65% of AUMs currently being grazed is necessary to achieve goals of LUP and meet legal mandates in the Rock Creek (Spanish Ranch & Squaw Valley) and Andrae Allotments.

"Destocking is the quickest, surest and most viable way to reduce current deterioration trends wherever they are occurring". "Ecological forces exist which ensure that the tendency for continued degradation of rangeland, regardless of grazing system, unless a planned, general destocking strategy is applied." (Pieper and Hettschmldt 1988).

Reduction in stocking rates must be the first choice in obtaining resource objectives such as improved ecological site conditions, attaining the fundamentals of rangeland health, improving riparian condition, etc.

Response: Please refer to Appendices G and H for carrying capacity results and discussion. The allotment evaluation has shown that based on available monitoring data, there is sufficient capacity to support current active use on the Spanish Ranch Allotment and Native pastures of the Squaw Valley Allotment, as well as additional grazing use in the Andrae Allotment and the seeded pastures of the Squaw Valley Allotment. Many of the resource problems identified in the Spanish Ranch, Squaw Valley, and Andrae Allotments are caused by timing and duration of grazing, particularly the length and frequency of hot season grazing within riparian areas. A reduction in stocking levels is not always the solution to improving riparian conditions. In fact, management changes such as timing of use have been shown to have a positive impact on riparian areas without reductions in stocking levels. The analysis of monitoring data does not support a 65% reduction in stocking levels.

Comment: *Additional adjustments in livestock grazing management accompanying reduction in numbers should be made as follows:*

Note: Many of the items listed by IWP and CIHD are related. For convenience those items that are related have been grouped and presented together rather than in the exact order presented in the original comment letter.

219. ***Comment:***

- *The goal of livestock management must be to achieve proper functioning condition and good or better ecological status on all perennial and intermittent streams in the allotment within a maximum time frame of ten years.*
- *Restoration of healthy cryptogamic crusts in upland areas must be an important goal.*
- *Manage for late seral and potential natural community throughout the allotment.*
- *Habitat needs of populations of Special Status Species and other wildlife species must be adequately met in the allotment.*

Response: Goals and objectives for grazing allotments in the Elko District have been developed through the Resource Management Plans (RMP). These general goals and objectives have been made more specific through the Rangeland Program Summaries (RPS), Habitat Management Plans, and the allotment evaluation process. In addition, Standards for Rangeland Health were approved for Northeastern Great Basin Resource Advisory Council area on 2/12/97. These Standards and Guidelines address proper functioning condition of riparian areas, including streams and seeps and springs, soils (including cryptogamic crusts), uplands, and wildlife habitats. In November 1996, a Land Use Plan Conformance Determination and NEPA analysis concluded that these Standards and Guidelines were in conformance with existing land use plans. Generally, time frames for meeting allotment specific objectives are developed within the context of general land use plan objectives and are based on potential rates of improvement.

Late seral and potential natural community states may not be achievable or desirable in all areas. For example, many wildlife species such as pronghorn antelope prefer early or mid-seral plant communities. One must also understand that a late or PNC condition does not always equate to proper functioning condition, which is the minimum standard. Therefore, in order to address such conflicts in objectives, desired plant community or desired future condition objectives are sometimes developed through the allotment evaluation. Desired plant community or desired future condition objectives reflect site potential and the objectives developed through the land use plan, habitat management plans, and standards for rangeland health.

There are approximately 350 species of vertebrate wildlife which occur in northeastern Nevada and many of these frequent the Spanish Ranch, Squaw Valley, and Andrae Allotments. Since it is impractical to actively manage the specific habitats of so many animals, the Resource Management Plans focused on priority species. The Elko RMP

was an "issue drive" plan which centered on resource issues associated with these priority species as well as high resource values such as riparian habitat. The goals and objectives for priority species generally involve maintaining or improving waters and native plant communities, including riparian habitat. Wildlife utilize riparian habitat more than any other habitat type. For example, approximately 79% of all terrestrial species known to occur in the Great Basin are either directly dependent on riparian habitats or utilize them more than other habitat types. Therefore, the management decisions and standard operating procedures outlined in the RMP Record of Decision, will benefit more species than just those for which the actions are specifically intended. The management decisions outlined in the RMP Record of Decision were made more allotment specific by the Rangeland Program Summary. The Spanish Ranch, Squaw Valley, and Andrae Allotment Evaluation analyses only those objectives outlined in the RMP and RPS. The RMP and RPS identified management objectives and priorities for both game and non-game habitat.

The Standards and Guidelines for Rangeland Health approved for the Northeastern Great Basin Resource Advisory Council area specifically address habitat requirements for threatened and endangered species. Habitat needs of listed species are partially addressed through formal and informal consultation with the U.S. Fish & Wildlife Service in accordance with the Endangered Species Act. It is also Bureau policy to carry out management, consistent with the principles of multiple-use, for the conservation of other Special Status species and their habitats and to ensure that actions authorized, funded or carried out do not contribute to the need to list any of these species as threatened or endangered. The Bureau is also mandated by the Sikes Act (Tile II, Section 202(c)(3)) to coordinate with the NDOW in matters concerning official state-listed sensitive species. Therefore, impacts of proposed management actions on these species will be considered prior to their implementation, as per Bureau policy for management of Special Status species. In addition, the needs of Special Status species are addressed where specific species and their habitat needs have been identified. Through the objectives to meet habitat needs for species identified in the RMP and the Desired Plant Community or Desired Future Condition objectives developed through the allotment evaluation, the habitat needs of wildlife species are addressed.

The needs of wildlife are addressed at the allotment level by development of specific habitat condition objectives, rang condition (seral stage) objectives, and/or Desired Plant Community or Desired Future Condition objectives tiered to and designed to achieve the general RMP objectives and Standards for Rangeland Health.

220. ***Comment:***

- *Eliminate livestock grazing by July 1st. or earlier if necessary, in all pastures with riparian/wetland areas to meet resource objectives, regardless of the size of the riparian/wetland area.*
- *Eliminate grazing in riparian/wetland areas after the growing season.*

Response: The proposed grazing systems for the Squaw Valley and Spanish Ranch allotments have minimal if any hot season grazing, (after July 1st) in important riparian/wetland areas. See technical recommendations #4 and #5 in this report for the proposed grazing systems for the Spanish Ranch and Squaw Valley Allotments.

221. ***Comment:***

- *Streambank trampling damage occurring in the current year on any perennial or intermittent stream shall not exceed 5% of the linear length of the streambanks. A streambank stability standard of 80-90% stable banks shall be established.*

Response: A streambank trampling standard of 10% has been established for streams in the UWCHEP. Objectives for streambank stability are included in the objectives for riparian condition class (average of bank cover and bank stability). Riparian condition class objectives are for 60 to 70+ percent of optimum. Streams with in this condition are characterized by stable, well vegetated streambanks.

222. ***Comment:***

- *End of growing season and overwinter herbaceous stubble of 6" shall be left on all streamside riparian areas to provide for streambank and channel stability, improved vegetation composition and structure, and hydrologic function.*
- *Allow a maximum of 10% annual utilization of woody riparian vegetation.*

Response: Stubble height and utilization standards have been applied to streams in the UWCHEP as part of the development of the 2002 Barrick Supplemental Environmental Impact Statement Mitigation Plan. The 4" stubble height and 10-20% woody riparian utilization standards applied to these streams are considered adequate to achieve and maintain desired conditions and objectives.

Stubble height and utilization standards have not been applied to remaining streams since the proposed grazing system is expected to bring about improvement in stream and riparian habitat conditions through a substantial reduction in hot season grazing.

223. ***Comment:***

- *Remove livestock from all non-functional and functional-at-risk streams until streams are in proper functioning condition.*

Response: Initial periods of rest and/or implementation of riparian friendly grazing systems are proposed for all priority stream habitats in both the Squaw Valley and Spanish Ranch Allotments. Long-term objectives for all these streams are for proper functioning condition.

224. ***Comment:***

- *Determine which streams in the allotment are water quality limited. Bring all Streams into compliance with state and federal regulations.*

Response: The State of Nevada has developed specific water quality standards for classified waters. All unclassified waters have a minimum standard for water quality per the State. Water quality standards for all unclassified waters within the Spanish Ranch, Squaw Valley, and Andrae Allotments are currently being met.

Within the Spanish Ranch and Squaw Valley, Allotments the state has designated Upper Willow Creek as a Class A water and Willow Creek Reservoir as a Class B water. Rock Creek is a Class A water from its orgin to Squaw Valley Ranch, and Class C below Squaw Valley Ranch. These standards were revised in February 1997. Per these revised standards, water quality data collected in 1977 indicate that on Willow Creek three parameters met state standards, one parameter did not met water quality standards, and two parameters were not sampled in such a way that determination of meeting state water quality standards could be determined. The BLM has not collected water quality data for Willow Creek Reservoir since this is a private reservoir.

225. ***Comment:***

- *Allow a maximum 30% annual forage utilization of key forage species.*
- *No use shall be allowed on bluebunch wheatgrass during critical growth phases (Anderson 1992).*
- *Livestock grazing shall be adjusted to avoid grazing during critical periods in growth cycle for all native bunchgrass species.*
- *A minimum of 7" of residual cover must be left on sage grouse nesting areas.*

Response: Objectives outlined in the evaluation are consistent with achievement of Resource Management Plan objectives and Standards for Rangeland Health.

226. ***Comment:***

- *Do not allow range improvements that would increase livestock grazing of existing potential natural condition areas; evaluate these for Research Natural Area designation.*
- *Land treatments and range improvements to maintain or increase livestock forage shall not be allowed. As present improvements deteriorate, they shall be phased out.*
- *Seedings shall be done only to restore native plant communities, and should use only native plant species.*

Response: The specific design of each project is selected when each project is analyzed more closely prior to approving implementation. This included analysis of the specific impacts through an environmental analysis in compliance with NEPA guidelines.

227. ***Comment:***

- *Stocking rate and grazing system will be reviewed every five years and to [sic] be adjusted to protect the full spectrum of environmental, ecological, cultural, and recreation values.*
- *Adequate monitoring to fully track upland and riparian condition must be instituted.*

Response: Objectives will be evaluated in four years from the date of implementation of the grazing system. Adjustments in grazing (timing, duration, and stocking rates) may be made based on the results of monitoring.

228. ***Comment:***

- *Livestock grazing schedules must include periods of rest during times of critical plant growth and regrowth.*

Response: The proposed grazing system for the Squaw Valley Allotment requires that if a pasture is grazing during the active growing season one year that it must be followed by a year of grazing that does not occur during the growing season. The Spanish Ranch Allotment will have periods of rest during four-year grazing cycles to allow deferment during plant growth.

229. ***Comment:***

- *Grazing use must be adjusted before the next growing season where it is visually obvious, or where monitoring data or professional judgment reveal that key resources or watershed functional requirements are not being met because of livestock overuse.*
- *Terms and conditions of the grazing permit must include stocking rate, season-of-use, kind of livestock, deferment, rest, or other strategies that maintain good/excellent and improve poor/satisfactory vegetation communities and ecosystem function to achieve resource objectives. Livestock permittees in the allotment shall be held accountable for failures to meet objectives. Failure to comply and meet objectives shall result in a reduction of use in the next grazing season, 3 years of failure shall result in permit termination.*
- *The BLM shall eliminate proposed flexibility in adjusting livestock numbers within the grazing system for the permittee. Given the degraded condition of public lands and waters in the allotment and the recurrence of exclosure trespass, a very specific framework for grazing must be established, closely monitored, and compliance strictly enforced.*

Response: As outlined above, monitoring and as needed, annual and long-term adjustments will be made to the grazing system if the need is identified. For many systems, the period of use is far more important that the numbers of livestock grazed. Where identifying specific livestock numbers is an important management tool to meet objectives, flexibility in livestock numbers would not be provided. An important part of monitoring is determination of compliance and enforcement of compliance, particularly with the grazing and the season of use identified as part of the grazing system. As was indicated earlier, maintenance of the Frazer Creek exclosures is BLM's responsibility. Portions of these exclosures were burned in the 2001 Buffalo Fire and are slated for removal.

230. ***Comment:***

- *Allow no ephemeral (Temporary Non-Renewable) livestock grazing.*

Response: Under CFR § 4130.6-2 nonrenewable grazing permits may be issued on an annual basis to qualified applicants when forage is temporarily available, provided this use is consistent with multiple-use objectives and does not interfere with existing livestock operations on the public lands.

231. ***Comment:***

- *A suitability analysis shall be included as part of the Allotment Evaluation. Exclude livestock grazing on all areas determined to be unsuitable. Suitability shall evaluate such things as slope, distance from water, and site productivity, as well as harm to declining or special status plant and animal species resulting from grazing.*

Response: The initial adjudication studies evaluated carrying capacity in relation to productivity which included such things as slope. In addition, annual and long-term monitoring is used to determine carrying capacity, identify distribution and management problems, and determine rangeland health. These data are used within the allotment evaluation to determine if objectives are being met and to help formulate technical recommendations to ensure objectives are met or that significant progress is being made towards meeting them.

232. ***Comment:***

- *Allocations of available forage between domestic livestock, wildlife and watershed protection shall be adjusted to ensure a more equitable ratio of use. IWP and CIHD recommend a minimum of 60% of available forage be provided for wildlife and watershed protection on an annual basis.*

Response: The Bureau of Land Management did not consider allocation of forage to wildlife for the allotments. The Resource Management Plans (RMP) established a goal of reasonable wildlife numbers. The Elko Field Office has interpreted meeting the goals for reasonable numbers as having been met based on meeting good or better wildlife habitat condition ratings. Wildlife numbers are affected by various parameters in addition to habitat conditions, and many of these parameters are not controlled by the BLM.

Based on policies and court decisions, the BLM does allocate forage to wild horses within wild horse herd areas. As outlined in the allotment evaluation, several methods of allocating carrying capacity to livestock and wild horses can be used. The Interior Board of Land Appeals has supported the Bureau's use of various methods for allocation of forage provided the allocation is based on monitoring and is not arbitrary or capricious. The recommended appropriate management level of horses for the Rock Creek Herd Area is greater than the level outlined in the RMP.

Recommended objective levels of utilization for the Spanish Ranch and Squaw Valley Allotments range from 50% combined use (mule deer and livestock) for bitterbrush, 50%

for key herbaceous native species, to 55% for crested wheatgrass. These levels would leave a range of 50% to over 55% of the key species for wildlife and watershed protection. In addition, there are several vegetative species that receive little to no grazing use by domestic livestock; virtually 100% of these species would be available for wildlife use and for watershed protection.

233. ***Comment:***
ITEMS INCORPORATED BY REFERENCE FOR THESE COMMENTS
IWP and CIHD incorporate by reference all documents provided as attachments with our prior comments on the Hubbard Vineyard Allotment AE.

IWP and ClHD are sincerely disappointed at the lack of a serious intent on the part of the BLM to correct the extraordinary degradation of public lands which is documented on the Spanish Ranch, Squaw Valley and Andrae allotments. Even though the allotment evaluation is inadequate, biased in favor of livestock interest and lacking full information about all aspects of public resources, the information that is provided is sufficient in and of itself to require major reductions in livestock use immediately. The proposed alternatives and the preferred alternative for changed management of livestock on these allotments cannot begin to achieve even modest progress toward attainment of current management multiple use objectives. If the BLM continues to propose such limited corrective efforts as proposed in this AE, it can only confirm our conclusion that the agency has no intention to actually improve conditions on public lands in these allotments.

Response: The Nevada Northeastern Great Basin Advisory Council (RAC), as chartered by the Department of the Interior to promote healthy rangelands, has developed Standards and Guidelines for grazing administration on public lands administered by the Bureau of Land Management within the designated geographic area of the Northeastern Great Basin. The RAC in developing these Standards and Guidelines, understands and agrees that grazing is only one of the multiple uses recognized under the Federal Land Policy and Management Act (FLPMA) of 1976 (43 U.S.C 1739, 1740). These recommended Standards and Guidelines reflect the stated goals of improving rangeland health while providing for the viability of the livestock industry in the Northeastern Great Basin. Four fundamentals of rangeland health are listed in 43 CFR § 4180.1. They combine the basic precepts of physical function and biological health with elements of law relating to water quality and plant and animal populations and communities.

USFWS

234. ***Comment:*** *Pages 15 and 16, Table 10. Table 10 lists endangered, threatened, candidate, and sensitive species and their likelihood of occurrence on the allotments. A brief explanation of how this likelihood was determined would clarify the table. For example, was it determined through frequency of occurrence during surveys or occurrence of suitable habitat in the allotment?*

Response: The designation for likelihood of occurrence per species in the table is based on input by the U.S. Fish and Wildlife Service (1995 and 1996), field observations, surveys, and discussions and review by Bradley (1996) of NDOW and Price (1996) of BLM. The wording listed as "likely", as shown for some species in Table 10 in the evaluation, is based on the high probability that the given species is found on the given allotment on a yearlong or seasonal basis due to availability of habitat although the BLM is not aware if the species has been formally documented on the given allotment. For example, the goshawk, a highly mobile bird, has been documented on the Squaw Valley Allotment and not on the Spanish Ranch Allotment, within same land section, although both have similar habitat features, adjoin each other, and were considered one allotment prior to this evaluation. So it is likely that the northern goshawk occurs on the Spanish Ranch Allotment for various reasons.

For your information, the Threatened, Endangered, Candidate and Sensitive Species Table shown on Pages 15 and 16 will be edited as follows to show new Federal designations and name changes, and changes relative to meetings between Nevada Department of Conservation and Natural Resources and BLM regarding State of Nevada and Nevada BLM Sensitive Species.

Nevada BLM Special Status Species of Plants and Animals Potentially Occurring or Documented on Public Lands Administered by Elko BLM within the Spanish Ranch and Squaw Valley Allotments as of December 15, 1999[1].

COMMON NAME	SCIENTIFIC NAME	COMMENTS/ ALLOTMENT
Federally Endangered Species		
none	none	
Federally Threatened Species		
bald eagle	Haliaeetus leucocephalus	Documented on both allotments
Lahontan cutthroat trout	Oncorhynchus clarki henshawi	Squaw Valley only
Federal Candidate Species		
Columbia spotted frog	Rana luteiventris	Documented - Squaw Valley Potentially Occurring – Spanish Ranch
State of Nevada Listed Species[2]		
Mammals		

spotted bat	Euderma maculatum	Potentially Occurring on both allotments
Birds		
goshawk	Accipiter gentilis	Documented – Squaw Valley Potentially Occurring – Spanish Ranch
golden eagle	Aquila chrysaetos	Documented on both allotments
burrowing owl	Athene cunicularia	Documented – Squaw Valley Potentially Occurring – Spanish Ranch
ferruginous hawk	Buteo regalis	Documented – Squaw Valley Potentially Occurring – Spanish Ranch
Swainson's hawk	Buteo swainsoni	Potentially Occurring – Site Record on Private Lands Less than one mile away
osprey	Pandion haliatus	Potentially Occurring on both allotments
white pelican	Pelecanus erythrorhynchos	Documented – Squaw Valley
white-faced ibis	Plegadis chihi	Documented – Spanish Ranch Potentially Occurring –Squaw Valley Private Lands
Nevada BLM Sensitive Species[3]		
Mammals		
small-footed myotis	Myotis ciliolabrum	Potentially Occurring on both allotments
long-eared myotis	Myotis evotis	Potentially Occurring on both allotments
fringed myotis	Myotis thysanodes	Potentially Occurring on both allotments
Yuma myotis	Myotis yumanensis	Potentially Occurring on both allotments

pale Townsend's big-eared Bat	Plecotis townsendii pallescens	Potentially Occurring on both allotments
Pacific Townsend's big-eared bat	Plecotis townsendii townsendii	Documented on Spanish Ranch Potentially occurring on Squaw Valley
Preble's shrew	Sorex preblei	Potentially Occurring on both allotments
Birds		
greater sage grouse	Centrocercus urophasianus	Documented on both allotments
black tern	Chlidonias niger	Potentially Occurring on both allotments
mountain quail	Oreortyx pictus	Potentially Occurring on both allotments
Fishes		
interior redband trout	Onchorhyncus mykiss gibbsi	Documented on Spanish Ranch Not present on Squaw Valley
Mollusks		
California floater	Anodonta californiensis	Documented on Spanish Ranch Not present on Squaw Valley
springsnail	Pyrgulopsis gibbsi	
Butterflies		
Mattoni's blue butterfly	Euphilotes rita mattoni	Potentially Occurring on both allotments
Nevada viceroy	Limenitus archippus lahontani	Potentially Occurring on both allotments
Plants		
meadow pussytoes	Antennaria arcuata	Unknown on Spanish Ranch Not Identified on Squaw Valley
grimy ivesia	Ivesia rhypara var. rhypara	Not Identified on Squaw Valley
Packard stickleaf	Mentzelia packardiae	Not Identified on Squaw Valley

[1] Based on input provided by BLM, Nevada Division of Wildlife, and U.S. Fish and Wildlife Service in Nevada BLM Special Status Species list (Updated 12/1/99) and BLM Instruction Memorandum No. NV-98-013 (February 27, 1998). BLM Elko Field Office input provided for BLM Instruction Memorandum No. NV-98-013 was entitled "Former Candidate Category 2 Species On Or Suspected On Elko District -BLM Lands Recommended As BLM Sensitive Species As Of 5/96".

[2] Per wording from Nevada BLM Special Status Species List (Updated 12/1/99) for Nevada State Protected

Animals That Meet BLM's 6840 Policy Definition: 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) also 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 BLM Special Status Species under federally listed, proposed, or candidate species. Nevada BLM policy is to provide State of Nevada Listed Species and Nevada BLM Sensitive Species with the same level of protection as is provided for candidate species in BLM Manual 6840.06C.

[3] Species designated by the State Director, in cooperation with the State of Nevada Department of Conservation and Natural Resources, that are not already included as BLM Special Status Species under (1) Federally listed, proposed, or candidate species; or (2) State of Nevada listed species. BLM policy is to provide these species with the same level of protection as is provided for candidate species in BLM Manual 6840.06C.

235. ***Comment:*** *Page 109,2. The Bureau of Land Management proposes no interim grazing system for either option 2a or 2b for 5 years. We believe 5 years is too long to wait for the grazing system to be implemented. especially when-you consider that tile overall habitat condition for Toe Jam, Upper Rock, and Frazer Creeks is poor with a downward trend (Page 62, Table 32). Therefore, we recommend that an interim grazing system with a specified season of-use/or utilization criteria be initiated within 2 years of the grazing decision.*

Response: Options 2a and 2b are no longer being considered. The proposed system includes an interim grazing system that addresses these concerns. Please refer to technical recommendation #4 in the MASR.

236. ***Comment:*** *Page 110. Table 51, Middle Rock Creek/toe Jam Creek/Trout Creek pasture. The proposed grazing system for this pasture is May 3-July 5 the first year June 2 - July 15, the second year, rest the third year, and July 2 - August 15, the fourth year. We support the proposed grazing system except for the duration of the season of use through early September). Cattle are reluctant to disperse from riparian areas during the hot season. Myers (1989) noted that successful grazing systems were found to have less grazing during the hot season (13 days) than unsuccessful grazing systems with 33 days. In addition, he found that the duration of a livestock treatment was shorter 28 days, in successful grazing systems compared to 59 days in unsuccessful grazing systems. Also, utilization of deciduous woody species appears to increase sharply as believe that mid and late summer grazing should be avoided. The fishery habitat rehabilitation gained from the rest in the third year may be nullified by the higher use that occurs during the hot season.*

Since the grazing system does not propose any cattle herding, we recommend that the duration of use be reduced to 21 days. We believe this duration of hot season grazing will allow the woody riparian vegetation to rehabilitate from grazing and to continue moving towards potential natural community.

Response: This option is no longer being considered. The proposed system allows for an initial period of three years of rest, followed by a system which does not permit more than one year out of four of hot season grazing.

237. ***Comment:*** *In addition, we recommend that stream monitoring of bank stability and bank cover be conducted yearly. Platts (1981) found that the rehabilitation of a fishery could be determined by monitoring changes in the streambank-vegetation components.*

Response: Annual monitoring including utilization and bank trampling will be conducted to evaluate the overall effectiveness of the grazing system, particularly during the initial years of its implementation. In general however, any needed adjustments to the grazing system will be made on the basis of attainment/non attainment of short and long-term objectives.

238. ***Comment:*** *Page 110, Table 51, Upper Rock Creek/Toe Jam Creek pasture. The proposed grazing system for this pasture is July 6 - August 20, the first year, July 16 - August 31, the second year, rest the third year, and August 16 - September 15, the fourth year. We do not support this proposed grazing system because of the duration of the season of use for the first and second year. The duration of the season of use for the first year would be 45 days and 35 days for the second year during mid and late summer. Our reasons are the same as for the Middle Rock Creek/Toe Jam Creek/Trout Creek pasture. Since the grazing system does not propose any cattle herding, we recommend that the duration of use for the first and second year be reduced to 21 days. In addition, we believe the year of rest should be moved to the second year. This would allow the stream habitat to recover from hot season grazing in year 1. We also recommend that stream monitoring of bank stability and bank cover be conducted yearly.*

Response: These options are no longer being considered. Please refer to technical recommendation #4 for the proposed grazing system.

APPENDIX 2

UPDATED SPANISH RANCH ALLOTMENT STUDIES SUMMARY

SPANISH RANCH ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-04 (Sixmile)

Key Species: bluebunch wheatgrass (AGSP)
Idaho fescue (FEID)
antelope bitterbrush (PUTR2)

Range Site: LOAMY 12-14" (025XY027NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[2]
2000	11,916c 88s	4/1-11/28c 6/23-7/28s 10/15-10/18s	Not read					0.85			
1999	18,714c 82s	3/25-11/30c 6/19-7/15s 10/19-10/22s	AGSP 29 FEID 29 PUTR2 14	1/5			32,407 (60,416)[5]	1.34	24,184 (45,087)[5]		
1998	16,826c 83s	3/25-11/30c 7/6-7/19s 10/18-10/21s	Not read					1.2			
1997	18,013c 99s (17,759)[4]	3/25-12/22c 6/28-7/20s 10/20-10/24s	AGSP 22 FEID 31 PUTR2 28	10/17			28,644 (28,541)[5]	1.89	15,156 (15,101)[5]		
1996	19,511c 66s	3/25-12/7c 6/16-7/10c	Not read					1.44			
1995	17,779c 83s	3/29-11/28c 6/26-7/9s	Not read					1.59			
1994	18,783c 88s (18,783)[4]	3/25-10/31c 6/15-7/9s 10/20-10/24s	AGSP 10 FEID 9 PUTR2 30	10/27			93,915 (28,175)[5]	0.67	140,172 (42,051)[5]	Mid (39) AGSP $7^6/10^7$ FEID $4^6/6^7$ PUTR2 $0^6/0^7$	6.50a 0.50a 10.50a
1993	20,967c 57s	3/25-11/30c 4/8-7/8s 10/21-11/13s	Not read					1.59			
1992	20,389c 47s (19,067)[4]	3/16-11/30c 4/8-6/18s 10/20-11/13s	AGSP 14 FEID 38 PUTR2 63	10/6	Slight 38% Light 26% Moderate 24% Heavy 11% Severe 1% (Not mapped 69%)		25,088 (13,619)[5]	0.77	32,582 (17,687)[5]		
1991	18,076c 48s (18,131)[4]	3/16-11/30c 4/8-7/9s 10/21-11/14s	AGSP 2 FEID 7 PUTR2 65	11/5			129,507 (12,552)[5]	0.57	227,206 (22,021)[5]		
1990		3/22-11/30c 4/12-7/5s 10/19-11/13s	Not read					0.86			

SPANISH RANCH ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-04 (Sixmile)

Key Species: bluebunch wheatgrass (AGSP)
Idaho fescue (FEID)
antelope bitterbrush (PUTR2)

Range Site: LOAMY 12-14" (025XY027NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[2]
1989		3/25-12/05c 4/8-7/4s 10/17-11/29s	Not read					0.85			
1988		3/16-11/30c 4/8-7/7s 10/17-11/13s	AGSP 12 FEID 10 PUTR2 34	11/8				0.64		Mid (27) AGSP $15^{6}/23^{7}$ FEID $0^{6}/0^{7}$ PUTR2 $80^{6}/125^{7}$	14.00a 1.50a 10.00a
1987		3/25-11/30c 4/8-7/7s 10/17-11/28s	Not read					0.88			
1986		3/31-11/30c 4/8-7/7s 10/19-11/28s	AGSP 43 FEID 57 PUTR2 21	10/28			37,241	1.04	35,809		
1985		3/26-11/30c 4/8-7/7s 10/17-11/12s	Not read					0.89			
1984		3/26-11/30c 4/10-6/25s 10/19-11/15s	Not read					1.95			
1983		3/13-11/30c 4/8-7/7s 10/27-11/15s	Not read					2.07		Mid (35) AGSP $38^{6}/18^{7}$ FEID $0^{6}/0^{7}$ PUTR2 $39^{6}/19^{7}$	6.00a 0.50a 6.50a

1 c= cattle, s= sheep
2 Numbers that are followed by the same letter are not significantly different at the 0.10 level.
3 Actual use from the on-date until utilization data were collected. This number (AUMs) was used in the carrying capacity calculations.
4 Actual use from the on-date until utilization data were collected. This number (AUMs) was used in the carrying capacity calculations.
5 Carrying capacity calculations were based on an allowable utilization level of 45% on bitterbrush. However, notes indicate that not all use was made by livestock. Some use was made by mule deer, though the exact proportions can not be determined for the existing data.
6 Pounds per acre unadjusted for precipitation.
7 Pounds per acre adjusted for precipitation using the CYI.

SPANISH RANCH ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-12 (Cornucopia Ridge)

Key Species: bluebunch wheatgrass (AGSP)
Idaho fescue (FEID)
bottlebrush squirreltail (SIHY)
antelope bitterbrush (PUTR2)

Range Site: CLAYPAN 12-16" (025XY017NV) and LOAMY SLOPE 12-16" (025XY012NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[2]
2000	11,916c	4/1-11/28c	Not read								
1999	18,714c	3/25-11/30c	Not read								
1998	16,826c	3/25-11/30c	Not read								
1997	18,013c	3/25-12/22c	Not read								
1996	19,511c	3/25-12/7	Not read								
1995	17,779c	3/29-11/28c	Not read					1.59			
1994	18,783c (18,695)[4]	3/16-11/30c	AGSP 16 FEID 15 PUTR2 30	10/27			28,043[5]	0.67	41,854[5]	Mid (38) AGSP 0[6]/0[7] FEID 159[6]/237[7] SIHY 36[6]/54[7] PUTR2659[6]/984[7]	No data 30.50a 32.50c 19.50a
1993	20,967c	3/25-11/30c	Not read					1.59			
1992	20,389c (19,020)[4]	3/16-11/30c	AGSP 14 FEID 19 PUTR2 43	10/6	Slight 38% Light 35% Moderate 5% Heavy 16% Severe 5% (Not mapped 98%)	8/14, 10/6, 10/22, 11/17	19,905[5]	0.77	25,850[5]		
1991	18,076c	3/16-11/30c	Not read					0.57			
1990		3/22-11/30c	Not read					0.86			
1989		3/25-12/05c	Not read					0.85			

SPANISH RANCH ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-12 (Cornucopia Ridge)

Key Species: bluebunch wheatgrass (AGSP)
Idaho fescue (FEID)
bottlebrush squirreltail (SIHY)
antelope bitterbrush (PUTR2)

Range Site: CLAYPAN 12-16" (025XY017NV) and LOAMY SLOPE 12-16" (025XY012NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[2]
1988		3/16-11/30c	AGSP 10 FEID 16 PUTR2 24	11/7				0.64		Mid (43) AGSP $14^6/22^7$ FEID $23^6/36^7$ SIHY $25^6/39^7$ PUTR2 $12^6/19^7$	 4.50b 22.00b 56.00b 16.50
1987		3/25-11/30c	Not read					0.88			
1986		3/31-11/30c	Not read		Slight 18% Light 46% Moderate 8% Heavy 12% Not mapped 11% Closed 3% No water 2%	No date		1.04			
1985		3/26-11/30c	Not read					0.89			
1984		3/26-11/30c	Not read					1.95			
1983		3/13-11/30c	Not read					2.07		Mid (49) AGSP $0^6/0^7$ FEID $54^6/26^7$ SIHY $18^6/8^7$ PUTR2 $39^6/19^7$	 1.50a 25.50a,b 71.50a 15.50a

1 c= cattle, s= sheep, wh= wild horses
2 Use pattern map results for 1992 are from native portions of the Squaw Valley Allotment that were mapped. UPM results for 1986 are for the entire native portion of the Squaw Valley and Spanish Ranch Allotments, not just the area represented by the key area.
3 Numbers that are followed by the same letter are not significantly different at the 0.10 level.
4 Actual use from the on-date until utilization data were collected. This number (AUMs) was used in the carrying capacity calculations.
5 Carrying capacity calculations were based on an allowable utilization level of 45% on bitterbrush. However, notes indicate that not all use was made by livestock. Some use was made by mule deer, though the exact proportions can not be determined with the existing data.
6 Pounds per acre unadjusted for precipitation.
7 Pounds per acre adjusted for precipitation using the CYI.

SPANISH RANCH ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-13 (Mint Mine)

Key Species: bluebunch wheatgrass (AGSP)
Great Basin wildrye (ELCI2)
Thurber's needlegrass (STTH2)
needlegrass (STIPA)
Sandberg's bluegrass (POSE)
bottlebrush squirreltail (SIHY)

Range Site: LOAMY 8-10" (025XY019NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS[2]	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[3]
2000	11,916c 16,488wh	4/1-11/28c 1/1-12/31wh	Not read					0.85			
1999	18,714c 10,152wh	3/25-11/30c 1/1-12/31wh	Not read					1.34			
1998	16,826c 8,292wh (23,268)[4]	3/25-11/30c 1/1-12/31wh	AGSP 8 SIHI 2 ELCI2 8 STTH 5	10/23			145,425	1.2	121,188		
97-98	0c 1,794wh	1/1-4/28wh	AGSP 26 FEID 20	4/28				N/A			
1997	18,013c 6,399wh	3/25-12/22c 1/1-12/31wh	Not read					1.89			
1996	19,511c 7,953 wh	3/25-12/7c 1/1-12/31 wh	Not read					1.44			
1995	17,779c 6,051 wh	3/29-11/28c 4/1-12/31 wh	Not read					1.59			
94-95	0c 2,796 wh (2,796)[4]	11/5/94-3/31-95wh	AGSP 27 AGDA 43 SIHY 9 POSE 22	3/31/95				N/A			

SPANISH RANCH ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-13 (Mint Mine)

Key Species: bluebunch wheatgrass (AGSP)
Great Basin wildrye (ELCI2)
Thurber's needlegrass (STTH2)
needlegrass (STIPA)
Sandberg's bluegrass (POSE)
bottlebrush squirreltail (SIHY)

Range Site: LOAMY 8-10" (025XY019NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS[2]	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[3]
1994	18,783c 4,937 wh (23,664)[4]	3/16-11/30c 1/1-12/31wh	AGSP 34 SIHY 9	11/4			34,800	0.67	51,940	Mid (37) AGSP 0 ELCI2 1[5]/6[6] POSE 59[5]/88[6] SIHY 35[5]/52[6]	 0.00b 2.50a 77.00b 43.50a
93-94	oc 1,614 wh (1,614)[4]	11/17/93- 3/16/94wh	STTH2 66	3/16/94				N/A			
1993	20,967c 5,277 wh (26,151)[4]	3/25-11/30c 1/1-11/16wh	AGSP 9	11/16			145,283[7]	1.59	91,373[7]		
1992		3/16-11/30c 4/3-12/31wh	AGSP 8 ELCI2 30 SIHY 6 POSE 19	10/20	Slight 38% Light 35% Moderate 5% Heavy 16% Severe 5% (Not mapped 98%)	8/14, 10/6, 10/22, 11/17	35,513	0.77	46,121		
91-92		3/16-4/2c 11/23/91- 4/2/92wh	SIHY 56 STIPA 54	4/2/92			2,005c+wh[7] 1,930wh[7]	N/A	3,518c+wh[7]		
1991		3/16-11/30c 1/1-11/22wh	AGSP 30 ELCI2 37 SIHY 8 POSE 19	11/22			30,053	0.57	65,026		
1990		3/22-11/30c 1/1-12/31wh						0.86			
1989		3/25-12/05c 1/1-12/31wh						0.85			

SPANISH RANCH ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-13 (Mint Mine)

Key Species: bluebunch wheatgrass (AGSP)
Great Basin wildrye (ELCI2)
Thurber's needlegrass (STTH2)
needlegrass (STIPA)
Sandberg's bluegrass (POSE)
bottlebrush squirreltail (SIHY)

Range Site: LOAMY 8-10" (025XY019NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS[2]	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[3]
1988		3/16-11/30c 1/1-12/31wh	AGSP 26 SIHY 14 POSE 19	11/4				0.64		Mid (40) AGSP 0 ELCI2 0 POSE 42[5]/66[6] SIHY 25[5]/38[6]	 1.00a,b 1.00a,b 75.50b 38.50a
1987		3/25-11/30c 1/1-12/31wh						0.88			
1986		3/31-11/30c 1/1-12/31wh	AGSP 50 ELCI2 60 POSE 20	11/13	Slight 18% Light 46% Moderate 8% Heavy 12% Not mapped 11% Closed 3% No water 2%	No date		1.04			
1985		3/26-11/30c 1/1-12/31wh						0.89			
1984		3/26-11/30c 1/1-12/31wh						1.95			
1983		3/13-11/30c 1/1-12/31wh						2.07		Mid (36) AGSP 0 ELCI2 7[5]/4[6] PONE 148[5]/72[6] POSE 44[5]/21[6] SIHY 58[5]/28[6]	 3.00a 1.00a No data 58.00a 35.00a

1 c= cattle, s= sheep, wh= wild horses
2 Use pattern map results for 1992 are from native portions of the Squaw Valley Allotment that were mapped. UPM results for 1986 are for the entire native portion of the Squaw Valley and Spanish Ranch Allotments, not just the area represented by the key area.
3 Numbers that are followed by the same letter are not significantly different at the 0.10 level.
4 Actual use from the on-date until utilization data were collected. This number (AUMs) was used in the carrying capacity calculations.
5 Pounds per acre unadjusted for precipitation.

SPANISH RANCH ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-13 (Mint Mine)

Key Species: bluebunch wheatgrass (AGSP)
Great Basin wildrye (ELCI2)
Thurber's needlegrass (STTH2)
needlegrass (STIPA)
Sandberg's bluegrass (POSE)
bottlebrush squirreltail (SIHY)

Range Site: LOAMY 8-10" (025XY019NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS[2]	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[3]

[6] Pounds per acre adjusted for precipitation using the CYI.
[7] Numbers not used in calculating carrying capacity.

APPENDIX 3

UPDATED SQUAW VALLEY ALLOTMENT STUDIES SUMMARY

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY
Horseshoe Seeding, Key Area RC-01

Key Species: crested wheatgrass (AGCR) | Range Site: Seeding

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	FORAGE VALUE #/AC PROD.	KEY SPECIES FREQUENCY[2]
2000	1,795c 75h	4/1-6/30c 4/16-11/30h	Not read					0.85			
1999	1,571c 75h	4/1-6/30c 4/16-11/30h	AGCR 20	11/19			4,527	1.34	3,378		
1998	1,216c 0h	4/5-6/30c	AGCR 24	10/22			2,787	1.2	2,323		
1997	1,500c 75h	4/1-6/30c 4/16-11/30h	AGCR 30	7/2			2,886	1.89	1,527		
1996	1,496c 0h	4/1 - 6/30c	AGCR 58	7/25			1,419	1.44	985	POOR (18) AGCR 250[5]	
1995	1,410c 68h	4/1 - 6/30c 4/16 - 11/30h[3]	Not read	N/A				1.59			91.00b
1994	1,496c 76h (1,564)[4]	4/1 - 6/30c 4/16 - 11/30h	AGCR 70	11/4			1,229	0.67	1,834		
1993	1,496c 75h	4/1 - 6/30c 4/16 - 11/30h	Not read	N/A				1.59			
1992	1,430c 75h (1,454)[4]	4/1 - 6/26c 4/16 - 11/30h	AGCR 74	6/26			1,081	0.77	1,404		
1991	1,479c 75h (1,505)[4]	4/1 - 6/29c 4/16 - 11/30h	AGCR 46	7/2			1,799	0.57	3,157		
1990	1,479c	4/1 - 6/29c	AGCR 44	7/2			1,849	0.86	2,150		
1989	1,430c 75h (1,482)[4]	4/1 - 6/26c 4/16 - 11/2h	AGCR 35	10/19			2,329	0.85	2,740		
1988	1,479c 66h (1,504)[4]	4/1 - 6/29c 4/16 - 11/30h	AGCR 44	6/30			1,880	0.64	2,938	FAIR (45) AGCR 405[5]/633[6]	91.50b

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY
Horseshoe Seeding, Key Area RC-01

Key Species: crested wheatgrass (AGCR) | Range Site: Seeding

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	FORAGE VALUE #/AC PROD.	KEY SPECIES FREQUENCY[2]
1987	1,496c 76h (1,540)[4]	4/1 - 6/30c 4/15 - 11/30h	AGCR 39	8/26	Slight 5% Light 52% Moderate 37% Heavy 5% Severe 1%	8/26	2,172	0.88	2,468		
1986	1,627c 76h	3/24 - 6/30c 4/15 - 11/30h	Not read	N/A	Moderate 100%	No date		1.04			
1985	1,520c 70h	4/9 - 11/30c 5/1 - 11/30h	Not read	N/A				0.89			
1984	1,687c 69h	3/22 - 7/15c 5/5 - 11/30h	Not read	N/A				1.95			
1983	1,435c 69h (1,465)[4]	4/11 - 7/6c 5/5 - 11/30h	AGCR 15	8/4			5,372	2.07	2,595		56.50a

1 c= cattle, h= domestic horses
2 Numbers that are followed by the same letter are not significantly different at the 0.10 level.
3 Actual use (AUMs) and use periods for horses based on actual use to the date of the draft Allotment Evaluation (8/15/95) and licensed use for 1995.
4 Actual use from the on-date until utilization data were collected. This number (AUMs) was used in calculating carrying capacity.
5 Pounds per acre unadjusted for precipitation.
6 Pounds per acre adjusted for precipitation using the CYI.

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY
Midas Seeding, Key Area RC-02

Key Species: crested wheatgrass (AGCR) | Range Site: Seeding

YEAR	ACTUAL USE AUMS	PERIODS OF USE	KA UTIL. PERCENT	DATES READ	UPM RESULTS	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	FORAGE VALUE #/AC PROD.	KEY SPECIES FREQUENCY[1]
2000	562c 15s	4/1-6/30c 10/1-10/30c 5/4-5/18	Not read					0.85			
1999	579	4/2-6/30 10/1-10/4	AGCR 46	11/19			818	1.34	610		
1998	735	4/1-10/31	AGCR 32	10/22			1,493	1.2	1,244		
1997	509	4/1-6/30	AGCR 26	7/2			1,273	1.89	674		
1996	404	4/1-5/31	AGCR 55	7/26			477	1.44	331	Excellent (82) AGCR 1,180[2]	
1995	492	4/1-6/30	AGCR 41	7/11			780	1.59	491		41.00a
1994	509	4/1-6/30	AGCR 52	11/4			636	0.67	949		
1993	365	4/15-10/20	Not read	N/A				1.59			
1992	428	3/26-5/26	AGCR 67	6/26			415	0.77	539		
1991	503	4/1-6/29	AGCR 26	7/2			1,258	0.57	2,207		
1990	503	4/1-6/29	AGCR 48	7/2			681	0.86	792		
1989	486	4/1-6/26	AGCR 34	7/11			929	0.85	1,093		
1988	503	4/1-6/29	AGCR 31	7/13			1,055	0.64	1,648	Excellent (77) AGCR 653[2]/1020[3]	54.50b
1987	509	4/1-6/30	AGCR 38	8/25	Slight 5% Light 76% Moderate 19%	8/25	871	0.88	990		
1986	553	3/24-6/30	AGCR 70	7/22	Heavy 100%	No date	514	1.04	494		
1985	444	4/9-6/30	Not read	N/A				0.89			
1984	386	4/23-6/30	Not read	N/A				1.95			
1983	345	5/3-7/6	AGCR 24	7/28			934	2.07	451		38.00a

1 Numbers that are followed by the same letter are not significantly different at the 0.10 level.
2 Pounds per acre unadjusted for precipitation.
3 Pounds per acre adjusted for precipitation using the CYI.
In year 2000, c = cattle, s = sheep. All other years are cattle use.

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY
Rock Creek Seeding, Key Area RC-03

Key Species: crested wheatgrass (AGCR) | Range Site: Seeding

YEAR	ACTUAL USE AUMS	PERIODS OF USE	KA UTIL. PERCENT	DATES READ	UPM RESULTS	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	FORAGE VALUE #/AC PROD.	KEY SPECIES FREQUENCY[1]
2000	601	5/1-6/20 9/1-9/30	Not read					0.85			
1999	380	4/16-4/31 9/1-10/15	AGCR 52	11/19			475	1.34	354		
1998	454	9/16-10/31	AGCR 7	9/11			4,216	1.2	3,513		
1997	340	4/16-8/31	AGCR 20	9/3			1,105	1.89	585		
1996								1.44			
1995	341	2/14-3/15[2] 4/16-6/30	AGCR 20	7/11			1,108	1.59	697		72.00b
1994	340	4/16-8/31	AGCR 45	11/4			491	0.67	733	Fair (30) AGCR 249[2]	
1993	340	4/16-8/31	Not read					1.59			
1992	340	4/16-8/31	AGCR 33	10/20			670	0.77	870		
1991	338	4/16-8/31	Not read					0.57			
1990	340	4/16-8/31	AGCR 37	9/7			597	0.86	694		
1989	340	4/16-8/31	AGCR 24	9/5			921	0.85	1,084		
1988	362	4/16-8/31	Not read					0.64		Excellent (95) AGCR 447[3]/699[4]	81.00b
1987	340 (313)[5]	4/16-8/31	AGCR 25	8/20	Not mapped 4% Slight 26% Light 45% Moderate 21% Heavy 4% Severe 1%	8/20	814	0.88	925		
1986	345	4/14-8/31	AGCR 26	11/3	Light 100%	No date	862	1.04	829		
1985	ND	ND	Not read					0.89			
1984	343	4/30-9/5	Not read					1.95			
1983	593 (343)[5]	4/14-8/31	AGCR 20	7/5			1,102	2.07	532		52.50a

1 Numbers that are followed by the same letter are not significantly different at the 0.10 level.
2 Use period based on licensed use for 1995.
3 Pounds per acre unadjusted for precipitation.
4 Pounds per acre adjusted for precipitation using the CYI.
5 Actual use from the on-date until utilization data were collected. This number (AUMs) was used in calculating carrying capacity.
6 Utilization read prior to livestock turnout. Carrying capacity will not include this year.

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY Native pasture, Key Area RC-05 (Toe Jam)									
Key Species: bluebunch wheatgrass (AGSP) Thurber's needlegrass (STTH2) Great Basin wildrye (ELCI2) mountain brome (BRMA)						Range Site: SOUTH SLOPE 14-18" (025XY016NV)			
YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)
2000	15,575c 4,494s	3/16-11/28c 4/10-7/27s 10/16-11/22s	Not read					0.85	
1999	18,012c 4,198s	3/16-11/21c 4/10-7/14s 10/20-11/14s	Not read					1.34	
1998	18,243c 4,625s	3/16-11/16c 4/14-7/18s 10/19-11/18s	Not read					1.2	
1997	16,722c 5,974s (21,069)[3]	3/16-12/25c 4/9-7/20s 10/21-12/5s	ELCI2 11 BRMA 2	10/17			95,768	1.89	50,671
1996	14,898c 3,725s	3/16-11/30c 4/9-7/9s 10/21-11/13s	Not read					1.44	
1995	13,800c 4,179s	3/16-11/30c 4/6-7/8s	Not read					1.59	
1994	17,152c 3,765s (16,585)[3]	3/25-10/31c 6/15-7/9s 10/20-10/24s	ELCI2 27 BRMA 17	10/27			30,713	0.67	45,840
1993	17,512c 3,681s (20,724)[3]	3/25-11/30c 4/8-7/8s 10/21-11/13s	ELCI2 25 BRMA 7	11/20			41,448	1.59	26,068
1992	17,435c 4,191s (20,235)[3]	3/16-11/30c 4/8-6/18s 10/20-11/13s	ELCI2 18 BRMA 2	10/6			56,208	0.77	72,998
1991	18,370c 3,720s	3/16-11/30c 4/8-7/9s 10/21-11/14s	Not read					0.57	
1990		3/22-11/30c 4/12-7/5s 10/19-11/13s	Not read					0.86	

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-05 (Toe Jam)

Key Species: bluebunch wheatgrass (AGSP)
Thurber's needlegrass (STTH2)
Great Basin wildrye (ELCI2)
mountain brome (BRMA)

Range Site: SOUTH SLOPE 14-18" (025XY016NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)
1989		3/25-12/05c 4/8-7/4s 10/17-11/29s	Not read					0.85	
1988		3/16-11/30c 4/8-7/7s 10/17-11/13s	Not read					0.64	
1987		3/25-11/30c 4/8-7/7s 10/17-11/28s	Not read					0.88	
1986	35,483c 3,981s	3/31-11/30c 4/8-7/7s 10/19-11/28s	Not read		Slight 18% Light 46% Moderate 8% Heavy 12% Not mapped 1% Closed 3% No water 2%			1.04	
1985	30,236c 3,584s	3/26-11/30c 4/8-7/7s 10/17-11/12s	Not read					0.89	
1984	23,113c 3,968s	3/26-11/30c 4/10-6/25s 10/19-11/15s	Not read					1.95	
1983	31,822c 2,093s	3/13-11/30c 4/8-7/7s 10/27-11/15s	Not read					2.07	

1 c= cattle, s= sheep

2 Use pattern map results for 1992 are for native portions of the Squaw Valley Allotment that were mapped. UPM results for 1986 are for the entire native portion of the Squaw Valley and Spanish Ranch Allotments, not just the area represented by the key area.

3 Actual use from the on-date until utilization data were collected. This number (AUMs) was used in the carrying capacity calculations.

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-07 (Willow Creek Ridge)

Key Species: Sandberg's bluegrass (POSE)
bottlebrush squirreltail (SIHY)
foxtail wheatgrass (AGSA5)

Range Site: CLAYPAN 10-12" (025XY018NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS[2]	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[3]
2000	15,575c 4,494s	3/16-11/28c 4/10-7/27s 10/16-11/22s	Not read					0.85			
1999	18,012c 4,198s	3/16-11/21c 4/10-7/14s 10/20-11/14s	AGSA5 4 POSE 2	11/19			277,625	1.34	207,183		
1998	18,243c 4,625s (22,192)[4]	3/16-11/16c 4/14-7/18s 10/19-11/18s	AGSA 10	10/28			110,960	1.2	92,467		
1997	16,722c 5,974s (20,767)[4]	3/16-12/25c 4/9-7/20s 10/21-12/5s	AGSA 2 STTH2 10 POSE 1 AGSP 9	10/16			103,835	1.89	54,939		
1996	14,898c 3,725s 91h	3/16-11/30c 4/9-7/9s 10/21-11/13s 5/1-11/28h	Not read					1.44			
1995	13,800c 4,179s (13,714)[4]	3/16-11/30c 4/6-7/8s 10/21-11/13s	Not read				137,140[7]	1.59	86,252[7]		
1994	17,152c 3,765s 92h (17,000)[4]	3/16-11/30c 4/8-7/8s 10/21-11/13s 5/1-11/30h	POSE 2 SIHY 4 AGSA5 6	11/4			141,667[7]	0.67	211,443[7]	Mid (50) POSE 77[5]/115[6] SIHY 79[5]/118[6]	33.00b 67.50c
1993	17,152c 3,681s 92h (20,812)[4]	3/25-11/30c 4/8-7/8s 10/21-11/13s	SIHY 17	11/20			61,212	1.59	38,498		
1992	17,435c 4,191s 92h	3/16-11/30c 4/8-6/18s 10/20-11/13c	Not read		Slight 38% Light 35% Moderate 5% Heavy 16% Severe 5% (Not mapped 98%)			0.77			
1991	18,370c 3,702s	3/16-11/30c 4/8-7/9s	Not read					0.57			

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-07 (Willow Creek Ridge)

Key Species: Sandberg's bluegrass (POSE)
bottlebrush squirreltail (SIHY)
foxtail wheatgrass (AGSA5)

Range Site: CLAYPAN 10-12" (025XY018NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS[2]	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[3]
		10/21-11/14s									
1990		3/22-11/30c 4/12-7/5s 10/19-11/13s	Not read					0.86			
1989		3/25-12/05c 4/8-7/4s 10/17-11/29s	POSE 22 SIHY 18	12/7				0.85			
1988		3/16-11/30c 4/8-7/7s 10/17-11/13s	Not read					0.64		Mid (43) POSE $48^5/31^6$ SIHY $62^5/39^6$	 50.50a 56.50b
1987		3/25-11/30c 4/8-7/7s 10/17-11/28s	Not read					0.88			
1986		3/31-11/30c 4/8-7/7s 10/19-11/28s	POSE 0 SIHY 1	11/3	Slight 18% Light 46% Moderate 8% Heavy 12% Not mapped 1% Closed 3% No water 2%			1.04			
1985		3/26-11/30c 4/8-7/7s 10/17-11/12s	Not read					0.89			
1984		3/26-11/30c 4/10-6/25s 10/19-11/15s	Not read					1.95			
1983		3/13-11/30c 4/8-7/7s 10/27-11/15s	Not read					2.07		Mid (45) POSE $15^5/31^6$ SIHY $2^5/5^6$	 43.00a 30.50a

1 c= cattle, s= sheep, h= domestic horses
2 Use pattern map results for 1992 are for native portions of the Squaw Valley Allotment that were mapped. UPM results for 1986 are for the entire native portion of the Squaw Valley and Spanish Ranch Allotments, not just the area represented by the key area.
3 Numbers that are followed by the same letter are not significantly different at the 0.10 level.
4 Actual use from the on-date until utilization data were collected. This number (AUMs) was used in the carrying capacity calculations.
5 Pounds per acre unadjusted for precipitation.
6 Pounds per acre adjusted for precipitation using the CYI.
7 Numbers not used in calculating carrying capacity.

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-09 (Antelope Springs)

Key Species: bluebunch wheatgrass (AGSP)
Idaho fescue (FEID)
Great Basin wildrye (ELCI2)
Thurber's needlegrass (STTH2)

Range Site: LOAMY 10-12" (025XY014NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS[2]	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[3]
2000	15,575c 3,223s	3/16-11/28c 4/10-7/27s	Not read					0.85			
1999	18,012c 3,306s	3/16-11/21c 4/10-7/14s	Not read					1.34			
1998	18,243c 3,548s (21,752)[4]	3/16-11/16c 4/14-7/18s	AGSP 14 ELCI2 11 STTH2 6	10/28			77,686	1.2	64,738		
1997	16,722c 4,347s (20,766)[4]	3/16-12/25c 4/9-7/20s	AGSP 10 STTH2 2 ELCI2 10	10/16			103,830	1.89	54,937		
1996	14,898c 2,917s	3/16-11/30c 4/9-7/9s	Not read					1.44			
1995	13,800c 3,339s	3/16-11/30c 4/6-7/8s	Not read					1.59			
1994	17,152c 2,949s	3/16-11/30c 4/8-7/8s	Not read					0.67		Mid (46) AGSP 124[5]/185[6] ELCI2 942[5]/1406[6]	 25.00a 20.50b
1993	17,152c 2,873s (19,916)[4]	3/25-11/30c 4/8-7/8s	AGSP 36 FEID 31 ELCI2 26 STTH2 18	11/20			27,661	1.59	17,397		
1992	17,435c 3,372s (20,633)[4]	3/16-11/30c 4/8-6/18s	AGSP 40 FEID 54 ELCI2 41	10/20			19,105	0.77	24,811		
1991	18,370c 2,792s	3/16-11/30c 4/8-7/9s	Not read					0.57			
1990		3/22-11/30c 4/12-7/5s	Not read					0.86			
1989		3/25-12/05c 4/8-7/4s	Not read					0.85			
1988		3/16-11/30c 4/8-7/7s	Not read					0.64		Mid (42) AGSP 81[5]/126[6]	 28.00a

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-09 (Antelope Springs)

Key Species: bluebunch wheatgrass (AGSP)
Idaho fescue (FEID)
Great Basin wildrye (ELCI2)
Thurber's needlegrass (STTH2)

Range Site: LOAMY 10-12" (025XY014NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS[2]	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[3]
										ELCI2 211[5]/330[6]	23.50b
1987		3/25-11/30c 4/8-7/7s	Not read					0.88			
1986		3/31-11/30c 4/8-7/7s	AGSP 2 FEID 12 ELCI2 7	11/3	Slight 18% Light 46% Moderate 8% Heavy 12% Not mapped 1% Closed 3% No water 2%			1.04			
1985		3/26-11/30c 4/8-7/7s	Not read					0.89			
1984		3/26-11/30c 4/10-6/25s	Not read					1.95			
1983		3/13-11/30c 4/8-7/7s	AGSP 16 ELCI2 37	8/9				2.07		Mid (49) AGSP 27[5]/13[6] ELCI2 75[5]/36[6]	 23.50a 16.00a

1 c= cattle, s= sheep, h= domestic horses
2 Use pattern map results for 1992 are for native portions of the Squaw Valley Allotment that were mapped. UPM results for 1986 are for the entire native portion of the Squaw Valley and Spanish Ranch Allotments, not just the area represented by the key area.
3 Numbers that are followed by the same letter are not significantly different at the 0.10 level.
4 Actual use from the on-date until utilization data were collected. This number (AUMs) was used in the carrying capacity calculations.
5 Pounds per acre unadjusted for precipitation.
6 Pounds per acre adjusted for precipitation using the CYI.

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-10 (Dinosaur Hills)

Key Species: bluebunch wheatgrass (AGSP)
Great Basin wildrye (ELCI2)
Sandberg's bluegrass (POSE)

Range Site: LOAMY 8-10" (025XY019NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS[2]	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[3]
2000	15,575c 3,223s	3/16-11/28c 4/10-7/27s	Not read					0.85			
1999	18,012c 3,306s	3/16-11/21c 4/10-7/14s	Not read					1.34			
1998	18,243c 1,774s (19,846)[4]	3/16-11/16c 4/14-7/18s	ELCI2 13 AGSP 8 STTH 7	10/22			76,331	1.2	63,609		
1997	16,722c 2,174s	3/16-12/25c 4/9-7/20s	Not read					1.89			
1996	14,898c 2,917s	3/16-11/30c 4/9-7/9s	Not read					1.44			
1995	13,800c 3,339s	3/16-11/30c 4/6-7/8s	Not read					1.59			
1994	17,152c 2,949s (16,378)[4]	3/16-11/30c 4/8-7/8s	AGSP 0 ELCI2 2 STTH2 0 POSE 5	11/1			163,780[7]	0.67	244,448[7]	AGSP Not read ELCI2 Not read POSE Not read	4.50a 3.50a 51.00a
1993	17,152c 2,873s (19,942)[4]	3/25-11/30c 4/8-7/8s	AGSP 7 ELCI 4 STTH2 3	11/22			142,443[7]	1.59	89,586[7]		
1992	17,435c 3,372s (20,633)[4]	3/16-11/30c 4/8-6/18s	AGSP 34 ELCI 14	10/20			30,343	0.77	39,406		
1991	18,370c 2,792s (21,123)[4]	3/16-11/30c 4/8-7/9s	AGSP 22 ELCI2 25 STTH2 50	11/13			21,123	0.57	37,058		
1990		3/22-11/30c 4/12-7/5s	Not read					0.86			
1989		3/25-12/05c 4/8-7/4s	Not read					0.85			
1988		3/16-11/30c	Not read					0.64		Early (18)	

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-10 (Dinosaur Hills)

Key Species: bluebunch wheatgrass (AGSP)
Great Basin wildrye (ELCI2)
Sandberg's bluegrass (POSE)

Range Site: LOAMY 8-10" (025XY019NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS[2]	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[3]
		4/8-7/7s								AGSP $0^5/0^6$ ELCI2 $13^5/20^6$ POSE $67^5/105^6$	2.00a 1.50a 62.50b
1987		3/25-11/30c 4/8-7/7s	AGSP 7 POSE 50	4/22				0.88			
1986		3/31-11/30c 4/8-7/7s	AGSP 2 ELCI2 1 POSE 31	11/13	Slight 18% Light 46% Moderate 8% Heavy 12% Not mapped 1% Closed 3% No water 2%			1.04			
1985		3/26-11/30c 4/8-7/7s	Not read					0.89		Site burned this year	
1984		3/26-11/30c 4/10-6/25s	Not read					1.95			
1983		3/13-11/30c 4/8-7/7s	Not read					2.07		Mid (34) AGSP 0 ELCI2 0 POSE $13^4/26^5$	 No data 1.50a 45.00a

1 c= cattle, s= sheep, h= domestic horses
2 Use pattern map results for 1992 are for native portions of the Squaw Valley Allotment that were mapped. UPM results for 1986 are for the entire native portion of the Squaw Valley and Spanish Ranch Allotments, not just the area represented by the key area.
3 Numbers that are followed by the same letter are not significantly different at the 0.10 level.
4 Actual use from the on-date until utilization data were collected. This number (AUMs) was used in the carrying capacity calculations.
5 Pounds per acre unadjusted for precipitation.
6 Pounds per acre adjusted for precipitation using the CYI.
7 Numbers not used in calculating carrying capacity.

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-11 (Pole Creek)

Key Species: bluebunch wheatgrass (AGSP)
Idaho fescue (FEID)
Sandberg's bluegrass (POSE)

Range Site: CLAYPAN 12-16" (025XY017NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS[2]	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[3]
2000	15,575c 4,494s 16,480wh	3/16-11/28c 4/10-7/27s 10/16-11/22s 1/1-12/31wh	Not read					0.85			
1999	18,012c 4,198s 10,152wh	3/16-11/21c 4/10-7/14s 10/20-11/14s 1/1-12/31wh	Not read					1.34			
1998	18,243c 4,625s 8,292wh (29,751)[4]	3/16-11/16c 4/14-7/18s 10/19-11/18s 1/1-12/31wh	AGSP 10	10/23			148,755	1.2	123,963		
1997	16,722c 5,974s 6,399wh (23,168)[4]	3/16-12/25c 4/9-7/20s 10/21-12/5s 1/1-12/31wh	AGSP 20	10/17			57,920	1.89	30,646		
1996	14,898c 3,725s 7,953 wh	3/16-11/30c 4/9-7/9s 10/21-11/13s 1/1-12/31 wh	Not read					1.44			
1995	13,800c 4,179s 7,762 wh (24,500)[4]	3/16-11/30c 4/6-7/8s 10/21-11/13s 1/1-12/31 wh	AGSP 30 POSE 7	11/3			40,833	1.59	25,681		
1994	17,152c 3,765s 7,111 wh (22,775)[4]	3/16-11/30c 4/8-7/9s 10/20-11/13s 1/1-12/31wh	AGSP 11 FEID ND	11/1			103,523[7]	0.67	154,512[7]	Late (58) AGSP 79[5]/118[6] FEID 96[5]/143[6] POSE 84[5]/125[6]	 29.50b 18.00a 27.00a,b
1993	17,512c 3,681s 6,157wh (25,952)[4]	3/25-11/30c 4/8-7/8s 10/21-11/13s 1/1-12/31wh	AGSP 16 FEID 30	11/16			43,253	1.59	27,203		
1992	17,435c 4,191s 6,537wh (25,229)[4]	3/16-11/30c 4/8-6/18s 10/20-11/13s 1/1-12/31wh	AGSP 46 FEID 60	10/7	Slight 38% Light 35% Moderate 5% Heavy 16% Severe 5% (Not mapped 98%)	8/14, 10/6, 10/22, 11/17	21,024	0.77	27,304		

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-11 (Pole Creek)

Key Species: bluebunch wheatgrass (AGSP)
Idaho fescue (FEID)
Sandberg's bluegrass (POSE)

Range Site: CLAYPAN 12-16" (025XY017NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS[2]	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[3]
1991	18,370c 3,702s 4,704wh	3/16-11/30c 4/8-7/9s 10/21-11/14s 1/1-12/31wh	Not read					0.57			
1990	3,612wh[8]	3/22-11/30c 4/12-7/5s 10/19-11/13s 1/1-12/31wh	Not read					0.86			
1989	2,952wh	3/25-12/05c 4/8-7/4s 10/17-11/29s 1/1-12/31wh	Not read					0.85			
1988	3,168wh	3/16-11/30c 4/8-7/7s 10/17-11/13s 1/1-12/31wh	Not read					0.64		Late (62) AGSP $49^5/76^6$ FEID $15^5/24^6$ POSE $49^5/77^6$	 22.00a 18.50a 18.00b
1987	2,280wh	3/25-11/30c 4/8-7/7s 10/17-11/28s 1/1-12/31wh	Not read					0.88			
1986	1,788wh	3/31-11/30c 4/8-7/7s 10/19-11/28s 1/1-12/31wh	AGSP 6 FEID 16	11/3	Slight 18% Light 46% Moderate 8% Heavy 12% Not mapped 11% Closed 3% No water 2%	No date		1.04			
1985	1,752wh[8]	3/26-11/30c 4/8-7/7s 10/17-11/12s 1/1-12/31wh	Not read					0.89			
1984	1,428wh	3/26-11/30c 4/10-6/25s 10/19-11/15s 1/1-12/31wh	Not read					1.95			
1983		3/13-11/30c 4/8-7/7s 10/27-11/15s	AGSP 3 POSE 11	8/10				2.07		Late (67) AGSP $97^5/47^6$ FEID 0	 19.00a No data

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-11 (Pole Creek)

Key Species: bluebunch wheatgrass (AGSP)
Idaho fescue (FEID)
Sandberg's bluegrass (POSE)

Range Site: CLAYPAN 12-16" (025XY017NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS [2]	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY [3]
	768wh[8]	1/1-12/31wh								POSE $8^{5}/17^{6}$	33.50a

1 c= cattle, s= sheep, wh= wild horses
2 Use pattern map results for 1992 are from native portions of the Squaw Valley Allotment that were mapped. UPM results for 1986 are for the entire native portion of the Squaw Valley and Spanish Ranch Allotments, not just the area represented by the key area.
3 Numbers that are followed by the same letter are not significantly different at the 0.10 level.
4 Actual use from the on-date until utilization data were collected. This number (AUMs) was used in the carrying capacity calculations.
5 Pounds per acre unadjusted for precipitation.
6 Pounds per acre adjusted for precipitation using the CYI.
7 Numbers not used in calculating carrying capacity.
8 Wild horses were not censused these years. The number of horses was derived by applying a 22.3% average annual rate of increase to the previous years' census number; 22.3% is the average actual rate of increase for the Rock Creek Herd Area.

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-14 (Ivanhoe)

Key Species: bluebunch wheatgrass (AGSP)
Great Basin wildrye (ELCI2)

Range Site: LOAMY 10-12" (025XY014NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS[2]	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[3]
2000	15,575c 3,223s	3/16-11/28c 4/10-7/27s	Not Read					0.85			
1999	18,012c 3,306s	3/16-11/21c 4/10-7/14s	Not Read					1.34			
1998	18,243c 3,548s (21,686)[4]	3/16-11/16c 4/14-7/18s	AGSP 12 ELCI2 20	10/22			54,215	1.2	45,179		
1997	16,722c 4,347s (20,766)[4]	3/16-12/25c 4/9-7/20s	AGSP 11 FEID 5 ELCI2 34	10/16			30,538	1.89	16,158		
1996	14,898c 2,917s	3/16-11/30c 4/9-7/9s	Not read					1.44			
1995	13,800c 3,339s	3/16-11/30c 4/6-7/8s	Not read					1.59			
1994	17,152c 2,949s	3/16-11/30c 4/8-7/9s	Not read					0.67		Mid (43) AGSP 129[4]/192[5] ELCI2 9[4]/13[5]	 12.00a 12.50a
1993	17,152c 2,873s (19,916)[4]	3/25-11/30c 4/8-7/8s	AGSP 26 ELCI2 39	11/20			25,533	1.59	16,059		
1992	17,435c 3,372s (20,633)[4]	3/16-11/30c 4/8-6/18s	AGSP 49 ELCI2 61	10/20	Slight 38% Light 35% Moderate 5% Heavy 16% Severe 5% (Not mapped 98%)	8/14, 10/6, 10/22, 11/17	16,912	0.77	21,964		
1991	18,370c 2,792s	3/16-11/30c 4/8-7/9s	Not read					0.57			
1990		3/22-11/30c 4/12-7/5s	Not read					0.86			
1989		3/25-12/05c 4/8-7/4s	Not read					0.85			
1988		3/16-11/30c 4/8-7/7s	Not read					0.64		Mid (34) AGSP 14[4]/21[5] ELCI2 13[4]/20[5]	 7.00a 11.50a
1987		3/25-11/30c 4/8-7/7s	Not read					0.88			
1986		3/31-11/30c	AGSP 8	11/3	Slight 18%	No date		1.04			

SQUAW VALLEY ALLOTMENT STUDIES SUMMARY
Native pasture, Key Area RC-14 (Ivanhoe)

Key Species: bluebunch wheatgrass (AGSP)
Great Basin wildrye (ELCI2)

Range Site: LOAMY 10-12" (025XY014NV)

YEAR	ACTUAL USE AUMS[1]	PERIODS OF USE[1]	KA UTIL. PERCENT	DATES READ	UPM RESULTS[2]	DATES MAPPED	PRE-CYI CAPACITY (AUMS)	CYI	POST-CYI CAPACITY (AUMS)	ECOL. STAT. #/AC PROD.	KEY SPECIES FREQUENCY[3]
		4/8-7/7s	ELCI2 13		Light 46% Moderate 8% Heavy 12% Not mapped 11% Closed 3% No water 2%						
1985		3/26-11/30c 4/8-7/7s	Not read					0.89			
1984		3/26-11/30c 4/10-6/25s	Not read					1.95			
1983		3/13-11/30c 4/8-7/7s	Not read					2.07		Mid (37) AGSP $15^5/7^6$ ELCI2 $77^5/37^6$	10.50a 7.50a

1 c= cattle, s= sheep, wh= wild horses
2 Use pattern map results for 1992 are from native portions of the Squaw Valley Allotment that were mapped. UPM results for 1986 are for the entire native portion of the Squaw Valley and Spanish Ranch Allotments, not just the area represented by the key area.
3 Numbers that are followed by the same letter are not significantly different at the 0.10 level.
4 Actual use from the on-date until utilization data were collected. This number (AUMs) was used in the carrying capacity calculations.
5 Pounds per acre unadjusted for precipitation.
6 Pounds per acre adjusted for precipitation using the CYI.

APPENDIX 4

UPDATED SPANISH RANCH AND SQUAW VALLEY ALLOTMENTS CARRYING CAPACITY CALCULATIONS

ESTIMATED CARRYING CAPACITY CALCULATIONS FOR THE SPANISH RANCH AND SQUAW VALLEY ALLOTMENTS

To calculate carrying capacity for these allotments the following steps were used.

A. Utilization and actual use data were used along with the objective or desired utilization level. Actual use data include use by cattle, domestic horses, and sheep and wild horses, where applicable. The formula used is:

Actual Use		Estimated carrying capacity
Actual utilization	=	Objective/desired utilization

Desired or objective utilization levels for the various pastures are described below.

Horseshoe Seeding:	55%
Midas Seeding:	55%
Rock Creek Seeding:	55%
Native Pastures:	50% herbaceous, 50% antelope bitterbrush

Utilization levels of 55% in the Horseshoe, Midas, and Rock Creek Seedings, accompanied with proper brush treatment, will provide long-term maintenance of the crested wheatgrass seedings.

The Elko Resource Management Plan outlined an objective level of 50% utilization on Native Pastures. Therefore, this level was used for all calculations for the Native Pastures at key areas where the key species were herbaceous. Antelope bitterbrush has an objective level of 50% based on the total combined use by livestock and wildlife. At key areas where use on more than one key species was recorded, the higher utilization levels were used. Generally, this was antelope bitterbrush rather than the herbaceous species.

B. All data were used for all years that both actual use and utilization data were available in the initial calculations. Refer to Appendices B and C for more specific information. When utilization levels were recorded for more than one species, the highest use level was used. This method uses the concept of the "limiting factor" which recognizes that the species used the most will determine the level of grazing use that will best manage for maintenance of the key forage species.

C. The estimated carrying capacity figures were then averaged for all years within each pasture. These figures are displayed in the following tables. Carrying capacity figures that were widely divergent from the rest were not used in calculating the average carrying capacity for each pasture. For example, on the Squaw Valley Allotment current preference within the Native Pasture is 24,278 AUMs. Data collected at Key Area RC-10 indicate carrying capacity values for the Native Pasture of 163,780 AUMs, 142,443 AUMs, 76,331 AUMs, 30,343 AUMs, and 21,123 AUMs. The values of 163,780 AUMs and 142,443 AUMs were not used in calculating the average carrying capacity.

Table 1. Utilization/actual use carrying capacity calculations for the seeded pastures in the Squaw Valley Allotment.

YEAR	ACTUAL USE	UTILIZATION	CARRYING CAPACITY
Horseshoe Seeding (Key Area RC-01)			
1999	1,646	20	4,527[1]
1998	1,216	24	2,787
1997	1,575	30	2,886
1996	1,496	58	1,419
1994	1,564	70	1,229
1992	1,454	74	1,081
1991	1,505	46	1,799
1990	1,479	44	1,849
1989	1,482	35	2,329
1988	1,504	44	1,880
1987	1,540	39	2,172
1983	1,465	15	5,372[1]
Average 1,494		N/A	1,943
Midas Seeding (Key Area RC-02)			
1999	579	46	692
1998	735	32	1,263
1997	509	26	1,077
1996	404	55	404
1995	492	41	660
1994	509	52	538
1992	428	67	351

YEAR	ACTUAL USE	UTILIZATION	CARRYING CAPACITY
1991	503	26	1,064
1990	503	48	576
1989	486	34	786
1988	503	31	892
1987	509	38	737
1986	553	70	435
1983	345	24	791
Average	504	N/A	733
Rock Creek Seeding (Key Area RC-03)			
1999	380	52	402
1998	454	7	3,567[1]
1997	340	20	935
1995	341	20	938
1994	340	45	416
1992	340	33	567
1990	340	37	505
1989	340	24	779
1987	313	25	687
1986	345	26	730
1983	343	20	943
Average	352	N/A	690

[1] Numbers were not used in calculating average carrying capacity.

Table 2. Utilization/actual use carrying capacity calculations for the Native Pasture of the Squaw Valley Allotment.

YEAR	ACTUAL USE	UTILIZATION	CARRYING CAPACITY
Native Pasture (Key Area RC-05)			
1997	21,069	11	95,768[1]
1994	16,585	27	30,713
1993	20,724	25	41,448
1992	20,235	18	56,208
Native Pasture (Key Area RC-07)			
1999	22,210	4	277,625[1]
1998	22,192	10	110,960[1]
1997	20,767	10	103,835[1]
1995	13,714	5	137,140[1]
1994	17,000	6	141,667[1]
1993	20,812	17	61,212
Native Pasture (Key Area RC-09)			
1998	21,752	14	77,686
1997	20,766	10	103,830[1]
1993	19,916	36	27,661
1992	20,633	54	19,105
Native Pasture (Key Area RC-10)			
1998	19,846	13	76,331
1994	16,378	5	163,780[1]
1993	19,942	7	142,443[1]
1992	20,633	34	30,343
1991	21,123	50	21,123

YEAR	ACTUAL USE	UTILIZATION	CARRYING CAPACITY
Native Pasture (Key Area RC-11)			
1998	29,751	10	148,755[1]
1997	23,168	20	57,920
1995	13,714	30	22,857
1994	22,775	11	103,523[1]
1993	25,952	30	43,253
1992	25,229	60	21,024
Native Pasture (Key Area RC-14)			
1998	21,686	20	54,215
1997	20,766	34	30,538
1993	19,916	39	25,533
1992	20,633	61	16,912
Average 20,686		N/A	39,671

[1] Numbers were not used in calculating average carrying capacity.

Table 3. Utilization/actual use carrying capacity calculations for the Native Pasture of the Spanish Ranch Allotment.

YEAR	ACTUAL USE	UTILIZATION	CARRYING CAPACITY
Native Pasture (Key Area RC-04)			
1999	18,796	14 (PUTR2)	60,416[1]
1997	17,759	28 (PUTR2)	28,541
1994	18,783	30 (PUTR2)	28,175
1992	19,067	63 (PUTR2)	13,619

YEAR	ACTUAL USE	UTILIZATION	CARRYING CAPACITY
1991	18,131	65 (PUTR2)	12,552
Native Pasture (Key Area RC-12)			
1994	18,695	30 (PUTR2)	28,043
1992	19,020	43 (PUTR2)	19,905
Native Pasture (Key Area RC-13)			
1998	23,268	8	145,425[1]
1994	23,664	34	34,800
1993	26,151	9	145,283[1]
1992	21,308	30	35,513
1991	22,239	37	30,053
Average 20,573		N/A	25,689
[1]		Numbers were not used in calculating average carrying capacity.	

Table 4. Utilization/actual use carrying capacity calculations for the Rock Creek Native Pasture (Spanish Ranch and Squaw Valley) prior to the 1988 allotment division.

YEAR	ACTUAL USE	UTILIZATION	CARRYING CAPACITY
Native Pasture (Key Area RC-04)			
1988	46,399	34 (PUTR2)	61,410
1986	38,611	57	33,869
1983	26,761	3	446,017[1]
Native Pasture (Key Area RC-05)			
1983	26,951	5	269,510[1]
Native Pasture (Key Area RC-07)			

YEAR	ACTUAL USE	UTILIZATION	CARRYING CAPACITY
1989	39,350	22	89,432
1986	38,839	1	1,941,950[1]
Native Pasture (Key Area RC-09)			
1986	38,338	12	159,742[1]
1983	23,871	37	32,258
Native Pasture (Key Area RC-10)			
1987	2,079	50	2,079[1]
1986	38,375	31	61,895
1983	24,248	22	55,109
Native Pasture (Key Area RC-11)			
1986	40,343	16	126,072[1]
1983	24,535	11	111,523[1]
Native Pasture (Key Area RC-12)			
1988	39,006	24 (PUTR2)	73,136
Native Pasture (Key Area RC-13)			
1988	45,438	26	87,381
1986	36,775	60	30,646
1983	23,473	14	83,832
Native Pasture (Key Area RC-14)			
1986	38,338	13	147,454[1]
1983	24,779	19	65,208
Average 32,448		N/A	61,289

[1] Numbers were not used in calculating average carrying capacity.

E. For the Native Pastures within the Squaw Valley and Spanish Ranch Allotments an additional step was required. From 1983 through 1990, actual use was reported for the entire Rock Creek Native Pasture. From 1991 through 2000, actual use has been reported separately for each allotment. Therefore, the average estimated carrying capacity for the Rock Creek Native Pasture was pro-rated to the Squaw Valley and Spanish Ranch Allotments based on the total number of AUMs of specified livestock grazing outlined in the Elko Resource Management Plan. Note: The total number of AUMs of specified livestock grazing for the Squaw Valley Allotment outlined in the RMP included the three seeded pastures. The total number of AUMs of specified livestock grazing for the native portions of each of these allotments is shown in Table 5 below. Calculation of the estimated carrying capacity pro-rated to each allotment is shown in Table 6 below.

Table 5. Pro-rated total number of AUMs of specified livestock grazing for the combined Native Pasture (Spanish Ranch and Squaw Valley).

Allotment	Total Number of AUMs of Specified Livestock Grazing within the Native Pasture(s)	Percentage
Spanish Ranch	22,201	48%
Squaw Valley	24,420	52%

Table 6. Estimated and Adjusted carrying capacity for the Native Pastures (1983-1990) for the Rock Creek Allotment pro-rated by allotment.

Allotment	% of Total Number of AUMs of Specified Livestock Grazing	Pro-rated Capacity by Allotment (using % displayed in Table 5.)
		Estimated Carrying Capacity
Spanish Ranch	48%	29,419
Squaw Valley	52%	31,870
Total [1]	100%	61,289 [1]
[1] Estimated Carrying Capacity figures derived in Table 4.		

F. The average estimated carrying capacity for the **Native Pasture** of each allotment (for the period 1990-2000) was then averaged with the pro-rated average for the Rock Creek Native Pasture (for the period 1983-1990).

Table 7. Average estimated and adjusted carrying capacity for the Native Pastures in the Spanish Ranch and Squaw Valley Allotments including the pro-rated average from the combined Rock Creek Native Pasture.

	Spanish Ranch Allotment	Squaw Valley Allotment
	Estimated carrying capacity	Estimated carrying capacity
Allotment Avg. (from Tables 2 & 3)	25,689	39,671
Pro-rated from Rock Creek Native (from Table 6)	29,419	31,870
Native Pasture(s) AVERAGE	**27,544**	**35,771**

G. The estimated carrying capacity figures for the Native Pasture of the Spanish Ranch and Squaw Valley Allotments were pro-rated to the new pastures based on the relative carrying capacity of each pasture. The relative carrying capacity for each pasture was calculated from the Tuscarora, Taylor, and Owyhee Adjudication Maps. These values are displayed in Tables 8 and 9. Carrying capacities for the seeded pastures in the Squaw Valley Allotment were calculated using the utilization levels observed and the actual use recorded and are displayed in Table 1.

Table 8. Estimated Carrying Capacity by Proposed Pasture for the Spanish Ranch Allotment

SPANISH RANCH ALLOTMENT		
Pastures	% of Allotment Carrying Capacity from Adjudication Maps (using public and private lands for % calculation) [1]	Pro-rated Carrying Capacity 27,544
Burner Hills	19.6	5,399
Winters Creek	9.7	2,672
Red Cow	24.7	6,803
Cornucopia	9.4	2,589
Big Cottonwood Upland	31.2	8,594
Big Cottonwood Riparian	1.9	523
Hot Creek	3.5	964
TOTAL	100%	27,544

[1] Grazing use is licensed based on public land capacity expressed as a percentage of the total capacity (public and private). The Spanish Ranch Allotment is licensed at 74% public land. However, the total number of AUMs of specified livestock grazing shown in this table reflects only those AUMs from public lands.

Table 9. Estimated Carrying Capacity by Proposed Pasture for the Native Pastures in the Squaw Valley Allotment.

SQUAW VALLEY ALLOTMENT		
Pastures	% of Allotment Carrying Capacity from Adjudication Maps (using public and private lands for % calculation) [1]	Pro-rated Carrying Capacity
Horseshoe	8.5	3,041
Indian Springs	5.7	2,039
Upper Clover	0.4	143
Lower Squaw Field	4.9	1,753
Lower Gorge Pathway	1.7	608
Frazer Creek Riparian	7.1	2,540
Soldier Field	6.4	2,289
Trout Creek Riparian	22.1	7,905
Toe Jam Riparian	TBD with Trout Creek split	
Rock Creek Riparian	9.7	3,470
Willow Creek Reservoir	30.9	11,053
Nelson Field	2.6	930
Total	100%	35,771

APPENDIX 5

UPDATED STREAM MONITORING DATA FOR THE SQUAW VALLEY AND SPANISH RANCH ALLOTMENTS

UPDATED STREAM MONITORING

Squaw Valley Allotment

Some additional information on habitat conditions for LCT streams in the Squaw Valley Allotment has been collected since the Biological Assessment and Allotment Evaluations were completed in 1998 and 1997, respectively (BLM 1998, BLM 1997). All new information is summarized in Tables 1. and 2. below.

Table 1. Results of electroshocking studies conducted by Nevada Division of Wildlife (NDOW) for streams occupied by LCT in 2001.

STREAM	LCT/Mile	No. Age Classes	Occupied Length Stream (miles)	Population Trend[1]
Nelson Creek[2]	132	2	3	Up
Lewis Creek	Young of the year only	1	1	Down
Toe Jam Creek	739	4	1	Incomplete survey
Upper Rock Creek	783	2	2	Down
Upper Willow Creek[3]	53	1	0.5	Static

[1]Population and occupied habitat as compared to last survey in 1996.
[2]Includes a small section of Upper Willow Creek below the Lewis Creek confluence.
[3] Area surveyed includes BLM stream survey stations S-1 through S-4. The lower reach of Nelson Creek (upper reach of Willow Creek) is not included in the survey.

Table 2. Information collected by BLM for Nelson, Lewis, and Upper Willows Creeks in 2002 based on data collected from stream survey stations S-1 through S-5 on Nelson Creek; S-1 through S-4 on Lewis Creek; and S-1 through S-5 on Upper Willow Creek.

HABITAT PARAMETER	Nelson Creek	Lewis Creek	Upper Willow Creek
In-Stream			
Total Stream Width in Pools (%)	46	96	66
% Pools Rated Class 1-3[1]	50	50	41
% Desirable Streambottom Substrates[2]	30		55
Stream Width/Depth Ratio	23	15	29
Ave. Embeddedness[3]	3	3	3
Streambanks and Riparian Zone			
Bank Cover (% optimum)[4]	76	68	42
Bank Stability (% optimum)[5]	70	59	51
Riparian Condition Class (% optimum)[6]	73	63	46
Ave. Shorewater Depth (in)	1.0	0.3	1.0
Ave. Bank Angle (degrees)	152	122	153

HABITAT PARAMETER	Nelson Creek	Lewis Creek	Upper Willow Creek
Ave. Woody Riparian Overhang (in)	1.34	0.2	0.4
Ave. Type A Riparian Zone Width (ft)[7]	2.9	2.9	4.3
Ave. Type B Riparian Zone Width (ft)[8]	19.8	13.3	8.0

[1]Large deep pools with cover.
[2]Includes gravel and rubble.
[3]Percent of gravel, rubble or boulder surface covered by fine sediments: 5.0=<5%; 4.0=5-25%; 3.0=25-50%; 2.0=50-75%; 1.0=>75%.
[4]Optimum is defined as medium to heavy cover of trees or tall shrubs.
[5]Optimum is defined as totally stable streambanks.
[6]Average of bank cover and bank stability. Excellent=>70%; Good=60-69%; Fair=50-59%; Poor=25-49%.
[7]Canopy cover of riparian shrubs and basal cover of herbaceous riparian vegetation is less than 50%.
[8]Canopy cover of riparian shrubs and basal cover of herbaceous riparian vegetation is greater than 50%

Data collected for Upper Willow Creek in 2002 showed overall stream and riparian habitat conditions have declined since data were last collected in 1997. Information on habitat conditions was not presented for Lewis and Nelson Creeks in the 1998 Biological Assessment since these streams are exclusively privately owned and not considered part of the overall allotment plan at the time.

Functioning condition assessments were also completed on Trout and Middle Rock Creeks in 1999. Trout Creek was rated as functional-at-risk with a downward trend on the basis of a lack of a riparian vegetation as well as evidence of excessive erosion and deposition. Middle Rock Creek was rated as nonfunctional due to almost complete absence of a riparian zone, excessive scouring and deposition, and lateral instability.

Spanish Ranch Allotment

New information has also been collected for selected streams in the Spanish Ranch Allotment collected since the Allotment Evaluation was completed in 1997 (BLM 1997). All new information is summarized in Tables 3. below.

Table 3. Information collected by BLM for Red Cow, Big Cottonwood Canyon, Six Mile Creeks in 2000 and 2002 based on data collected from stream survey stations S-1, S-2, S-5 through S-8, S-10, and S-11 on Red Cow Creek; S-2, S-3, and S-8 on Big Cottonwood Canyon Creek and S-2 through S-5 on Six Mile Creek. Data are for public lands only.

HABITAT PARAMETER	Red Cow Creek (2000)	Big Cottonwood Canyon Creek (2000)	Sixmile Creek (2002)
In-Stream			
Total Stream Width in Pools (%)	78	33	99

HABITAT PARAMETER	Red Cow Creek (2000)	Big Cottonwood Canyon Creek (2000)	Sixmile Creek (2002)
% Pools Rated Class 1-3[1]	0	0	0
% Desirable Streambottom Substrates[2]	67	71	53
Stream Width/Depth Ratio	45	37	35
Ave. Embeddedness[3]	3	3	4
Streambanks and Riparian Zone			
Bank Cover (% optimum)[4]	37	33	61
Bank Stability (% optimum)[5]	62	49	60
Riparian Condition Class (% optimum)[6]	49	41	60
Ave. Shorewater Depth (in)	0.10	0	0
Ave. Bank Angle (degrees)	157	157	150
Ave. Woody Riparian Overhang (in)	0.17	0	0.2
Ave. Type A Riparian Zone Width (ft)[7]	3.3	5	1.1
Ave. Type B Riparian Zone Width (ft)[8]	1.8	1.4	13.6

[1]Large deep pools with cover.
[2]Includes gravel and rubble.
[3]Percent of gravel, rubble or boulder surface covered by fine sediments: 5.0=<5%; 4.0=5-25%; 3.0=25-50%; 2.0=50-75%; 1.0=>75%.
[4]Optimum is defined as medium to heavy cover of trees or tall shrubs.
[5]Optimum is defined as totally stable streambanks.
[6]Average of bank cover and bank stability. Excellent=>70%; Good=60-69%; Fair=50-59%; Poor=25-49%.
[7]Canopy cover of riparian shrubs and basal cover of herbaceous riparian vegetation is less than 50%.
[8]Canopy cover of riparian shrubs and basal cover of herbaceous riparian vegetation is greater than 50%

Information was collected on Winter's Creek in 2001; however, revised land status maps indicate all stream survey stations are located on private land. Although no quantitative data are available for the public land portion of the stream, observations made in 2001 indicate stream and riparian habitat conditions are poor. Habitat conditions have also declined on Big Cottonwood Canyon Creek since the last survey in 1977, while there has been little change in Red Cow and Six Mile Creeks since these streams were last surveyed in 1988 and 1986, respectively.

A functioning condition assessment was completed on Big Cottonwood Canyon in 1999. The stream was rated as nonfunctional on the basis of channel braiding, lack of riparian vegetation and evidence of excessive erosion and deposition.

APPENIX 6

RANGE IMPROVEMENT PRIORITY LIST

RANGE IMPROVEMENTS

Proposed Range Improvements on the Spanish Ranch Allotment

Range Improvements	Units	Estimated Cost	Priority for Construction	Expected date of Construction
Red Cow Pasture Fence (east end)	~ 11 miles	$55,000	1	2004
Winters Creek Reconstruction	~15 miles	$30,000	2	2004
Winters Creek Corridor Fence	~6	$30,000	3	2005
Big Cottonwood Canyon Riparian Fence	~ 14 miles	$70,000	4	2005
Cornucopia Fence	~ 8.5 miles 2 cg.	$42,500	5	2005
Burner Hills/Winters Creek Holding Field	~ .5 miles	$2,500	6	2006

Proposed Range Improvements on the Squaw Valley Allotment

Range Improvements	Units	Estimated Cost	Priority for Construction	Expected date of Construction
SV/SR Allotment Boundary Fence	~ 28 miles	$150,000	1	2004
Lower Squaw Creek Fence	~ 2 miles 1cg.	$15,000	2	2004
Upper Willow Creek Fence	~ 5 miles 2 cg.	$35,000	3	2004
Trout Creek Fence	~ 10 miles 1 cg.	$50,000	4	2005
Toe Jam Fence	~ 8 miles	$40,000	5	2006
Willow Creek Division Fence	~9 miles	$45,000	6	2006

ACCEPTANCE OF TERMS & CONDITIONS
and
REQUEST FOR GRAZING PERMIT

I, Tom Fitzwater, 3F LLC, accept the Terms & Conditions listed below and request that I be offered a Grazing Permit to graze the allotment in which I have a grazing preference.

Proposed Terms & Conditions

1.

Allotment Pasture	Livestock Kind	Number	Grazing Period Begin	End	%PL	Type Use	AUMs
Willow Ranch	Cattle	425	05/01	01/14	100	Active	3,619
	Cattle	1	05/01	06/30	100	Active	2

2. The terms and conditions of this permit must be consist with the Standards and Guidelines approved February 12, 1997 for the Northeastern Great Basin Resource Advisory Council (RAC) area.

3. Active Authorized Grazing Use in the Willow Ranch Allotment is 3,621 AUMs.

4. In accordance with the Rangeland Program Summary (RPS), Utilization of native species will not exceed 50% by seed dissemination , and 60% by the end of the grazing year.

5. In accordance with the Rangeland Program Summary, Utilization on crested wheatgrass seedings will not exceed 50% by seed dissemination, and 60% by the end of the grazing year.

6. All livestock grazing/management on the Willow Ranch Allotment will be done in accordance with the "Area Manager's Final Multiple Use Decision for the Willow Ranch Allotment" dated May 18, 1994, and the "Terms and Conditions" on this Ten-Year Grazing Permit.

7. This permit reflects your adjusted permitted grazing use based on the "Allotment Evaluation" for the Willow Ranch Allotment. The term of this permit shall be for 10 years. The Terms and/or Conditions of this permit shall be amended or changed when additional and/or new monitoring data reflects the need to do so.

8. In accordance with 43 CFR 4130.8-1(f): Failure to pay grazing bills within 15 days of the due date specified on the bill shall result in a late fee assessment of $25.00 or 10 percent of the grazing bill, whichever is greater, but not to exceed $250.00. Payment made later than 15 days after the due date, shall include the appropriate late fee assessment. Failure to make payment within 30 days may be a violation of 43 CFR 4140.1(b)(1) and shall result in action by the authorized officer under 43 CFR 4150.1 and 4160.1-2.

9. In accordance with 43 CFR 4130.3-2(d): Actual use information, for each use area, will be submitted to the authorized officer within 15 days of completing grazing use as specified in the grazing permit and/or grazing licenses.

10. In accordance with 43 CFR 4120.3-1(a): All range improvements shall be installed, used, maintained, and/or modified on the public lands, or removed from these lands, in a manner consistent with multiple-use management.

11. In accordance with 43 CFR 4130.3-2(c): In order to improve livestock and rangeland management on the public lands, all salt blocks and/or mineral supplements will not be placed with 1/4 mile of any riparian area, wet meadow, or water facility (either permanent or temporary) unless stipulated through a written agreement or decision.

12. In accordance with 43 CFR 4130.3-2(h): All grazing permittees shall provide reasonable access across private and/or leased lands to the Bureau of Land Management for the orderly management and protection of the public lands.

13. Pursuant to 43 CFR 10.4(g): The holder of this authorization must notify the Authorized Officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined at 43 CFR 10.2). Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activity in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified by the Authorized Officer.

_____ _____

Signed Date