Allotment Assessment
Grassy Hills

I. Name and Number of Allotment

Grassy Hills Allotment #01029
Permittee: Cedar Creek Cattle Company

II. Livestock Use

1. Preference: 658 AUMs
2. Historic Use Range: 240 to 1,868 AUMs
3. Suspended Preference: 0 AUMs
4. Season of Use: 7/01 to 7/30
   (TNR authorizations included grazing use through February 28)
5. Kind and Class of Livestock: 658 cattle
6. Percent Public Land: 100%

III. Allotment Profile

1. The Grassy Hills Allotment is located in the southeast part of the Jarbidge Field Office Area and is located in MUA-12. There are two pastures in this allotment: 1 and 2. The current permit was issued in1999 authorizing 649 AUMs. This permit is valid until 2005. During these livestock grazing permits, 525 AUMs of TNR were authorized in 1999 (included in Table 1 figures).
2. Federal Acreage: 4,907
3. MUA Objectives (Jarbidge RMP, 1987):
   - increase AUMs of forage issued for livestock in MUA-12 from 33,650 to 44,854 by the year 2005 (II-48). Grassy Hills is 1.6% of MUA 12; 20-year use was to increase to 1866 AUMs. This increased use would result from the availability of additional forage from water developments, brush control and seeding projects and improvement in native range condition (II-3).
   - maintain 23,518 acres of existing vegetative improvements (II-47);
   - improve 123,980 acres of lands in poor ecological condition (II-47);
   - manage big game habitat in MUA 12 to support increased populations of mule deer (50%) and antelope (8%) (II-48);
   - improve sage grouse habitat (II-48);
4. Key Forage Species:
   - Bluebunch Wheatgrass
   - Idaho fescue
   - Crested wheatgrass in the seeding(s)
5. Grazing System: The grazing use in this allotment is outlined in the Livestock Management Plan, Tews Land and Livestock. The allotment is used by cattle in the late spring and early summer (June and July) in conjunction with other allotments in which the permittees have permitted use. This allotment is scheduled in a three pasture rest rotation system with the Camas Slough allotment and it is grazed only once in three years during the critical growth season in the spring between boot stage and flowering of key species. Since the plan was implemented a new permittee acquired the permit by transfer

in 1999. The current permittee grazes the allotment as mainly a trailing hold over area while cattle are moved from the winter allotments to the summer allotments. The season of use on the grazing permit is not consistent with the Grazing Permit, but I is consistent with the approved Grazing Management Plan (May until December) and the RMP (April 1 to October 31). Grazing use in the allotment in the last 4 years has been for 2 days to a week at a time. This kind of grazing use lessens the double grazing of plants. It is also occurring after the critical growth period of the key species.

IV. Management Evaluation

The purpose of this evaluation is to determine the allotment's status in meeting the Standards for Rangeland Health and Guidelines for Livestock Management and to renew the grazing permit with management guidelines to meet these Standards.

A. Summary of Studies Data

1. Actual Use

Table 1 shows the actual use since from 1990 to 2002.

Table 1 - Actual Use

Grazing Season	AUMs
1990	1868
1991	301
1992	301
1993	627
1994	1793
1995	1135
1996	1044
1997	1353
1998	990
1999	589
2000	240
2001	0
2002	139

2. Climate

Long term water year precipitation (September through June) for Three Creek. NOAA Weather Station is 11.45 inches and for the BLM Heil Reservoir rain gauge, the 11 year annual average has been 16.8 inches. Table 2 shows the yearly moisture accumulations for each of the past 11 water years at the Heil Reservoir station, which is located at 5,510 feet and is fairly representative of this allotment. Also shown is the Yield Index for the Castleford Weather Station. The Yield Index is a precipitation-yield relation which provides reliable and effective information for use in comparing annual production yields to what is expected in a normal year. The Yield Index is used in forecasting and adjusting range forage estimates.

Table 2 - Water Year Precipitation and Yield Index

Year	Heil Reservoir (in inches)	Yield Index At Three Creek
1993	29.5*	NA
1994	13.7	0.72
1995	23.0*	2.02
1996	18.1*	0.74
1997	23.9*	1.45
1998	19.1*	1.62
1999	17.2*	1.27
2000	10.2	0.82
2001	9.4	0.96
2002	9.5	0.99
2003	11.6	1.02

*Above average precipitation.

3. Utilization:

Table 3 shows actual data from sampling at on native transects in the Allotment.

Table 3 - Utilization Data

Y e a r	Utilization
1999	2.5%*

* Utilization taken on June 9, 1999, prior to turn-out on June 24, 1999.

4. Production

Appendix 1 displays the production data that has been collected in the Grassy Hills Allotment. It shows that 2,145,222 pounds of forage vegetation is produced during a near normal production year. Forage vegetation refers to grasses, and in seeded areas may include alfalfa and sainfoin. The production of forbs and shrubs is not included in this poundage. Considering precipitation data and its relationship to drought, as well as the needs of the watershed and wildlife, it is estimated that 858 AUMs of forage vegetation is available for livestock.

5. Condition and Trend

In 2001, a short-term trend study site was established in the Grassy Hills allotment to monitor fire rehabilitation treatments following the 2000 Grass Fire. This fire burned the majority of the Grassy Hills Allotment. The site is located in an existing crested wheatgrass seeding. Follow up monitoring of the site in 2002 has only been useful for determining that the site and surrounding

vegetation and soil conditions are recovering from the effects of the burn and hasn't established any long-term vegetative trends in the allotment. Since there have been no long-term trend studies established in the allotment, vegetative and soil cover trends are virtually unknown, except for the fact that most of the allotment was burned in the early 1980's and again in 2000.

The most recent intensive vegetation surveys were conducted in this allotment in 1982. According to this survey, approximately 35% of the allotment was delineated as seeded to crested wheatgrass, 30% was burned, 25% was rated in good ecological condition, and the remaining 10% was in fair ecological condition. Although a more recent vegetation survey has not been conducted in the allotment, it is estimated that about 35% of the allotment is still a crested wheatgrass seeding, but that the rest of the allotment has been burned as a result of the recent Grass and Worley Draw Fires in 2000. Table 4a and 4b summarize the current ecological condition ratings.

Table 4a – Condition and Trend Evaluation of Native Vegetation Study Sites

1981-83 Inventory Site	Inventory Site Location	Vegetation Type	1981-83 Ecological Rating*
RA-96	14S12E18	Agsp/Posa3(burn)	PNC
RA-99	14S12E19	Artrt/Agsp	Mid

Table 4b – Condition and Trend Evaluation of Seeding Study Sites

1981-83 Inventory Site	Inventory Site Location	Vegetation Sites	1981-83 Condition Rating*
RA-95	14S12E18	Agcr/Posa3	Excellent

*****Jarbidge RMP referred to Range Condition as: Excellent, Good, Fair, and Poor. Since that time these terms have been related to; Potential Natural Community, Late Seral, Mid Seral and Early Seral, respectively. Value terms of excellent, good, fair, poor are only used as a value rating for areas rehabilitated with *Agropyron cristatum* and *Agropyron intermedium*

Treatments following these burns have consisted of reseeding with predominately native vegetation seed and allowing for the natural recovery of the native plants by resting the disturbed areas from livestock grazing for at least two years. These treatments did not modify the natural sites with introduced species, and therefore did not alter or degrade the natural ecological vegetation types. Despite being burned both in the past and more recently, the two major ecological range sites of most of the allotment still exist as follows: Loamy 12-16 inch ppt., basin big sagebrush/ Idaho fescue-bluebunch wheatgrass and Shallow Claypan 12-16 inch ppt, low sagebrush/ Idaho fescue-bluebunch wheatgrass. The only thing that is now missing from these potential ecological sites is the shrub component is expected to recover from the wildfire burns.

B. Standards for Rangeland Health and Guidelines for Livestock Management

In 2002, rangeland health data was gathered on the Allotment at three ecological sites within native range. Rangeland health data was collected per Technical Reference 1734-6, *Interpreting Indicators of Rangeland Health*. The rangeland health data was collected by an interdisciplinary team for the purposes of making a quantitative assessment of the soil/site stability, hydrologic function, and the integrity of the biotic community for the various ecological sites.

Three transects were read at various ecological sites and are identified as GH-1 to GH-3. The "Preponderance of Evidence" based on the three transects, is shown in Table 5. The degree of departure or deviation from the potential ecological site description (None to Slight, Slight to Moderate, Moderate, Moderate to Extreme, or Extreme) is made based on an evaluation of the data.

Table 5 - Preponderance of Evidence

Attribute		Deviation From Potential				
		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
Soil Site Stability Rationale: All indicators are met	*Native*					GH-1, GH-2, GH-3
Biotic Integrity Rationale: All indicators are met. The wild fire reduced sagebrush cover. Sagebrush was seeded following the fire, the plants are young and sparse.	*Native*					GH-1, GH-2, GH-3
Hydrologic Function Rationale: Sagebrush is an important component in trapping snow on site for infiltration. It has been reduced by wildfire	*Native*					GH-1, GH-2, GH-3

1. Standard 1 – Watershed

All of the sites assessed were noted to be within none to slight deviation from expected and all indicators were being met. This means that flow patterns were few with slight deposition and surface litter was in place. There was little evidence of plant pedestaling due to water or wind erosion. There was minimal soil crusting and no evidence of a compaction layer. There was some evidence of hoof prints, but deep hoof prints were uncommon. Rills and gullies were not noted.

Hydrologic systems are limited only by the lack of sagebrush to trap snow. The sagebrush was removed by wildfire.

2. Standard 2 - Riparian Zones and Wetlands and Standard 3 - Stream Channel/Floodplain

This allotment contains no riparian zones, wetlands, or stream channels/floodplains that are affected by perennial or ephemeral water flows. Therefore, these Standards do not apply.

3. Standard 4 - Native Plant Communities

Three samples were located in two range sites: Loamy 12-16" (GH-1) and Loamy 11-13" (GH-2 and 3). The entire allotment had burned in the past, most recently in the 2000 Grass Fire. All three of the 3 sites sampled had been seeded to crested wheatgrass following a fire in the late 1980s. These sites were still dominated by native grasses and were considered native.

Loamy 12-16" range site. Crested wheatgrass contributed on 8 percent cover at GH-1, whereas native grasses contributed 46 percent. Sandberg bluegrass was the most abundant grass (28 percent cover), followed by bluebunch wheatgrass (17 percent) and Idaho fescue (10 percent). Perennial native forbs contributed 20 percent cover in the area sampled. Bare ground was 17 percent. Cheatgrass is present (1 percent cover) and locally abundant in some areas.

Loamy 11-13" range site. Crested wheatgrass cover was 38 percent at GH-2 and 10 percent at GH-3. Native grasses contributed 70 percent and 83 percent cover, respectively. Sandberg bluegrass was the most common native grass (44 percent and 49 percent cover, respectively) followed by bluebunch wheatgrass (25 percent and 29 percent, respectively). Perennial native forbs contributed 7 percent and 22 percent cover, respectively at GH-2 and GH-3. Bare ground was lowest at GH-2 (8 percent) and highest at GH-3 (11 percent). Cheatgrass, an invasive annual, was present at both sites and contributed 2 percent and 5 percent cover, respectively. Cheatgrass and bur buttercup were widespread and locally abundant in some areas.

From a wildlife perspective, of concern is the slow recovery of sagebrush in the burned areas. Sagebrush was intercepted (hit) once on the three transects. A few widely scattered small shrubs were present. Overall grass height and cover was adequate for nesting birds. It must be noted that the allotment had received two years of rest following the 2000 Grass Fire. The forb component was diverse and abundant; however, some fire intolerant species (i.e., *Antennaria* sp.) were reduced or lacking. Paintbursh (*Castilleja* spp.) was absent, likely due to its hemi-parasitism, typically on sagebrush. A number of wildlife species rely on sagebrush for winter food (mule deer, pronghorn, sage grouse, black-tailed jackrabbit), substrate for nesting (Brewer's sparrow, sage sparrow, sage thrasher, loggerhead shrike, vesper sparrow) or cover (least chipmunk, sagebrush vole). Sagebrush also provides security cover for fawning antelope and mule deer. Cheatgrass and other exotic annuals were present along the road.

A variety of wildlife is found in the allotment including mule deer, pronghorn, coyote, badger, various small mammals and birds. Several wildlife species that occur in the allotment are presently on the Idaho BLM's sensitive species and "monitor" lists (Table 6). Species in the monitor category do **not** receive any additional consideration as sensitive species. No winter range for either mule deer or antelope has been designated within this allotment.

4. Standard 5 - Seedings

Not applicable.

5. Standard 6 – Exotic Plant Communities, Other Than Seedings

Not Applicable.

6. Standard 7 – Water Quality

For the most part, this Standard is not applicable, see Standard 2. Although there are no live streams, perennial springs, or ground water wells in the Grassy Hills allotment, there are a few man-made ponds that, during many years, impound and retain water for livestock and wildlife use well into the summer months. Although the drainages that lead into these ponds are intermittent in nature, most pond water recharge comes from the subterranean movement of water and not necessarily surface flows. For all intense and purposes, these ponds help reduce off-site and down course water quality impacts by holding back fine sediments and controlling any surface flows.

Besides these fairly dependable ponds, most water for livestock and wildlife use is distributed and controlled by means of pipelines and troughs throughout much of the allotment. The source of this watering system comes from a relatively high volume spring (Steel Spring) on private property south of the House Creek Ranch. Since the source originates on private land, the BLM does not monitor its quality, but it is assumed that it is of good quality because it comes directly from a protected and enclosed source.

7. Standard 8 - Threatened and Endangered Plants and Animals

A number of species presently designated as Sensitive species are present in the allotment. For the most part, the allotment has not been inventoried for sensitive species. Sensitive species occurrences are frequently noted from incidental observations. Also, a number of wildlife species presently designated as "watch" are present. Watch species are **not** presently designated as Sensitive species, but may be added to the sensitive list in future years. No sensitive plants are known to occur in this allotment. Only limited surveys for sensitive plants have been conducted in this allotment and sensitive species may occur. It is unknown whether the standard is being met for special status plant species. There is no information available to determine whether livestock grazing management is having a significant impact on sensitive plant species or not. All these sensitive and watch species are shown in Table 6.

Table 6 - Idaho BLM Sensitive and Watch species in the Grassy Hills Allotment

Common Name	Scientific Name	Status	Presence
Greater sage grouse	*Centrocercus urophasianus*	S	C
Columbian sharp-tailed grouse	*Tympanuchus phasianellus columbianus*	S	C
Prairie falcon	*Falco mexicanus*	S	C
Loggerhead shrike	*Lanius ludovicianus*	S	C
Brewer's sparrow	*Spizella breweri*	S	C
Sage sparrow	*Amphispiza belli*	S	C
Spotted bat	*Euderma maculatum*	S	L
Pygmy rabbit	*Brachylagus idahoensis*	S	L
Sage thrasher	*Oreoscoptes montanus*	W	C
Short-eared owl	*Asio flammeus*	W	L
Brewer's blackbird	*Euphagus cyanocephalus*	W	C
Grasshopper sparrow	*Ammodramus savannarum*	W	L
Western burrowing owl	*Speotyto cunciularia*	W	L
Yuma myotis	*Myotis yumanensis*	W	L
Slickspot peppergrass	*Lepidium papilliferum*	C	L
Status codes: C = FWS Candidate species; S = designated Sensitive species; W = Watch category Presence codes: C = presence confirmed in allotment; L = presence likely in the allotment			

Sage grouse. No sage grouse leks had been documented within the Grassy Hills Allotment prior to the Grass Fire in 2000. Four sage grouse leks are within 2 miles of the allotment boundary. In the Jarbidge Field Office area, sage grouse have been documented to move over 7 miles to nest,

but the majority of nesting occurs within 2 miles of a lek. Wild fires have greatly reduced sagebrush cover. Seeded sagebrush is generally less than 12 inches tall and very sparse. The few remaining small islands of sagebrush are important to sage grouse as nesting and winter habitat. The leks closest to the allotment are 2O-006, 2O-010, 2O-075, and 2O-111. Grazing Idaho fescue, Sandberg bluegrass, bottlebrush squirrel-tail and Thurber needlegrass to a 40% use level will not provide the minimum residual cover for sage grouse nesting. A 40% use level or less will likely provide adequate residual herbaceous cover for nesting for areas where bluebunch wheatgrass is the dominant species.

Table 7 - Sage grouse lek count data for leks closest to the Camas Slough Allotment

Lek Number	Most Recent Count	Year	High Count	Year
2O006	0	2002	7	1980
2O010	0	1992	3	1982
2O075	0	2002	33	1971
2O111	20	2000	44	1991

Columbian sharp-tailed grouse. A Columbian sharp-tailed grouse nested in the Grassy Hills Allotment in 2003. This species was re-introduced south of the area on private land.

Prairie falcon. Prairie falcons have been observed soaring over the area. No cliffs suitable for nesting are present in the allotment, however, this species nests in Devil Creek Canyon to the east.

Loggerhead shrike. Loggerhead shrikes have been observed in an unburned area of tall sagebrush in the southern end of the allotment.

Brewer's Sparrow and Sage sparrow. Small numbers of Brewer's and sage sparrow are present in remaining islands of sagebrush.

Spotted bat. Spotted bats have been detected to the southeast of this allotment. They likely forage over the allotment and may use ponds and troughs for drinking.

Pygmy rabbit. This species has not been documented in the allotment, however, it has been documented in similar habitat to the east. Prior to the Grass Fire, pygmy rabbits were likely present in areas with deeper soils.

Slickspot peppergrass. Slickspot peppergrass is not known to occur in this allotment, however, over 11,000 acres of suitable habitat does occur. Threats to this species include degradation of slickspots and surrounding area habitat, trampling from livestock, and weed invasion.

C. Guidelines for Grazing Management

The current grazing management plan provides for periodic rest during the critical growth period between the boot stage and flowering. Water troughs in the Allotment lacked functional wildlife escape ramps. Fences were not to BLM specifications for wire spacing to minimize wildlife movements to pronghorn and mule deer. Current grazing management is not in conformance with the following *Guideline for Livestock Grazing Management:*

Guideline 20 – Design management fences to minimize adverse impacts, such as habitat fragmentation, to maintain habitat integrity and connectivity for native plants and animals.

V. Conclusions

All indicators for the applicable Standards for Rangeland Health are being met in the allotment for standard 1 (Watershed) and Standard 4 (Native Plant Communities). Standard 2 (Riparian/Wetlands), Standard 3 (Stream Channel/Floodplain and Standard 5 (Seedings)are not applicable. The indicators for Standard 8 (Special Status Species) are not all met because of the loss of big sagebrush from wildfire. Current grazing management is not a significant factor.

VI. Consultation

Jim Klott, Wildlife Biologist
Arnold Pike, Range Conservationist
Sheri Hagwood, Botanist
Max Yingst, Recreation
John Ash, NRS – Climate/Veg. Monitoring/WQ
Jeff Ross, Archeologist
Clare Josaitis, Natural Resource Specialist
Cedar Creek Cattle Co.-Chuck Jones

VII. Recommendations

The ecological condition of the Grassy Hills Allotment is estimated to be in mid-seral condition due to the recent fire (Grass Fire in 2000). Seed or plant native shrubs and rest as necessary to ensure establishment. This would result in improvement of poor condition range.

Increase grazing permitted use from 658 AUMs to 858 AUMs. The proposed permitted AUMs would result in an expected utilization of less than 40% at key areas. Change the season of use to March 1 to February 28 and implement grazing management guidelines to provide for growing season rest.

Manage for light utilization levels (up to 40%) in native pastures in order to maintain the existing native communities. Under the forage allocation proposed, a portion of the forage production would be allocated to watershed and wildlife, and would maintain the native plant communities and provide habitat for wildlife.

Monitor native grass areas reverting to sagebrush to ensure re-establishment of big game habitat and upland game bird nesting and cover habitat. Allow no more than 50% frequency of browsing on current year leaders on key woody species*. Under the forage allocation proposed, a percent of the forage production would be allocated to watershed and wildlife, and would allow the native plant communities to recover, and over the long term provide habitat for wildlife.

Restore sagebrush into the allotment to improve habitat for sage grouse and other wildlife species as well as water cycling by catching snow and shading the soil surface.

*Note: 50% use on key woody species is not allocated to livestock. Use is expected to be low except for during the winter if snow covers herbaceous vegetation. No crucial winter range was identified in this allotment.