Allotment Assessment
Camas Slough

I. Name and Number of Allotment

Camas Slough Allotment #01095
Permittees: Cedar Creek Cattle Company

II. Livestock Use

1. Preference: 180 AUMs
2. Historic Use Range: 0 to 401 AUMs
3. Suspended Preference: 0 AUMs
4. Season of Use: 07/01 to 07/31 (flexibility in this season of use is allowed under Grazing Management Plan. (TNR authorizations included grazing use through February 28)
5. Kind and Class of Livestock: Cattle
6. Percent Public Land: 100%
7. Other: The difference between preference and historic use is due to annual TNR authorizations. The large variability in authorized AUMs is due to wildfire, fire closures, and fluctuations in the livestock market which caused the operator to adjust his herd size. Water development has not occurred since the House Creek system was put in during the 1980's.

III. Allotment Profile

1. The Camas Slough Allotment is located in the southeast part of the Jarbidge Field Office Area and is located in MUA-12. There is one pasture in this allotment. The current permit was issued in 1999 authorizing 180 AUMs. This permit is valid until 2005. During these livestock grazing permits, TNR was issued in 1997 and 1998. The allotment has a history of TNR authorizations Table 1. It has not been authorized since that time because it is all native vegetation.
2. Federal Acreage: 1,606
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, II-51); Camas Slough was to increase from 180 AUMs to 231 AUMs (page D-9 Table D-1) (recent monitoring data indicates 267 AUMs are available). This increase 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). Camas Slough is less than 1% of MUA-12.
    - Maintain 23,518 acres of existing vegetative improvements (II-47, II-50);
    - Improve 123,980 acres lands in poor ecological condition (II-47, II-50);
    - Manage big game habitat in MUAs 12 and 13 to support increased populations of mule deer (50% and 40%, respectively) and antelope (8% and 100%, respectively) (II-48, II-50);

- Improve sage grouse habitat (II-48) and maintain present areas of sage grouse nesting habitat (II-51).

4. Key Forage Species:
   - Bluebunch Wheatgrass
   - Idaho fescue
   - Bottlebrush squirreltail
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) page 1 says only July in conjunction with other allotments which the permittees have permitted use. This allotment is scheduled in a three pasture rest rotation system with the Grassy Hills Allotment whereas it is grazed only once in three years during the critical growth season in the spring between the boot stage and flowering odf 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 as cattle are moved from the winter allotments to the summer allotments. Grazing use in the allotment in the last 4 years is 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 allotments 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	148
1991	148
1992	148
1993	12
1994	0
1995	0
1996	0
1997	267
1998	401
1999	127
2000	73
2001	112
2002	163

2. Climate

Long term water year precipitation (September through June) for **Three Creek** NOAA Weather Station is 11.5 inches and for the BLM **Heil Reservoir** rain gauge, the 11 year annual average has been 16.8 inches. Table 2 shows the yearly precipitation amounts for the water year at the Heil Reservoir gauge, at 5,510 feet, which is representative of this allotment. Also shown is the crop year index for the Three Creek 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 NOAA Station
1993	29.5*	
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 the actual data from sampling at transects in native pastures in the Allotment.

Table 3 - Utilization Data

Year	Utilization
1999	4 to 15 %*

* Utilization taken on June 7, 1999

4. Production

Appendix 1 displays the production data that has been collected in the Camas Slough Allotment. It shows that 653,929 pounds of forage vegetation is produced on 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 253 AUMs of forage vegetation is available for livestock.

5. Condition and Trend

In July 1987, one long-term vegetation/soil cover monitoring study site was established in the Camas Slough allotment in cooperation with the permittee. In accordance with the Minimum Monitoring Standards for BLM Rangelands in Idaho, the study methods initiated included nested plot frequency, percent ground cover, shrub density, and 3X3 plot data and site photographs. In this allotment, the study site is situated in a burned native plant community in the following legal location (site number), range site, and elevation:

14S12E29; Arar8/Feid, Shallow Claypan 12-16" @ 5,740 feet.

Since 1987, the study site has been revisited and data collected twice, in 1991 and 1998. Trend is determined by comparing the frequency of key species and cover of the first year to subsequent years. The analysis and evaluation of this long-term study is summarized in Table 4.

Table 4 - Condition and Trend Evaluation of Vegetation Study Sites

1981-83 Inventory Site	Inventory Site Location	Trend Site	Vegetation Type	1981-83 Ecological Rating*	Trend
RA-104	14S12E29	14S12E29	Arar8/Feid	Burn - Late	Up
RA-103	14S12E32		Hopu/Posa3	Mid	

***** 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.*

A trend site summary report has been completed for the study site evaluated. The analyses is on file in the Jarbidge Field Office Allotment Study files and suggest required livestock management recommendations and specific site objectives for maintaining or improving the vegetation conditions for the allotment. This report can be reviewed upon request. In brief, the report indicates that one of the key forage species, Idaho Fescue,

has increased from 55 to 74 percent from 1987 to 1998. Other desirable species have also increased. Sandberg's bluegrass and bottlebrush squirreltail increased by 44 percent and 27 percent, respectively. Shrubs and forbs have remained static. Ground cover has increased by 46 percent since 1987. This is basal cover and does not include canopy cover. Shrub densities have remained low and static during the same period.

In conclusion, and as indicated by the table above, the study site monitored in the Camas Slough allotment is meeting the RMP objective for maintaining and/or improving native plant communities in late seral development or good condition.

B. Rangeland Health Assessments

In 2002, rangeland health data was gathered on the Allotment at two ecological sites within burned 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.

Two transects were read at various ecological sites and are identified as CS-1 and CS-2. The "Preponderance of Evidence" based on the two 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 (The sites are considered meeting attributes if not mentioned)		Deviation From Potential				
		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
Soil Stability Rationale: Ttwo indicators at one site were found to be in a slight to moderate deviation from what is expected in this allotment. They were the existence of pedestals which were taller the expected and some compaction of the upper soil horizon along the county road. It is likely the erosion causing the pedestals happened after the area was burned in 1985, 1989, 1991, and 2000. The compaction layer is within 100 feet of the road and it not severely inhibiting root penetration. All remaining indicators were at a none to slight deviation of what is expected for the site.	*Native*					CS-1, CS-2
Biotic Integrity Rationale: Three indicators were fund to at a slight to moderate deviation from what is expected at Site CS-1. The compaction layer and pedestals as explained above, and the presence of some bur buttercup. While bur buttercup was only present at 1 hit in CS-2, it is present as scarce but locally abundant (meaning small areas supporting a high density of it but scarce in the areas in-between. Cheatgrass was present on transect CS-2 (2 hits), and is present more commonly along the road. Nitrogen fixing forbs are present; there is a diverse amount of native forbs.	*Native*					CS-1, CS-2
Hydrologic Function Rationale: There is a slight to moderate deviation from what is expected as described above at one of the two sites. All other indicator were near what is expected for the site. The absence of sagebrush in the burned area may result in less infiltration of water and retention of snow.	*Native*					CS-1, CS-2

1. Standard 1 - Watershed

Two recent cover transects indicate bare ground at 5 and 7 percent. Transect 2 had two percent cheatgrass. No cheatgrass was intercepted (hit) on transect 1. Perennial native grasses were 52 and 34 percent, of which less than one-half was Sandberg's bluegrass. Shrub cover was 6 and 25 percent and forb cover was 11 and 16 percent, of which one percent was undesirable forbs (bur buttercup). Bur buttercup was rated as being sparsely present at both sites. Of the 31 shrub hits on the 200 points sampled, 19 were on sage brush. At the second site green rabbitbrush provided 11 of the 25 shrub hits. This occurred in an area that had not burned. Sagebrush heights average 17 inches at the first site and nearly 34 inches at the second site. At the second site, the majority of the shrubs were columnar in form.

The forb most frequently encountered on the two transects was blue-eyed Mary, a native annual forb, which accounted for nearly half of the forb hits. Nitrogen fixing forbs (lupine and milkvetch) were present at both sites. Of the sage grouse preferred forbs, phlox was rated as common on both transects. Pale mountain dandelion was rated common at site 1, where as prairie star was rated as common at site 2. Overall both sites had a high amount of forbs and high forb diversity.

Fires that burned in the 1990's were not seeded to exotic perennial grasses. Instead the vegetation was left to recover naturally. No vegetative cover transects were placed in semi-wet meadow which occupies the drainage bottoms.

2. Standard 2 - Riparian Zones and Wetlands

Camas Slough is a large wetland in the eastern portion of the allotment. n the early 1990's an exclosure and dam were constructed around portion of the Camas Slough to allow for restoration of the wetland. However, the entire wetland was not included in the present exclosure. Additionally, a water trough is located near the edge of the wet meadow within 200 feet of the fence creating heavy livestock pressure against a portion the fence.

Vegetation within the exclosure has recovered to the extent that some treatment should occur to reduce some of the standing biomass. Canada thistle, a noxious weed, is present in the wetlands of Camas Slough. Two drainages outside the exclosure in Camas Slough are wider than expected and somewhat downcut reducing the water storage potential of the wetland. No cover transects were taken though this habitat to determine if the sedges that should be dominant are present in the appropriate amounts. The lentic functioning condition of Camas Slough has never been assessed because a large portion of the wetland is fenced off from the direct effects of grazing. The only lotic portion of the Camas Slough drainage that has been assessed for functioning condition is segment 2.6 to 5.4 located in the Devil Creek Patrick Allotment, adjacent to the south boundary of the Camas Slough Allotment. The remaining portion of the Camas Slough drainage, from the south allotment boundary to the fenced wetland (segment 2.6 to 1.8), has never been assessed.

The Camas Slough exclosure, including the unfenced portion of the wetland, has high value for a variety of wildlife, including waterfowl and shorebirds. Water typically remains in the reservoir until late June or early July.

3. Standard 3 - Stream Channel/Floodplain

The two drainages leading into Camas Slough reservoir are ephemeral. Bankfull flows are rare and infrequent because of the relatively small watershed. Also, there are two reservoirs upstream that affect downstream flows into Camas Slough. Because of these factors, this Standard is not applicable.

4. Standard 4 - Native Plant Communities

Both transects were located in a loamy 12-16 range site. Wyoming big sagebrush cover varied between sites from 5 percent at CS-1 to 12 percent at CS-2. Average sagebrush height was 19.2 inches and 36.3 inches at CS-1 and CS-2 respectively. At site 1 the most abundant grass was Idaho fescue (31 percent) followed by Sandberg bluegrass (21 percent) and bluebunch wheatgrass (6 percent). At CS-2 Sandberg bluegrass was more abundant (35 percent) with Idaho fescue (16 percent), and bluebunch wheatgrass (9 percent). Average grass height at both sites was just over 7 inches, before grazing. Perennial forbs were 4 percent and 19 percent cover, respectively, for CS-1 and CS-2.

Invasive annuals (3 percent) were at CS-2. Cheatgrass and bur buttercup were also present, but not intercepted (hit) at CS-1.

A wildlife concern has been the slow recovery of sagebrush in the burned areas. 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. Another concern was the presence of bur buttercup, which is presently sparse, but fairly widespread. Cheatgrass and other exotic annuals were present along the road. A variety of wildlife has been 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 "watch" lists (Table 6). Species in the monitor category, unlike sensitive species do **not** receive any additional management consideration.

Camas Slough Allotment has one of the only two locations of shaggy sagebrush (*Artemisia papposa)* documented in the Jarbidge Field Office Area.

5. Standard 5 – Seedings

Not Applicable.

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

Not Applicable.

7. Standard 7 - Water Quality

This Standard is not applicable. Although the allotment contains a large reservoir, the allotment's name sake, it is characteristically ephemeral in nature, fenced from livestock impacts and the water it impounds rarely escapes down course or contributes any water quality impacts (sedimentation) into the major tributary of Devil Creek. Water for livestock use is distributed into the allotment by means of a buried pipeline. The pipeline's water source is a spring on private land near House Creek Ranch, six miles to the south.

8. 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 were frequently noted from incidental observations. Also, a number of wildlife species presently designated as "watch" are also present. Watch species are **not** presently designated as Sensitive species, but may be added to the sensitive list in future years. No known locations of BLM sensitive plants occur in the Camas Slough Allotment. It is unknown whether the standard was being met for special status plant species. There was no information available to determine whether livestock grazing management was having a significant impact on sensitive plant species or not. All sensitive and watch species expected or known from the allotment are shown in Table 6.

Table 6 - Idaho BLM Sensitive and Watch species in the Camas Slough 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
Ferruginous hawk	*Buteo regalis*	S	C
Loggerhead shrike	*Lanius ludovicianus*	S	C
Brewer's sparrow	*Spizella breweri*	S	C
Sage sparrow	*Amphispiza belli*	S	C
White-faced ibis	*Plegadis chihi*	S	C
Spotted bat	*Euderma maculatum*	S	C
Pygmy rabbit	*Brachylagus idahoensis*	S	L
Swainson's hawk	*Buteo swainsoni*	W	C
Wilson phalarope	*Phalaropus tricolor*	W	C
Short-earred owl	*Asio flammeus*	W	C
Sage thrasher	*Oreoscoptes montanus*	W	C
Green-tailed towhee	*Pipilo chlorurus*	W	C
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
Status codes: 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 are known to be present within this allotment, however, three sage grouse leks (2O004, 2O111, and 2O137) are close enough that the allotment provides nesting habitat. Wild fires have reduced shrub cover suitable for nesting sage grouse over the majority of the allotment. The islands of sagebrush remaining that have greater than 10% shrub cover are used by nesting, brooding, and wintering sage grouse. Table 7 shows the population trend for sage grouse based upon lek counts. Grazing at 40% use will likely provide adequate residual cover for nesting sage grouse only when bluebunch wheatgrass is the dominant species more than 0.5 miles from water. In plant communities dominated by Idaho fescue, 40% use will not provide suitable nesting habitat for much greater than 0.5 miles from water.

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

Lek Number	Most Recent Count	Year	High Count	Year
2O004	0	1998	126	1987
2O111	20	2000	44	1991
2O137	12	2002	18	2000

Columbian sharp-tailed grouse. Columbian sharp-tailed grouse have been re-introduced into the southern portion of the resource area. Radio-telemetry was used to track movements of the released birds. Female sharp-tailed grouse used habitat in the allotment. Because of the recent introduction, no sharp-tailed grouse leks have been documented.

Prairie falcon. Prairie falcons have been observed foraging over the area. However, no cliffs, suitable nesting habitat for prairie falcons, are present within the allotment. Potential nesting habitat is present in cliffs associated with Devil Creek.

Ferruginous hawk. An active ferruginous hawk nest (JRA-F03) is present within the allotment. Since the nest was found in 1992, ferruginous hawks nesting at this location averaged nearly 2 young of fledgling size per year. The primary prey in the Camas Slough Allotment is ground squirrels, with some cottontail rabbit and black-tailed jackrabbits also present. No young were produced from this nest in 2003.

Loggerhead shrikes have been observed perched on the fence surrounding Camas Slough. Nesting shrikes use taller sagebrush (site 2) and, less often, juniper trees.

Brewer's sparrow and Sage sparrow. Both species are present in the allotment where big sagebrush is present in larger patches. The amount of nesting habitat for these species has declined due to wild fires.

White-faced ibis. This species has been observed in the fenced wetland in the Camas Slough Allotment. This species was observed foraging along the edge of a pond. No nesting by this species has been observed.

Spotted bats. Spotted bats have been detected foraging over Camas Slough. Roosting habitat is not present within the allotment, but is present in the canyon cliffs along Devil Creek, a little over 1 mile to the east.

Pygmy rabbits have been documented in allotments to the northeast and east, but have not been documented in the Camas Slough Allotment. BLM has not inventoried for this species in the Camas Slough Allotment.

Slickspot peppergrass. Neither slickspot peppergrass, nor its habitat, is known to occur in this allotment.

C. Guidelines for Grazing Management

The current grazing use meets the requirement of periodic rest for key species. The only water trough located in the allotment lacked a functioning escape ramp. The fence around the allotment boundary does not meet BLM wildlife specifications and hinders the movement of antelope and mule deer. A trough is located in close proximity to wetland and trampling of wetland banks has occurred. Per the *Idaho Standards for Rangeland*

Health and Guidelines for Livestock Grazing Management the following Guidelines need to be implemented to promote significant progress toward the Standards:

> Guideline 2 – Locate livestock management facilities away from riparian areas whenever they conflict with achieving or maintaining riparian-wetland functions.
>
> Guideline 7 – Apply grazing management practices to maintain, promote, or progress toward appropriate stream channel and streambank morphology and functions. Adverse impacts due to livestock grazing will be addressed.
>
> Guideline 20 – Design management fences to minimize adverse impacts, such as habitat fragmentation, to maintain habitat integrity and connectivity for native pants 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 8 (Special Status Species) is not being met over the majority of the allotment for sagebrush dependent species [sage grouse, Brewer's sparrow, sage sparrow, and loggerhead shrike]. However, this is due to wild fires that have reduced sagebrush cover over much of the allotment. The ecological condition of the Camas Slough Allotment is estimated to be in mid-seral or late seral condition. Recent cover studies indicate that sagebrush is present and is re-establishing.

Based on the monitoring information, there is additional forage available for allocation to watershed, wildlife and livestock.

VI. Consultation

Jim Klott, Wildlife Biologist
Arnold Pike, Range Conservationist
Sheri Hagwood, Botanist
Clare Josaitis, Natural Resource Specialist
John Ash, NRS - Climate, Veg. Monitoring and Water Quality
Cedar Creek Cattle Co.-Chuck Jones

VII. Recommendations

Increase the current allocation of forage from 180 AUMs to 253. This use has been based on monitoring and evaluation studies.

Maintain the vegetation communities or improve them.

Maintain 165 acres of existing vegetation improvements. Restore or improve the remaining non-native seedings to a more natural plant community.

Manage for light utilization levels (up to 40%) in order to maintain the existing native communities. Under the forage allocation proposed, approximately 69 percent of the forage production would be allocated to watershed and wildlife and would allow the native plant communities to recover, and provide habitat for wildlife.

Expand the existing riparian exclosure to cover the entire wetland/wet meadow area. Evaluate the need to add structures in the drainages to restore the wet meadow. Install structures to BLM specifications as needed.

Initiate light grazing or alternate treatment within the exclosure on a periodic basis to reduce biomass, as determined by the ID team.

Apply weed control treatments to Canada thistle in the Camas Slough wet meadow area until control is achieved.

Establish monitoring on Shaggy sagebrush (*Artemisia papposa*) to determine its health in the allotment.

Move the water trough (T14S, R12E, Section 32 NESE) presently at the edge of the wet meadow at least 0.4 miles to the west. Ensure that a wildlife escape ramp is installed and functional.

Have the fence wire spacing around the allotment adjusted to meet BLM standards in order to provide better ingress and egress for antelope and mule deer.

Evaluate the burned portions of the allotment to better determine sagebrush re-establishment. Plant or seed sagebrush in patches scattered throughout the allotment if young sagebrush is less than 2% of the hits in the burned area.

*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.

Appendix 1 **Stocking Rate Based Climate and Production**

Allotment: Camas Slough #1095 **Date: 1/15/2004**

Station	Avg. PPT (Inches)	75% of Avg. (Inches)	# of Years ≥75% of Avg.	# of Years of Data	% of Years ≥75% of Avg.
Three creek	11.45	8.59	34	44	77%

Produtn Total lb	Three Creek 2002 Yield Index Adjustment 0.99	Decision Weighted Use Factor	% of Years ≥75% of Avg. PPT	% of Veg. Prodt'n Available	AUMs Available for Livestock
647,390	653,929	40%	77%	31%	253

Pasture	Vegetation	Acres	lbs/ Acre	lb.of Forage	Utilization Factor	Weighted Forage
	Bluebunch	1074	431	462,894	40%	185,158
	Low Sagebrush	29	105	3,045	40%	1,218
	Semi-Wet Meadow	82	0	0	40%	0
	Wy sage/bluebunch	421	431	181,451	40%	72,580
Total		1,606				
	Total Acres*	1,606		647,390		258,956

Weighted Use Factor	0.40