

**ALLOTMENT EVALUATION  
SNAKE RIVER ALLOTMENT #1001**

I. INTRODUCTION

A. PRESENT SITUATION

LAND STATUS

Public Land	10,953 acres	
Private Land	<u>2,444</u> acres	(Approximately 800 owned by permittee)
	13,397 acres	

PERMITTEE

Alex Finke

GRAZING PREFERENCE

<u>Active</u>	<u>Suspended</u>	<u>Total</u>
<u>Preference</u>	<u>Preference</u>	<u>Preference</u>
915 AUM's	956 AUM's	1871 AUM's

CURRENT GRAZING SYSTEM

The allotment has four pastures, with the following livestock numbers, grazing time & total AUM's. Three lower elevation pastures are used in a rest-rotation system. Hibbard Pasture can only be used from early July until fall due to elevation.

221c	05/1 to 05/30	187 AUM's, active, 86% FR
221c	07/1 to 08/31	387 AUM's, active, 86% FR
221c	09/23 to 11/15	337 AUM's, active, 86% FR

This is an "T" category allotment with no formal Allotment Management Plan (AMP).

## B. BACKGROUND/OVERVIEW

The Snake River allotment is located approximately 30 miles southeast of Baker City, Oregon. It runs from the Snake River border on the east to the main Lookout Mountain access road to the west. It is bordered by the Morgan Mountain allotment to the south, and the Soda Creek allotment to the north. (Map )

There are 4 pastures in this allotment. Although the Hibbard Pasture is nominally divided into the Hibbard and Miller Springs use areas, there is no division fence separating the drainages. The allotment contains the headwaters and main streams of Fox and Hibbard Creeks, about 3 miles of Connor Creek, and most of the Morgan Creek watershed. These drain through steep canyons southeast to the Snake River. Elevation ranges from 2200' at the mouth of Morgan Creek to 5000' along the western edge of the allotment, with slopes ranging from 35% to 80%. Average annual precipitation ranges from 9 inches to 30 inches a year, much of which comes as snow. Three pastures are dominated by sagebrush-grassland vegetation. The Hibbard pasture is dominated by a mixture of mountain shrub, aspen meadow, and coniferous forest vegetation. Soils and range site information may be found in the Draft Lookout Mountain EIS.

The key grass species at lower elevations are bluebunch wheatgrass (PSSP6), Idaho Fescue (FEID), Squirreltail (ELEL5) Great Basin wildrye (ELCI6) and blue wildrye (ELGL). The key shrub component other than riparian vegetation consists of Wyoming sagebrush, rabbitbrush, and snowberry.

In the Hibbard Pasture, key forage species are Hood's sedge (CAHO), smallwing sedge (CAMI5), and to a lesser extent, bluebunch wheatgrass (PSSP6), Idaho Fescue (FEID), mountain brome (BRCA), and blue wildrye (ELGL). Hood's sedge and smallwing sedge are mid to late-seral dominant forage species in healthy aspen-meadow, aspen forest, and mixed aspen-conifer habitats. Blue wildrye tends to act as a grazing increaser because it is less palatable to livestock than other available species. Kentucky bluegrass (POPR) and Thurber needlegrass (STTH2) are early-seral species which tend to increase under moderate to heavy grazing pressure. A mixture of forb species complement the forage value of the grass and sedge species mentioned above.

Approximately 23 miles of stream riparian areas were evaluated in 1998 and 1999. Key species within riparian areas include 9 species of sedge (*Carex* sp.) and 4 species of rush (*Juncus* sp.), plus several species of willow, black cottonwood, mountain alder, aspen, and elderberry. Most of these species occur at all elevations within the allotment, except that aspen occurs above 3000 feet, and cottonwood occurs below 4500 feet.

## C. Wildlife, Fisheries, & T/E/Special Status Species

The allotment is used by herds of elk and substantial numbers of mule deer. The North pasture has a resident population of mountain bighorn sheep. The allotment also supports resident populations of chukar, Hungarian partridge, blue grouse, bear, cougar, bobcat, and other non-game wildlife species. For additional information, see the Draft Lookout Mountain EIS. The Allotment receives heavy hunting pressure from big game hunters and upland game bird hunters

from September through January.

Sage grouse have been observed in the Pole Gulch pasture during the nesting/brooding season. Sage grouse are designated a Bureau 'Sensitive Species', and are under consideration for listing as threatened or endangered by the U.S. Fish and Wildlife Service.

Connor, Fox, Hibbard, and Morgan creeks are fish-bearing perennial streams with populations of native redband trout, a Bureau designated 'Sensitive Species'. A full description of fisheries resource values and concerns/issues are discussed in the Draft Lookout Mountain EIS.

The Snake River goldenweed (*Pyrrcoma radiata*), a BLM designated 'Sensitive' plant species occurs on hillsides in both the Morgan Creek and Connor Creek drainages.

#### D. WEEDS

Portions of this allotment are very susceptible to weed invasion. Rush skeleton weed was found on BLM land in Connor Creek, within the North pasture. Perennial pepperweed and poison hemlock occur in the Connor Creek, lower Hibbard Creek, lower Fox Creek, and Morgan Creek drainages. Whitetop and Scotch thistle occur in heavy livestock concentration areas throughout the lower elevations. Medusahead rye and cheatgrass dominate some small sites, particularly on hot south slopes. Diffuse knapweed and dalmation toadflax have been found on nearby lands, and have potential to invade sites in this allotment as well. Monitoring and inventory work should continue in this area.

#### E. OBJECTIVE OF EVALUATION

Evaluate the Snake River allotment to determine if the present grazing system and the current management practices are meeting RMP objectives and making significant progress toward fulfillment of the Rangeland Standards and Guidelines.

### II. ANALYSIS

#### A. RMP MANAGEMENT OBJECTIVES - LOOKOUT MTN. GEOGRAPHIC UNIT #01

##### **1. Manage upland grass-shrub vegetation to achieve a mid-seral stage plant community.**

Low Altitude Photo (LAP) site #21 in Hibbard pasture on an aspen/Hood's sedge site showed mixed trends between 1983 and 1999. There was an increase in sedge from 2 to 15% frequency, and substantial increases in Thurber needlegrass and Kentucky bluegrass (58% and 46% frequency respectively). Blue wildrye increased substantially until 1988, then declined substantially by 1999. Bare ground also increased from 35 to 50% frequency. These are indicators that the site is dominated by early-seral species. Trend Plot #17, on an aspen/snowberry/Hood's sedge site, shows an increase in percent basal cover of key forage species between 1972 and 1976 from 0.5% to 4.5%. Between 1976 and 1980, percent basal cover declined slightly. During the next eleven years until 1991, it increased slightly. While conditions have improved overall since 1972, between 1991 and 1999, basal cover of key forage species declined from 3.1% to 2.4%, indicating the long-term trend since 1976 is either static or

downward.

In the North Pasture, Range Trend Plot #11 on a sagebrush/bluebunch wheatgrass site was read in 1968, 1975, and 1980, but the precise position of the plot could not be relocated in 1999. The trend from 1968 to 1980 appears to have been downward. Photographs of the site indicate a fire later reduced sagebrush cover and contributed to a general increase in bluebunch wheatgrass in the locale since 1980. This trend study plot should be re-established with a new baseline.

LAP site #24 on a Wyoming sagebrush/bluebunch wheatgrass site in Pole Gulch shows a substantial increase of bluebunch wheatgrass from 8 to 41.5% frequency. Range Trend Plot #19 indicates a consistent long term (since 1972) increase in percent basal cover of key forage species, increasing from 3.9% to 7.6% between 1991 and 1999. Trend Plot #7 indicates a long-term increase in percent basal cover of key forage species, increasing from 1.4% to 4.0% between 1968 and 1999. Trend Plot # 9 has essentially remained stable between 1968 and 1999.

Trend Plot #8 in a sagebrush/bluebunch site in Morgan Pasture showed a clear downward trend in percent basal cover of key forage species from 8.5% to 4.9% between 1968 and 1999. Photographic records show that fire (1995) substantially reduced sagebrush density and competition.

**2. Monitor and evaluate all grazing use and modify or implement new grazing systems where needed.**

Specific actual use and utilization data is summarized in Appendix B. Monitoring data in 2000, 2001, and 2002 showed excessive utilization on key upland forage species in the Hibbard Pasture. Utilization on upland key forage species in the North, Morgan Creek, and Pole Gulch Pastures has generally been within prescribed limits. Utilization on riparian habitats has generally been excessive in all four pastures.

**3. Enhance or maintain habitat quality for featured wildlife species such as deer winter range, elk, and upland game birds.** Upland sites have generally shown improved condition in lower elevation pastures. Trend studies in the Hibbard Pasture show mixed results. Riparian sites are variable, with some evaluated as improving, and others with static or downward trends.

**4. Maintain or enhance riparian habitat.** Proper Functioning Condition assessments have indicated that riparian condition is generally below desired conditions with a static to downward trend (see discussion under Standard 2 below).

**5. Restrict livestock grazing in riparian habitat in poor or fair condition through seasons of use, levels and numbers of livestock, where conditions warrant.** Riparian utilization standards were made part of the terms and conditions of this grazing permit in 2001. Livestock use periods have been reduced on a temporary basis over the past three years, however these adjustments have not been sufficient to meet utilization limits.

**B. Rangeland Standard and Guidelines:**

Standards and Guidelines for Rangeland Health (S&Gs) were developed by the John Day – Snake Resource Advisory Council and approved by the Secretary of the Interior on August 12,

1997. An interdisciplinary team conducted assessments of rangeland health baseline conditions in Allotment #1001 during 1999. The Standards for Rangeland Health and Guidelines for Livestock Grazing Management -Record of Determination for Allotment #1001 were completed and signed on August 15, 2000. Standards and Guidelines were incorporated into the terms and conditions of the grazing permit and authorization for Allotment #1001 in 2001.

**Standard 1. – Upland Watershed Function :Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform.**

The S&G determinations were that Standard 1 was met on an allotment-wide average basis. There is a general upward trend on most bluebunch wheatgrass upland sites within the allotment, although the trend plot in Morgan Creek Pasture has shown a long-term decline. These sites are primarily on slopes and ridges within the lower elevation pastures. There is also an apparent declining trend in the Hibbard Pasture, where moisture storage capacity is being lowered in aspen/meadow habitats by active headcuts. De-watering of meadows is indicated by increases in false hellebore.

**Standard 2. – Riparian Wetland Watershed Function: Riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.**

Standard 2 is not being met. PFC assessments indicated some riparian areas within the allotment were “at risk” due to livestock grazing in 1999. On ground monitoring indicates the initial aerial assessment of upper Hibbard Creek was in error, and that portion of the drainage is also “at risk”. There are numerous active headcuts in drainage bottoms throughout the allotment, and a number of spring sources are at risk of being degraded. The riparian shrub component is severely reduced in some stream reaches. Efforts have been made by BLM to re-plant and restore a mix of shrub species in some drainages presently being rested due to the Morgan Mountain Fire. Riparian utilization limits were formally incorporated in the terms and conditions of the grazing permit since the 2002 grazing season, although the permittee has been operating under riparian utilization limits since 2000. Riparian utilization limits are extremely difficult to meet in the context of existing livestock numbers, seasons of use, and the steep topography of the allotment. The permittee has made good faith efforts to herd livestock away from riparian areas, and removed livestock early from pastures in 2001 and 2002 when BLM identified that excessive use had occurred during the grazing season. BLM has consulted with the permittee and informed him of the need for the permittee and/or his representatives to be responsible for monitoring during the period of use and to making the decision to remove livestock at the appropriate time based on monitoring results rather than the annual license dates and numbers. Efforts to limit riparian utilization have not been effective. Residual stubble heights on herbaceous riparian vegetation have consistently been less than two inches, and utilization rates have consistently been over 85%. Browsing on riparian shrubs has also greatly exceeded prescribed limits. In the Hibbard Pasture, the growing season is too short to allow significant regrowth.

In the North, Morgan Creek, and Pole Gulch pastures, it is possible to achieve full re-growth on herbaceous riparian in years when the pastures are used early and receive summer and fall rest. This was accomplished in the Pole Gulch pasture in 2002. However, one year is insufficient time to evaluate if pasture rotation and season of use adjustment can improve riparian conditions in those pastures. To achieve significant progress toward fulfilling the standard, it will be

necessary to demonstrate improvements in perennial vegetation density, trapping and holding sediments, establishing riparian hardwoods, stabilizing banks and active headcuts, and protecting spring sources from deterioration.

**Standard 3. – Ecological Processes: Healthy, productive, and diverse plant and animal populations and communities appropriate to soil, climate, and landform are supported by ecological processes of nutrient cycling, energy flow, and the hydrologic cycle.** Standard 3 is not being met in the Hibbard Pasture for aspen habitats. Excessive utilization by livestock in aspen meadow habitats and within aspen stands continues to be a problem. Many aspen stands are overmature and decadent, with little or no reproduction in the understory due to livestock pressure. Despite early removal of livestock from the pasture, over 50% of aspen sprouts were browsed (in 2002) at three sites being monitored for regeneration of aspen. Aspen –meadow habitats are subject both to excessive use and drying caused by lowered water tables and headcutting on unstable drainages. Other indicators of ecological disruption include high components of unpalatable species such as blue wildrye, senecio, and false hellebore, and of grazing resistant species such as Kentucky bluegrass. An additional complicating factor is ecological succession to conifer overstory. Analysis by forest ecologist Charles Johnson (Lookout Mountain EIS in draft) indicates that over 2000 acres of new conifer forest have developed on Lookout Mountain since the time of settlement by Euro-Americans, in part due to grazing influences. The draft EIS proposes to initiate a series of actions that would reduce some of that conifer cover and competition within aspen. To achieve significant progress toward fulfilling the standard, it will be necessary to demonstrate improvements in establishing multi-aged aspen stands, protecting aspen regeneration, increasing cover of mid and late seral herbaceous species within aspen stands and meadows, reducing the component of invasive forb and early-seral grass species, and reversing the trend of lowered water tables and drying in meadow habitats.

Standard 3 is not being met for portions of riparian habitats in all pastures. Riparian plant communities have been modified by excessive grazing and physical trampling damage. Riparian shrub species have been reduced or eliminated in some reaches. Deep rooted herbaceous species capable of trapping and holding sediments have also been reduced and replaced by annual weeds and perennial increaser species.

**Standard 4. – Water Quality: Surface water and groundwater quality, influenced by agency actions, complies with State water quality standards.** Standard 4 has not been met. Conditions noted under Standard 2 above apply to this standard. To achieve significant progress toward fulfilling the standard, it will be necessary to demonstrate improvements in trapping and holding sediments, establishing riparian hardwoods for shade, stabilizing banks and active headcuts with increased herbaceous and woody cover species, and protecting spring sources from deterioration.

**Standard 5. – Native, T & E, and Locally Important Species: Habitats support healthy, productive, and diverse populations of native plants and animals (including special status species and species of local importance) appropriate to soil, climate, and landform.** Standard 5 has not been met for aspen and riparian habitats. Conditions noted under Standard 3 above also apply to this standard. To demonstrate significant progress toward fulfilling the

standard, it will be necessary to improve and protect aspen regeneration, increase cover of mid and late seral herbaceous species, heal headcuts in aspen/meadow habitats, and increase regeneration of woody riparian species.

There are no federally listed threatened or endangered species in the allotment. Special status species habitats on upland sites in the North, Morgan, and Pole Gulch pastures are generally in an upward trend, meeting the standard.

Redband trout habitat is in variable condition, with some stream reaches failing to meet the standard due to excessive livestock utilization and physical trampling.

### III. ADDITIONAL FACTORS

The history of grazing management on this allotment and past regulation and resource allocation directly influence the current situation and conditions. Estimated carrying capacity in the allotment presently assumes a 12 acres/AUM stocking rate for all public acres. At this time, the allotment preference is partly based on a computation of 'percent federal range' and private land within the allotment boundaries, averaged over the entire allotment rather than calculated by pasture. Fourteen percent of the land base is private. The Pole Gulch Pasture contains almost no private land. The Morgan Creek Pasture contains about 300 acres of private. A large percentage of the useable private land is within the North Pasture. The Seven Generations Trust is moving forward with a proposal to fence their private land out of the North Pasture. This will significantly change the balance of private and public land within the allotment.

Carrying capacity in this allotment has not been calculated by current Ecological Site Index specifications. Some sites have a relatively high forage production rate, while others have a very low rate. Aspen meadow habitat in good condition may be as productive as 5 acres/AUM. Forage production under dense conifer stands may be as low as 80 acres/AUM. As noted by the permittee this year, the aspen-meadow habitat represents a relatively small percentage of the acreage of the Hibbard Pasture, yet observations and monitoring results indicate they and the riparian areas provide most of the pasture forage.

Relative palatability of forage species complicates achieving riparian utilization standards. For example, monitoring photographs document instances of 1 – 2 inch stubble on riparian with ungrazed bluebunch wheatgrass lining the slopes twenty feet away. After summer cure-out of upland grasses, the riparian areas are heavily grazed. In early spring of 2002, 10 to 12 inches of ungrazed fresh green growth on bluebunch was observed at the same time the bottom of Morgan Creek (in Pole Gulch) was grazed down to a 2" stubble height.

Steepness of ground affects the relative availability of forage, as does distance from water. Without herding, herd selection, or training, livestock may not get more than a hundred feet off the canyon bottom during the grazing use period. This is evidenced by the visual distinction of the 'graze line' on many of the slopes of this allotment. Riparian utilization standards in narrow steep canyons may impose practical limits on the degree to which forage on steep slopes can be utilized.

III. STUDIES DATA

The following data and information was used to develop this evaluation:

- ! Upland Rangeland Data (see Appendix A)
- ! Actual Use/Utilization Summary Data (see Appendix B)
- ! Range Site Data (see Draft Lookout Mountain EIS, Appendix B)
- ! Soils Site Data (see Draft Lookout Mountain EIS, Appendix C)

IV. RECOMMENDATIONS

1. Make the following modifications to the current grazing system:

**A.** Implement a permanent reduction of 256 AUMs in the Hibbard Pasture (See tabular presentation below). Modify the current authorization of 221 cattle from 7/1 – 8/31 (387 AUMs) to 221 cattle from 7/1 – 7/21 (131 AUMs). With current numbers of livestock, use the Miller Springs portion for one week, and the Hibbard-Fox Creek portion for two weeks, subject to further monitoring and adjustments. Maintain current application of upland (50%) and riparian (45%) utilization limits.

**From: Current Permit/use**

Active Preference	Suspended Preference	Total			
915	956	1871			
Schedule of use	Livestock Number Kind	Grazing Period Begin End		%PL	AUMs
	221 Cattle	05/01	05/30	86	187
	221 Cattle	07/01	08/31	86	387
	221 Cattle	09/23	11/15	86	337

**To: Recommended Modified Permit/Use**

Active Preference	Suspended Preference	Total			
661	956	1617			
Schedule of use	Livestock Number Kind	Grazing Period Begin End		%PL	AUMs
	221 Cattle	04/15	05/15	86	187
	221 Cattle	07/01	07/21	86	131
	221 Cattle	09/23	11/15	86	337

**Rationale:** Based on observed conditions and timing of use in 2002, this adjusted permit would be a closer approximation of the actual carrying capacity of the Hibbard Pasture when utilization standards are considered. The bulk of grazing forage is produced in the understory of aspen forest stands, aspen-mountain shrub habitat, and in open aspen meadows in Hibbard Pasture. Use on riparian vegetation in the Hibbard and Fox Creek watersheds became heavy after utilization exceeded 50% on aspen meadows in two weeks of use. The Miller Springs portion of the pasture was heavily overused by the end of the second week of livestock grazing there. The growing season is generally too limited to allow shifting season of use to an earlier time period, and the period of time for re-growth potential is also limited.

**B.** Adjust the season of use in the three lower elevation pastures to allow flexibility to adjust the turn-in date for range readiness. Allow turn-in as early as April 15, with a corresponding early removal of livestock. For two years, allow early spring use to exceed the herbaceous riparian utilization limit currently in effect, conditional on compliance with fence maintenance and post-grazing season rest. Stipulate removal of livestock from fall pasture to leave 4" of residual stubble height. Defer reductions based on riparian utilization in these pastures for at least two years until additional detailed monitoring data is gathered. **Rationale:** Turning livestock in at the earliest feasible time in spring facilitates herding livestock to the drier uplands, and allows re-growth of riparian vegetation. We observed that reduced numbers of livestock still exceeded riparian utilization limits, but that removing livestock by mid-May allowed full re-growth of herbaceous riparian species by the end of July. Further monitoring of this type of use is needed to determine if it adequately provides for the physiological requirements of the riparian species and achieves the desired physical-hydrological conditions. A fall-use residual stubble requirement would facilitate sediment retention and capture during late winter – early spring flow events.

**C.** Recalculate pasture carrying capacity and adjust the 'percent federal range' upon completion of the Seven Generations Trust fencing project.

**D.** Utilize the Seven Generations Trust fence to divide the North Pasture into two units. Management of the Connor Creek ridge subunit would be strongly influenced by monitoring of use on Connor Creek.

**E.** Evaluate data and reassess use authorization after two years. Incorporate new data from intensified monitoring of lower elevation pastures with modified season of use and riparian utilization. Review carrying capacities of pastures based on upland utilization levels and subject to limitations imposed to achieve riparian/watershed standards and guides. Resolve outstanding issue of validity of 'suspended' AUMs in relation to observed carrying capacity.

**F.** Inventory and treat those weeds on the Baker County 'A' designated list in accordance with the Vale District Weed plan. On a funding-available priority basis, treat concentrations of class 'B' weeds, particularly in areas of restoration projects.

**G.** Conduct the following studies on upland sites:

- ! Utilization/Actual Use – annually
- ! Utilization/Actual Use – 2003 - Connor-Fox Ridge – bighorn sheep use (no livestock)
- ! Trend (3x3) - Prior to evaluation or every 10 years.
- ! Range Project maintenance compliance - annually.

**H.** Conduct the following riparian studies:

- ! Utilization/Stubble Height – annually at end of grazing period
- ! Utilization/Stubble Height – Connor Creek and lower Fox Creek, 2003 wildlife use without livestock
- ! PFC re-assessment – Pole Gulch, Morgan Creek, and North pastures – 2004, prior to evaluation.

## VI. CONCLUSION

Based on the last three years of monitoring data, the current grazing system must be modified meet RMP objectives and to achieve compliance with the Oregon/Washington Rangeland Standards and Guidelines. The baseline data in 1999 indicated specific problem areas where the allotment did not meet those standards. Intensive monitoring in 2000, 2001, and 2002 documented that temporary adjustments within the flexibility of the current grazing system are not adequate to meet utilization standards and progress toward compliance with guidelines. A substantial adjustment of livestock numbers and season within the Hibbard Pasture is needed. The recommended reduction (VI. Recommendations; #1.) is based on observations of utilization and site conditions during the grazing activity.

Additional monitoring data is needed to evaluate the effectiveness of adjustments within the flexibility of the existing grazing system in the lower elevation pastures. There may be opportunities to achieve compliance with guidelines involving less change and impact to the permittee's livestock operation in those three pastures.