July 12, 2008

Thomas Seley
Valerie Metscher
Tonopah BLM

Re: Ralston allotment

Dear BLM,

Please consider this letter as a comment (and Protest if this is now the Protest period) on the Tonopah BLM letter proposing to graze the vry arid and very fragile pubic lands of the Ralston allotment.

WWP is strongly opposed to this proposal, and requests that an EIS be prepared to analyze all direct, indirect and cumulative impacts of such an action on soils, microbiotic crusts, native vegetation communities, risks of invasive species proliferation and altered fire cycles, important and sensitive species habitats and populations, cultural values, public recreational use, and other important values of the public lands. Essential baseline inventories and analysis of all sensitive species must occur.

Please provide the full history of grazing here - and the reason for its cessation.

The public lands here should be used for carbon sequestration, including intact and functioning microbiotic crusts, and ungrazed and healthy native plant communities.

Full analysis in an EIS must be given to understanding the effects of livestock-caused desertification and other global warming effects of imposing domestic livestock grazing disturbance here.

What is the total ecological footprint of the livestock operation that would be imposed here? This is essential to understand how severe the effects of this operation are on destroying biodiversity, and promoting global warming.

What utility corridors, mining, oil and gas, or other developments/disturbances have occurred here or are foreseeable?

What is the risk of cheatgrass or brome proliferation with livestock use -please conduct intensive surveys and identify all areas that currently have invasive species, and those that would be at risk with resumed grazing disturbance?

Please conduct the following analyses:

Grazing Suitability, Capability, Sustainable Use Analysis

BLM must conduct a current livestock grazing capability and suitability analysis. BLM is aware that it has based livestock use areas and stocking rates on old adjudication processes - where AUMs claimed and then assigned in the adjudication process were often greatly inflated by ranchers. These ³adjudicated² AUMs were not based on the ability of the land to sustain such high numbers of livestock and levels of use. These continue to be largely the basis of the AUMs on permits that are so much above actual use.

In the capability, sustainability, carrying capacity and suitability analysis, BLM must examine:

Slope, distance to natural water, dispersion of ³forage² across the landscape/severe depletion of forage - i.e. many lands have been so depleted that it takes dozens of acres to support an AUM - so the costs (including in weight gain/loss of livestock) are often so great that grazing is a resoundingly losing proposition, areas inaccessible due to winter snow, summer desiccation, etc.

BLM must fully consider the degree and severity other weed invasions - and the risk of further losses if grazing continues.

BLM must also examine lack of sustainability as desertification and degradation here has been so great. Now there is the added stress of global warming effects that must be examined.

Threats to Shrub-Dependent Species and Habitats from Livestock and Management

BLM must collect necessary information to assess the impacts of the following livestock-related facilities or management actions to the environment, and the threats these pose to special status species and other important wildlife in these lands:

Wells and windmills
Pipelines
Troughs
Water Hauling
Roads, road improvements (often linked to facilities)
Salting Sites
Invasive Species Infestations
Powerlines
Fences
Aquifer depletion
Losses of springs, seeps, playas, and riparian potential

Areas of cheatgrass or other weed -dominated understories
Areas of shrub loss, die-off, past agency treatment, wildfire

Fire and/or altered fire cycles

Altered understory species composition
Altered understory species structure
Altered overstory species composition
Altered overstory species structure (see, for example, Katzner and Parker 1997, and Federal Register 68 (43): 10389-10409) describing impacts of livestock-altered or thinned sagebrush to pygmy rabbit).

Vegetation Treatments including Fuels - Chainings, seedings, railings, herbicidings, mechanical activities such as mowing, prescribed fire - resulting in lack of important habitat components, vulnerability to weed invasion, site desertification, etc.

Grazing season/disturbance conflicts with nesting, birthing, wintering or other critical period in species life cycle, affecting cover, food, or space.
Grazing use levels fail to provide necessary habitat components (cover, food, space) based on nest available science
Livestock structural alteration of shrubs

Energy project siting (wind, geothermal, other)
Mines and mining exploration

OHV use
Areas of high OHV use
Unregulated motorized use, including by permittees
High road densities - often related to livestock management activities
Often overlooked threats from livestock facilities and structures include:

* Physical harm to species - obstacles such as fences that can cause injury or mortality;
* Structures cause species avoidance of facility areas, i.e. sage grouse avoid vertical structures, fences.
* Structures provide elevated predator perches and nest predator perches (in the case of songbirds - both predator and nest parasite - cowbird - perches).
* Attract predators and act as sinks
* Disturbance attracts brood parasites

All of these impacts may act directly, indirectly, cumulatively or synergistically with the effects livestock degradation associated with lands over broad areas surrounding these facilities may have to vegetation, soils and other habitat components. The end result is degradation and fragmentation of habitats for important and special status species.

How much fragmentation currently exists across these lands?

All of these issues and concerns have not been adequately addressed in the cursory EAs.

Altered Composition and Structure/Lost Productivity

Over large areas, larger sized native bunchgrasses and forbs and palatable/desirable shrubs may have been eliminated, or significantly weakened by past grazing impacts. Only smaller stature native grasses and weeds may remain.

Appropriate stocking levels for any areas grazed must be based on the amount of forage present on a sustainable level, and Risk of exotic species invasions must be minimized. In addition, with extensive depletion over large areas, BLM must assess the diminishing returns - and increased ecological damage done by livestock having to roam over dozens if not hundreds of acres to sustain themselves/harvest an AUM. This leads to more trampling impacts, more weeds, etc. BLM must identify areas where grazing is unsustainable, or where it will cause harm to still-intact communities.

Grazing systems, grazing intensity and season of use: Financial returns from livestock production, trend in ecological condition, forage production, watershed status and soil stability are all closely associated with grazing intensity (Holechek et al. 1998). Short-term rest or deferment can not overcome periodic heavy use.

The conflicts with wildlife habitat needs, including food, cover, nutritional composition, space, lack of disturbance and other factors, must be studied. The health of vegetation communities and soils across the landscape drives the health of habitats and populations

Dispersion across the Landscape: BLM must inventory and assess (including using accurate mapping) the full range and diversity of native and invasive plant communities that exist across the landscape. BLM must assess the condition of these communities, including soil stability, erosion, presence of microbiotic crusts, possible loss of soil horizons, susceptibility to wind and water erosion, and their ecological integrity --- and the impacts of livestock grazing on them.

Range of Alternatives

Instead of structuring this process to develop a range of alternatives centered around the needs of livestock and desires of the operator, BLM must consider livestock grazing as only one of many competing uses on these fragile and much-abused arid lands, and develop suitable alternatives that address the array of important values on these public lands. BLM should act to enhance and restore habitats for special status species, and BLM must also follow its own policies for special status species. All alternatives must do this. Alternatives should include measurable standards of livestock use on upland and riparian habitats as triggers for removal from grazed pastures.

Livestock uses should not be shifted or extended into currently less-used lands, as these are refugia for native species, many of which are undergoing accelerated habitat fragmentation across the West. All alternatives must be based on current capability, suitability, productivity and other studies.

The alternatives must also grapple with the risk of accelerated weed invasion, extinction of sage-grouse, the scientific absurdity of continuing widespread grazing disturbance in a very arid landscape acknowledged by BLM to be prone to severe drought and facing global warming and climate change effects.

Drought

All impacts of livestock grazing on all elements of the environment must be assessed during drought. How does drought affect productivity of vegetation? What are the additive, synergistic and cumulative impacts of grazing depletion and drought on loss of plant vigor, weakening, or death?

How much are plants of good vs. poor vigor affects by drought? What utilization levels are appropriate on drought-stressed vegetation? What

stocking rates are necessary to prevent depletion during drought? How have you integrated sustainable stocking rates with the reality of drought? With the reality of climate change?

Springs, Seeps, Wet Meadows, Springbrooks, Streams

BLM must conduct a full inventory and assessment of the location, condition and characteristics of all spring, seep and wet meadow areas, including historically wetted sites. BLM must study the role of historic and ongoing livestock grazing and trampling activity (and other disturbances such as roads, mining, wild horse use, etc.) in altering, degrading or desiccation of these scarce sites. The inextricable link between the health of springs, seeps and wet meadows and watersheds must be addressed.

A full suite of restoration actions for damaged, degraded or diverted riparian areas must be assessed under all alternatives - including an array of passive treatments, such as stubble heights, rest to jump start recovery, or until recovery, then limited, if any grazing.

BLM[1]s own data and photographs provide evidence of the failure of past structural or excavational developments and its failed riparian management actions - especially accompanied by high livestock stocking rates - to protect public land values. Despite the damage it has caused in the past, BLM proposes to develop and irreversibly alter even more fragile springs.

Springs are [3]hot spots of [3]hot spots[2] in arid lands. 75 percent of 505 springs surveyed by Sada in northern Nevada were highly or moderately disturbed (Sada and Herbst 2001). Degradation of springs in the Great Basin is widespread. Their isolation and small size render many spring communities particularly vulnerable to disturbance and loss.
[3]The continued development of springs for livestock by ranchers and state and federal agencies also poses a threat to the continued existence of spring biota[2]. These actions typically involve fencing off an area, immediately adjacent to springs, piping most or all of the water off the site to livestock tanks. Although some riparian vegetation may be retained, [3]the essential flowing character of the spring is lost, and often no exposed water remains on the surface[2]. Livestock grazing poses a serious threat to spring communities. Livestock trampling reduces substrates to mud, can completely eliminate vegetation, and alters flow characteristics. The magnitude is likely great because of complete alteration of vegetation and substrate structure. www.biology.usgs/gov/s+t/SNT/noframe/gb150.htm <http://www.biology.usgs/gov/s+t/SNT/noframe/gb150.htm>

Sada and Pohlman (2003) provide a series of protocols to be followed to assess spring conditions. Given the scarcity of springs across these allotments, the extreme damage that has been caused by livestock grazing and other disturbance, often coupled the ill-conceived developments that have occurred, often killing all natural water flows at spring sources, BLM must conduct Level I (locate and provide reconnaissance level characterization of springs, delineate important species distribution and salient aspects of habitat, and unique circumstances/challenges) Level II (qualitatively sample riparian and aquatic communities to determine community structure quantitatively sample salient physiochemical elements to identify aquifer affinities), and Level III Surveys (quantitatively sample to determine\aquifer dynamics, sample riparian and aquatic communities and habitats to determine spatial and temporal variation in environmental and biotic characteristics, and to quantitatively determine biotic and abiotic interactions). Identify and characterize all sites. BLM must then follow this with surveys that fully assess the ecological scene, and the effect of management and livestock use and other uses, across a broad area.

These Protocols must include collecting information necessary to assess the extreme importance of springs and the continuum of hydric and mesic vegetation communities in their vicinity to sage grouse, especially in providing essential summer brood rearing habitats (green forbs); to migratory birds (deciduous shrubs and trees); and many other important attributes vital to other native animals. Level III surveys can add this element. Thus, in addition to all the important issues raised for consideration, the importance to sage grouse and other wildlife must be fully considered. We believe this elevates ALL spring areas here (especially since so much damage - including harmful development - has been allowed to occur, and the potential at many sites so greatly reduced) that ALL springs, seeps, wet meadows here are worthy of restoration to whatever potential can be achieved.

We urge BLM to very carefully examine all intermittent and ephemeral drainages, as well. Often, water not only persists in intermittent and perennial drainages in pockets as a result of runoff, but seep, spring and mesic areas may be present, and interspersed along the length of these drainages. Erosion, downcutting and lowered water tables stemming from livestock grazing is often a primary cause of perennial reaches becoming intermittent. BLM must also determine if stock ponds or other livestock facilities have been built/placed/gouged into or on top of spring, seep or meadow areas. Restoration potential must be assessed, and plans must be developed to restore such sites and incrase perennial flow under all alternatives.

BLM must conduct studies of all desiccated, dried up, or otherwise altered springs, and develop plans for restoration of riparian area structure (areal extent of wetted area, native vegetation components), and flows. The benefits of restored or more natural springs to native species must be assessed. For example, what are the characteristics of a riparian community sufficiently restored to support nesting Cooper¹s hawks in the vicinity?

Aquifer sources: Springs are supported by precipitation that seeps into soil and accumulates in aquifers (through fault zones, rock cracks, or orifices that occur where water creates a passage by dissolving rock) where it is stored. The hydrology of springs is affected by regional and local geology, and how water moves through an aquifer.

Perched aquifers often characterize high elevations, where local aquifer springs may be fed by adjacent mountain range precipitation, and may change annually due to recharge from precipitation in mountain range. They typically have cool water, and may dry out during extended droughts. Regional aquifers support warmer springs fed by several recharge sources that may extend over vast areas. Aquifer flow is complex, and may extend beneath several valleys and topographic divides. Seeps are small springs that support vegetation adapted to drier conditions. Springs may be small, but have larger aquatic habitats, and support larger riparian zones with moist-soil affinity species. Springs are characterized by the morphology of their sources.

Each spring and seep is a unique combination of physical and chemical conditions (Sada and Herbst 2001, Sada and Pohlman 2003). These, coupled with disturbance factors, are dominant influences on riparian and aquatic plant and animal communities. Highly modified springs have less diverse riparian communities, and may include non-natives, and upland-associated species. Plant and animal communities associated with spring-fed wetlands are a function of physical and chemical characteristics of water and soils, proximity to other aquatic habitats, and prehistorical connections with regional drainage systems (Sada and Herbst 2001, citing Hubbs and Miller 1948, van der Kamp 1995, McCabe 1998). Primary abiotic factors that

influence biotic qualities of unmodified springs include habitat persistence, geographical and geological settings, and aquifer dynamics Sada and Herbst 2001 (citing Ferrington 1995, van der Kamp 1995). Springs have a more integral connection with ground water than streams (Sada and Herbst 2001).

54 percent of aquatic species endemic to the Great Basin springs have suffered population losses and 62 percent have suffered major decreases because of channelization, impoundment, removing water and the introduction of non-natives. Removing water from springs through diversion reduces habitat for vegetation and aquatic biota by decreasing springbrook length, water width, water depth, and quantity of water available for vegetation. Groundwater pumping and surface diversion have decreased and dried up many springs and springbrooks in the Great Basin, causing loss of populations and extinctions.

Riparian vegetation at springs may be restricted to area just along immediate boundaries of aquatic habitat, or may extend outward over much larger areas. Wider riparian areas occur where water seeps outward and moistens hydric soils. Species may be restricted to spring sources. Rheocrene-inhabiting species are more similar to stream-inhibiting species, and limnocrene species to lake or pool inhabitants. Springs tend to be more constant environments than other aquatic habitats.

Protective standards of trampling, browse and stubble height must be applied to all riparian areas here.

Desertification and Watersheds

There is an extensive body of scientific literature on desertification of watersheds, including in the western United States. Desertification is defined as: ³a change in the character of the land to a more desertic condition², involving ³The impoverishment of ecosystems as evidenced in reduced biological productivity and accelerated deterioriation of soils and in an associated impoverishment of dependent human livelihood systems². See Sheridan 1981, CEQ Report 1981 at iii. Major symptoms of desertification in the U. S. include: declining groundwater tables; salinization of topsoil or water; reduction of surface waters; unnaturally high soil erosion; desolation of native vegetation (Sheridan CEQ at 1). The existence of any one can be evidence of desertification. As lands become desertified, they become less productive, and activities such as livestock grazing become less sustainable. Continuing activities like livestock grazing may result in grazing becoming permanently unsustainable across the landscape. In many areas of these allotments, ecological conditions because of desertification and degradation processes that has already occurred and which is still underway, have already crossed the threshold between sustainability and, essentially, ³mining² of increasingly non-renewable natural resources. Desertification can be both a patchy destruction, often exacerbated by drought, as well as the impoverishment of ecosystems within deserts.

Desertification is a known contributor to global warming processes. See Steinfeld et al. 2006.

BLM must assess the levels and degree of desertification that have occurred across these allotments and surrounding lands. This is necessary to understand the suitability of these lands for livestock grazing, the productivity and carrying capacity of these lands for grazing, the effects of any alternatives developed here, the ability to meet any objectives, and the ability to sustain, enhance or restore habitats and populations of special status and other important species and native plant communities. For example, how has the extensive depletion of understories in many areas of

sagebrush, salt desert shrub, and forested vegetation affected the degree and rate of desertification processes across the allotments? How has this affected livestock patterns of use, acres per AUM, etc.? What are the acres per AUM across all vegetation types in all conditions across these allotments? How many acres per AUM are required to sustain cattle or sheep in the lower salt desert shrub or sagebrush communities? What actions can be undertaken to halt desertification processes and begin recovery? BLM must also assess the combined effects of desertification and exotic species/weed increase and infestation.

Even PRIA acknowledged that production on many BLM lands was below potential, and would decline even further. To continue the current level of grazing under BLM[1]s Decisions will result in even further loss of soil, microbiotic crusts, water, watershed integrity, wildlife habitat, and forage on these allotments. BLM[1]s permits typically allow livestock numbers greatly in excess of those grazed in recent decades. The fact that AUMs/stocking rates much below the high permitted levels were actually grazed, demonstrates the continued loss of productivity on these lands.

Desertification symptoms in arid lands include: Sparsity of grass; presence of invading plant species - both native and non-native, in grass areas that have survived: plants are of poor vigor; topsoil losses - in many places, topsoil is held only by pedestals of surviving plants. Surface signs of soil erosion include: pedestaling, gullies, rills, absence of plant litter to stabilize soils.

Desiccation and erosion caused by livestock can cause water tables to drop, rilling, gullying and arroyo cutting to occur, and result in sediment flow from degraded areas (Sheridan CEQ at 14). Grazing creates extremely dry site conditions for plants due to removal of litter, loss of soil cover, and trampling of the ground that prohibits rainfall from reaching plant roots (CEQ at 15). Livestock grazing exacerbates any climate changes and shifts that may be occurring (CEQ at 16). This is of particular concern in the northern Nevada landscape periodically plagued with severe drought, and which is facing increasing heat and aridity due to global warming.

The near-absence of many species of native bunchgrasses, such as larger-sized native grasses from many areas of the allotments, such as the diminished state of the once abundant Indian ricegrass (Oryzopsis hymenoides), signals stress of overgrazing (CEQ at 19). Such losses are vividly shown in BLM[1]s data for the assessments.

Absence of plant litter makes germination of natives more difficult. Recovery of lower elevation areas will be exceedingly slow, especially considering the aridity of the project area. Arid land recovers very slowly; massive soil erosion has exposed soils that are less able to support plant life because of lower organic content; and invader species have become well established and have the competitive edge (Sheridan CEQ at 21). Even though it is well recognized that [3]the way to end overgrazing is to reduce the number of livestock in the end[2] (Sheridan CEQ at 22), political pressures from ranchers results in strong political opposition to reduced grazing. Political pressures have hamstrung implementation of the Taylor grazing Act.

This FRH process provides BLM a special opportunity to gain a better understanding of the actual capability and productivity of the vegetation and soils that meets the desires and needs of the public on these lands.

Sagebrush, pinyon-juniper and salt desert shrub vegetation communities in Nevada are now showing signs of [3]extensive changes[2] and significant stresses, with livestock grazing and aggressive non-native weeds recognized as among important causal factors. Nevada Natural Resources Status Report

2002 http://dcnr.nv.gov/nrp01/bio02.htm . Continued grazing disturbance, degradation and weed invasion will cause native plant communities to cross thresholds from which recovery is very difficult, if not impossible. The decline in Nevada¹s sage grouse populations and other species dependent on arid land shrub habitats is a landscape-scale biological indicator that the loss of functions and values of sagebrush ecosystems are serious and widespread. These are also signs of desertification processes across the landscape.

BLM is fully aware of the very foreseeable accelerating adverse effects of glaobla warming. See USDI BLM Pellant (2007) Congresional testimony.

Imperilment of the Sagebrush and other Arid Lands Biome

A recent analysis, Dobkin and Sauder 2004, ³Shrubsteppe Landscapes in Jeopardy: Distribution, abundances, and the uncertain future of birds and small mammals in the Intermountain West², examined bird and small mammal species in the sagebrush biome. The authors found that ³very little of the sagebrush biome remains undisturbed², the inherent resilience of the ecosystem has been lost and the ability to resist invasion and respond to disturbance has been compromised (Dobkin and Sauder at 5). At least 60% of sagebrush steppe now has exotic annual grasses in the understory or has been converted completely to non-native annual grasslands (citing West 2000). More than 90% of riparian habitats have been compromised by livestock or agriculture. This is very similar to the effects of grazing on salt desert shrub/Mojave transiton vegetation here.

The authors distilled a list of 61 species of birds and small mammals that are completely or extensively dependent on shrubsteppe ecosystems, and conducted an analysis of their distributions, abundances, and sensitivity to habitat disturbance to assess current state of knowledge and conservation needs of these species, with focus on Great Basin, Interior Columbia Basin and Wyoming Basin, based on BBS data and other studies.

The Columbia Plateau, Great Basin and Wyoming Basin are among the least sampled of all physiographic provinces covered by the Breeding Bird Survey. Remarkably little is known about the actual distributions or population trends of small mammals. ³Range maps created by connecting the dots among sites where a species has been captured do not paint a realistic picture, especially in the highly altered and fragmented shrubsteppe landscapes of today. For small terrestrial mammals Š our results support the view that many of these species now exist only as small, disconnected populations isolated from each other Š it is completely untenable to assume species¹ presence based on simply on presence of appropriate habitat in shrubsteppe landscapes of the Intermountain West². Also, the authors ³find no reason for optimism about the prospects in the Intermountain West of any of the 61 species² (at 3). ³The results of our analyses present an overall picture of an ecosystem teetering on the edge of collapse (citing Knick et al. 2003)².

This highlights the urgent need for BLM management to protect and restore these damaged lands.

Attached, also is a Literature Citation List to Apply to our comments.
Sincerely,

Katie Fite
Biodiversity Director

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Relevant Literature Lists

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