

Buck Point Allotment
STANDARDS OF RANGELAND HEALTH ANALYSIS



Table of Contents

Introduction

Overview of the Evaluation area and principle findings

Assessment

The Existing Environment and an Overview of Rangeland Health Assessment Process

Maps

Map 1- Buck Point Allotment

Figures

Figure 1– Actual Use Data

Tables

Table A - Special Status Species (Terrestrial Wildlife)

Table B - Special Status Species (Aquatic Wildlife)

Table C - Special Status Species (Non-Vascular Plants)

Table D - Special Status Species (Vascular Plants)

Photo 1 - Photo of the mixed fir forest

Table E - RHA Location 1 Summary

Photo 2 - Photo of the semi wet meadow

Table F - RHA Location 2 Summary

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INTRODUCTION

This is an Oregon/Washington Bureau of Land Management (BLM) Standards of Rangeland Health Assessment for the Buck Point Allotment (10114). The Buck Point Allotment is located North of the Greensprings Highway and East of Emigrant Lake in T. 39 S., R. 2 E., Sections 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 34, 35, 36 and T. 39 S., R., 3E., Sections 17,18,19,20,30, and 31. The public lands within the allotment, approximately 3,845 acres, permits 10 cows from May 1–June 15 and October 1–October 30 and 123 cows from May 16–June 15 for a total of 150 Animal Unit Months (AUMs).

Vegetation

Elevation within this allotment ranges from 2,400 ft. to 4,750 feet. Approximately 35% of the allotment is occupied by coniferous forest. The remaining 65% of the allotment consists of oak woodlands, meadow openings, and shrub communities. Portions of grassland are dominated by exotic annual grasses including medusahead (*Taeniatherum caput-medusae*), annual bromes (*Bromus spp.*), wild oats (*Avena fatua*), and bristly dogstail (*Cynosurus echinatus*). Wild oats and garden vetch were possibly seeded in the lower elevation portions of this allotment judging by the dominance of them in that area. However, the soils in the area that have montmorillonitic clays are highly susceptible to invasion as seen by the amount of starthistle in this area. Areas dominated by invasive annual grasses have shallow root zones, and thus are less able than native grassland communities to retain and slowly release moisture, capture leaching nutrients, and stabilize the soil (D'Antonio and Vitousek 1992).

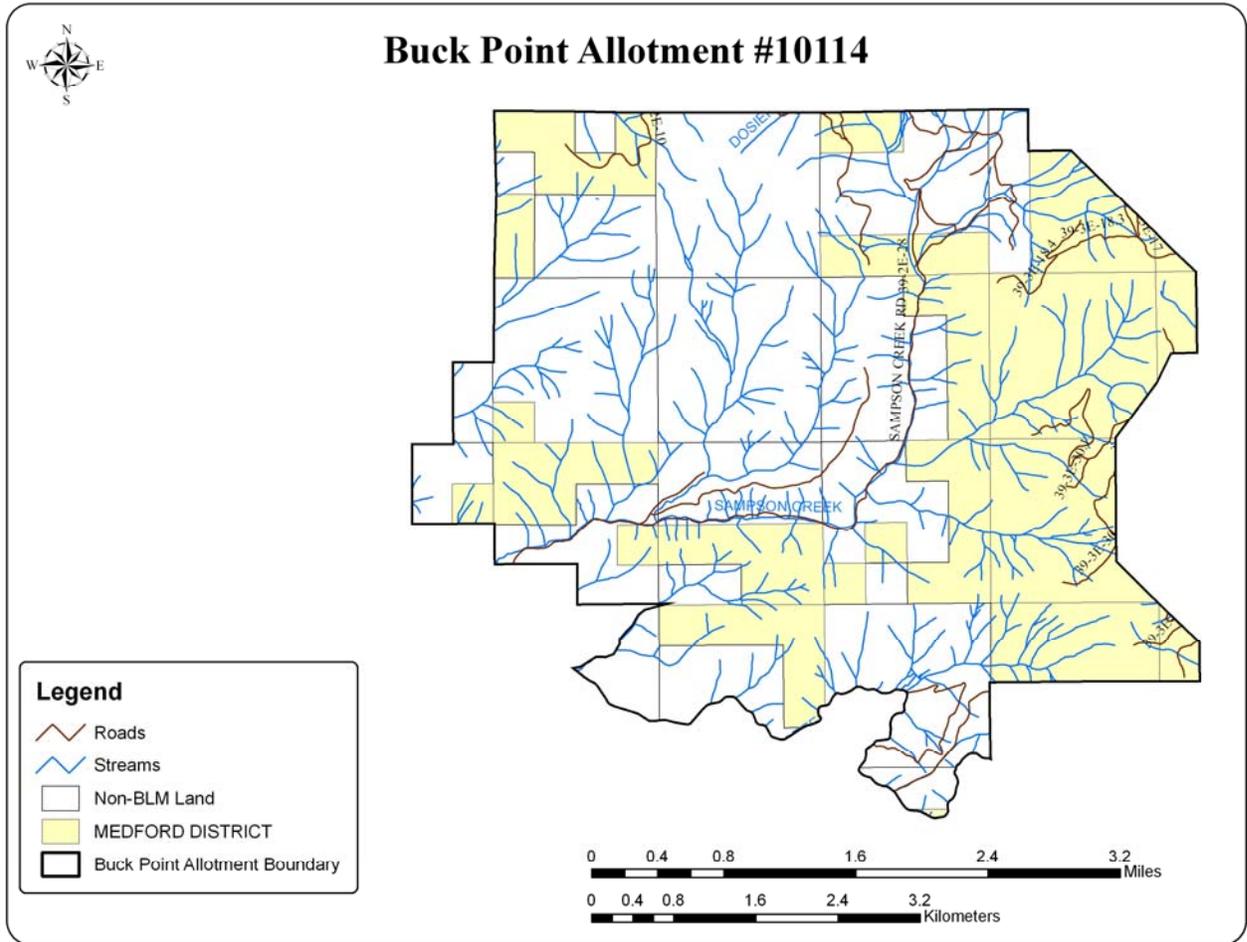
Soils

The soils in this allotment are primarily the Bybee, Heppsie, McMullin, McNull and Tatouche soil series. The Bybee, Heppsie, McNull, and Tatouche soils are dominated by montmorillonitic clays. These soils are well drained or somewhat poorly well drained with slow to very slow permeability. The surface soil textures range from loam to clay. The McMullin soil is shallow, well drained with moderate permeability. The main limitations that affect livestock grazing are compaction, erosion, slopes and droughtiness. A planned grazing system that includes timely deferment of grazing, rotation grazing, brush control, and proper livestock distribution helps to prevent overgrazing and damage to soils. The clay content of the soils limits water supplying capacity to plants in the summer season.

Hydrology

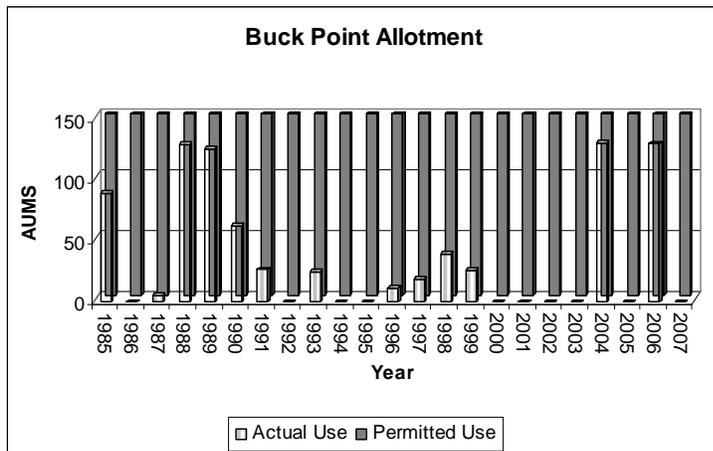
The Buck Point Allotment encompasses approximately 9,205 acres of which the BLM manages approximately 3,845 acres (42 percent). The majority of the allotment (9,085 acres) is within the Emigrant Creek drainage (Upper and Lower Emigrant Creek Level 6 Subwatersheds) within the Bear Creek Level 5 Watershed and includes most of Sampson Creek, the headwaters of Soda Creek, Cattle Creek, Cove Creek, and other Emigrant Creek tributaries. A small portion (121 acres) drains into Keene Creek Level 6 Subwatershed within the Jenny Creek Level 5 Watershed. There are approximately 11.8 miles of perennial streams, 28.6 miles of long-duration intermittent streams, 36.2 miles of short-duration intermittent streams, and 23.2 miles of dry draws within the allotment boundary.

Map 1. Buck Point Allotment



The stocking rate is currently lower than permitted use (Figure 1). The permitted used is the AUMs authorized in the *Medford District Resource Management Plan* (1995).

Figure 1. Actual Use Data



ASSESSMENT

Rangeland Health Assessments are required on each allotment prior to grazing lease renewal. These assessments are conducted by an interdisciplinary team of resource specialists who assess ecological processes, watershed functioning condition, water quality conditions, special status species, and wildlife and plant populations and habitat conditions on an allotment. Assessments include field visits to the allotments and evaluation of all available data. All available data, including the results of the Livestock Impacts Study, will be used to make an overall assessment of rangeland health as described in the *Standards for Rangeland Health and Guidelines and Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington* (Standards and Guidelines) (USDI 1997), in light of the Fundamentals of Rangeland Health at 43 CFR § 4180.1.

The Standards and Guidelines identify five specific standards that are used to determine the degree to which ecological function and process are working within each ecological site. Standards address the health, productivity, and sustainability of the BLM-administered public rangelands as represented by an evaluation of functionality on the quantitative and qualitative condition of physical and ecological processes. These standards are evaluated through a process using 17 indicators of rangeland health. The guidelines are management practices that will either maintain existing desirable conditions or move rangelands toward statewide standards within reasonable timeframes.

This assessment summarizes existing resource conditions on the Buck Point Allotment using information derived from rangeland field assessments; the Cascade-Siskiyou National Monument Livestock Impacts Study; BLM monitoring data; and all other available data in relation to the five specific standards described in the Standards and Guidelines (USDI 1997).

Primary Supporting Data

Data used by the BLM to support this assessment includes, but is not limited to, the following studies and monitoring projects.

Rangeland Health Field Assessments: Field assessments using the protocol described in *Technical Reference 1734-6: Interpreting the Indicators of Rangeland Health* (USDI and USDA 2005) were conducted September 6, 2007 at two distinct ecological types on the Buck Point Allotment: mixed fir forest and semi-wet meadow.

Livestock Impacts Studies: This collection of reports includes studies that provide a historic and spatial context to the examination of individual plant and wildlife species. Historic anecdotes and photos provide a glimpse of vegetation condition at the time of Euro-American settlement and the remainder of the 19th century. More recent plot (range trend plots) and stand examinations (derived from Natural Resources Conservation Service and Soil and Vegetation Inventory Method) provide a baseline for re-examining change over the past 30 years. Other studies focus on the distribution of weeds, native ungulates, and aquatic macroinvertebrates. All of the above species are examined relative to patterns in topography, vegetation, soils, past management, and utilization by native and non-native ungulates.

Hydrologic/Riparian Surveys: These surveys are conducted using the Ashland Resource Area Stream Survey Protocol. Location, flow duration, channel classification/morphology data for streams, wetlands, and other hydrologic features; instream large wood; impact descriptions and restoration opportunities, especially related to livestock, transportation, and vegetation throughout the allotment is collected. Properly functioning condition (PFC) is assessed during the surveys.

Botany Surveys: Botany surveys were conducted on the Buck Point Allotment using the Intuitive Controlled Survey. This method includes a complete survey in habitats with the highest potential for locating Survey and Manage species. The surveyor traverses through the project area enough to see a representative cross section of all the major habitats and topographic features, looking for the target species while en route between different areas. Most of the project area will have been surveyed. When the surveyor arrives at an area of high potential habitat (that was defined in the pre-field review or encountered during the field visit), a complete survey for the target species was made.

Wildlife Surveys: Surveys for great gray owls and terrestrial mollusks were conducted on a portion of the allotment. The surveys were conducted for a planned timber sale. The timber sale encompassed portions of the allotment. The surveys followed the protocols developed for these species under the Northwest Forest Plan.

Standard 1 Watershed Function - Uplands

To meet this standard, upland Soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform.

This standard focuses on the basic physical functions of upland soils that support plant growth, the maintenance or development of plant populations and communities, and promote dependable flows of quality water from the watershed.

To achieve and sustain rangeland health, watersheds must function properly. Watersheds consist of three principle components: the uplands, riparian/wetland areas and the aquatic zone. This standard addresses the upland component of the watershed. When functioning properly, within its potential, a watershed captures, stores and safely releases the moisture associated with normal precipitation events (equal to or less than the 25 year, 5 hour event) that falls within its boundaries. Uplands make up the largest part of the watershed and are where most of the moisture received during precipitation events is captured and stored.

While all watersheds consist of similar components and processes, each is unique in its individual makeup. Each watershed displays its own pattern of landform and soil, its unique climate and weather patterns, and its own history of use and current condition. In directing management toward achieving this standard, it is essential to treat each unit of the landscape (soil, ecological site, and watershed) according to its own reference state and how it fits with both smaller and larger units of the landscape.

Upland sites with bare soil consequent to past disturbance (livestock use, and road construction) show less bare soil and succession towards perennial plant domination. Other sites appear to maintain a bare soil surface because of soil mineralogy. The Natural Resource Conservation Service (NRCS) describes montmorillonitic soils through much of the region (USDA 1993).

Points of broadleaved noxious weed invasion indicate areas of deteriorating plant composition. Lower elevation sites with yellow starthistle are associated with several environmental and management factors including the presence of shrink-swell clays, past management activities (scarification and seeding) and areas subject to high livestock influence (trampling and forage intake) within prairies and open woodlands. Higher than expected counts of broadleaved weeds occurred at moderate to higher average levels of grazing for yellow starthistle at lower elevations and Canada thistle within meadows at higher elevations (Hosten 2007a).

A Rangeland Health Assessment was conducted on the allotment at a mixed fir forest and semi-wet meadow

ecological site in September of 2007. Looking at indicators pertaining to Soil/Site Stability revealed that all of the indicators (100%) were rated none to slight, and zero were rated slight to moderate, moderate, moderate to extreme, or an extreme to total departure.

Standard 2 Watershed Function - Riparian/Wetland Areas

To meet this standard, riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.

Riparian-wetland areas are grouped into two major categories: 1) lentic, or standing water systems such as lakes, ponds, seeps, bogs, and meadows; and 2) lotic, or moving water systems such as rivers, streams, and springs. Wetlands are areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Riparian areas commonly occupy the transition zone between the uplands and surface water bodies (the aquatic zone) or permanently saturated wetlands.

Properly functioning condition of riparian and wetland areas describes the degree of physical function of these components of the watershed. Their functionality is important to water quality in the capture and retention of sediment and debris, the detention and detoxification of pollutants, and in moderating seasonal extremes of water temperature. Properly functioning riparian areas and wetlands enhance the timing and duration of stream flow through dissipation of flood energy, improved bank storage, and ground water recharge. Properly functioning condition should not be confused with the Desired Plant Community (DPC) or the Desired Future Condition (DFC) since, in most cases, it is the precursor to these levels of resource condition and is required for their attainment.

This allotment is within the Emigrant Creek drainage and includes most of Sampson Creek, the headwaters of Soda Creek, Cattle Creek, Cove Creek, and other Emigrant Creek tributaries. On BLM lands within this allotment there are approximately 3.4 miles of perennial stream, 23 miles of intermittent channels, and 10 miles of dry draws. Most stream segments surveyed in this allotment are in Proper Functioning Condition (PFC) or functioning at risk with an upward trend and show few grazing impacts (BLM Stream Surveys 2007). Approximately 1.5 stream miles were functioning-at-risk downward trend or were non-functional. This same survey found approximately 1.5 miles of streams in Sampson Creek and Soda Creek averaging 32 percent actively eroding banks; however, these conditions were not directly attributable to livestock. Over the last 20 years, actual use in this allotment appeared to be well below permitted use levels with only four seasons in the last 20 years (1988, 1989, 2004, and 2006) showing actual use approaching the permitted use levels. This could explain improving conditions along many riparian areas. It is impossible to determine what the riparian conditions would be if this allotment had received the permitted grazing pressure but likely there would be more impacts to stream channels, seeps, and springs. Greater impacts would result in compaction, bank erosion, increased fine sediment, reduced riparian vegetation, decreased shade.

Standard 3 Ecological Processes

To meet this standard, 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.

This standard addresses the ecological processes of energy flow and nutrient cycling as influenced by existing plant and animal communities. While emphasis may be on native species, an ecological site may be capable of supporting a number of different native and introduced plant and animal populations and

communities while meeting this standard. This standard also addresses the hydrologic cycle which is essential for sustaining plant and animal communities and appropriate levels of energy flow and nutrient cycling.

The ability of plants to capture and convert sunlight to energy, for growth and development, plays a role in soil development and watershed function. Nutrients necessary for plant growth are made available to plants through the decomposition and metabolisation of organic matter by insects, bacteria and fungi, the weathering of rocks and extraction from the atmosphere. Nutrients are transported through the soil by plant uptake, leaching and by rodent, insect and microbial activity. They follow cyclical patterns as they are used and reused by living organisms.

The ability of rangelands to provide habitat for wildlife while satisfying social and economic needs depends on the buildup, storage and cycling of nutrients over time. Interrupting or reducing nutrient cycling can lead to site degradation as the land becomes increasingly deficient in the nutrients plants require.

Some plant communities, because of past and current livestock use, alteration of fire frequency and intensity, or other past or continued extreme disturbances, are incapable of meeting this standard. For example, shallow-rooted winter-annual grasses that completely dominate some sites do not fully occupy the potential rooting depth of some soils, thereby reducing nutrient cycling well below optimum levels. In addition, these plants have a relatively short growth period and thus capture less sunlight than more diverse plant communities. Plant communities like those cited in this example are considered to have crossed the threshold of natural recovery and often require great expense to be recovered. The cost of recovery must be weighed against the site's potential ecological/economic value in establishing treatment priorities.

There is a healthy mix of live and dead/decaying matter on the uplands of this allotment. The forested portion of this allotment supports a diverse mix of forest plant communities, where invasive plant species are generally confined to some road-sides or localized disturbed areas. The indicators assessed suggest energy, nutrient, and hydrologic cycles are balanced and utilization is low enough to not disrupt these cycles. The dry meadows and oak woodland plant communities support a diverse mix of plant species. However, invasive plant species are scattered in patches throughout the majority of the non-conifer areas, particularly annual grasses. In addition to reducing habitat quality for wildlife, annual grasses have shallower root systems and shorter life cycles than native perennial grasses, and thus have reduced capacity to hold the soil and retain water and nutrients. Annual grassland furthermore often accumulates a layer of thatch where decomposition and nutrient cycling are different than in native plant communities (Ehrenfeld 2003; D'Antonio and Vitousek 1992). Introduction and establishment of exotic annual grasses likely occurred prior to the last 2 decades as actual use reports (*figure 1, page 4*) and current livestock grazing are not intense enough to contribute to additional conversion of native plant communities to exotic annual grasses.

Standard 4 Water Quality

To meet this standard, surface water and groundwater quality, influenced by agency actions, complies with the State water quality standards.

The quality of the water yielded by a watershed is determined by the physical and chemical properties of the geology and soils unique to the watershed, the prevailing climate and weather patterns, current resource conditions, the range of uses applied to the land and the quality of the management of those uses. Standards 1, 2 and 3 contribute to attaining this standard.

States are legally required to establish water quality standards and Federal land management agencies are to comply with those standards. In mixed ownership watersheds, agencies, like any other land owner, have limited influence on the quality of the water yielded by the watershed. The actions authorized by the agency will contribute to meeting State water quality standards during the period that water crosses agency administered holdings.

The majority of the allotment (9,085 acres) is within the Emigrant Creek drainage (Upper and Lower Emigrant Creek Level 6 Subwatersheds) within the Bear Creek Level 5 Watershed and includes most of Sampson Creek, the headwaters of Soda Creek, Cattle Creek, Cove Creek, and other Emigrant Creek tributaries. A small portion (121 acres) drains into Keene Creek Level 6 Subwatershed within the Jenny Creek Level 5 Watershed.

The allotment falls within the state delineated source water areas for the Medford Water Commission and the cities of Gold Hill, Rogue River, and Grants Pass. The surface water source for these four public water systems is the Rogue River. The Bear Creek Watershed is included in the source water area. The allotment lands in the Bear Creek watershed are located approximately 30 miles upstream from the closest public water system intake.

Source water assessment is in progress for the Medford Water Commission and assessments have been completed by the DEQ and the Oregon Department of Human Services for the cities of Gold Hill, Rogue River, and Grants Pass. The completed assessments include an inventory of potential contaminant sources within the source water areas. Grazing animals (greater than five large animals or greater per acre) were identified as a potential contaminant source for the Gold Hill, Rogue River, and Grants Pass drinking water protection areas. The assessment recognized that concentrated livestock may contribute to erosion and sedimentation of surface water bodies. Grazing in the Bear Creek Watershed portion of the allotment consists of less than 150 cows across the 9,085 acres within the allotment.

The Oregon Department of Environmental Quality (DEQ) is required by the federal Clean Water Act (CWA) to maintain a list of stream segments that do not meet water quality standards for one or more beneficial uses. This list is called the 303(d) list because of the section of the CWA that makes the requirement. DEQs 2004/2006 303(d) list is the most recent listing of these streams (ODEQ 2006a). Within the Buck Point Allotment, there are no streams listed on DEQs 2004/2006 303 (d) list. However, most streams within the allotment are tributaries to Emigrant Creek, which is listed for summer stream temperature (stream miles 0 to 3.6 and 5.6 to 15.4) and for phosphorus (stream miles 0 to 3.6).

Although there was insufficient data to submit Sampson Creek for listing with DEQ, BLM temperature monitoring data from 1999 at the lower BLM line in Section 24 indicates that Sampson Creek exceeded the summer stream temperature criterion (64° Fahrenheit) by nearly seven degrees Fahrenheit.

Most stream segments on BLM lands in this allotment are in Proper Functioning Condition (PFC) or functioning at risk with an upward trend and show few grazing impacts (BLM Stream Surveys 2007). This same survey found approximately 1.5 miles of streams in Sampson Creek and Soda Creek with 30-80 percent actively eroding banks; however, these conditions were not directly attributable to livestock. In addition, the Upper Bear Creek Watershed Analysis (February 2000, p. 73 & p.80) refers to 1997 ODFW stream survey data indicating a high percentage of fine sediment and a high percentage of actively eroding stream banks. The ODFW 1997 stream survey covered approximately one mile of Sampson Creek below the confluence with East Fork Sampson Creek.

Over the last 20 years, actual use in this allotment appeared to be well below permitted use levels with only

four seasons in the last 20 years (1988, 1989, 2004, and 2006) showing actual use approaching the permitted use levels. This could explain improving conditions along many riparian areas.

Rangeland health assessments were completed at two ecological sites on the Buck Point Allotment: mixed fir forest and semi-wet meadow. All 17 indicators at each site were rated “None to Slight” departure from what would be expected for those sites.

Standard 5 Native, T&E, and Locally Important Species

To meet this standard, habitats support healthy, productive, and diverse populations and communities of native plants and animals (including special status species and species of local importance) appropriate to soil, climate, and landform.

Federal agencies are mandated to protect threatened and endangered species and will take appropriate action to avoid the listing of any species. This standard focuses on retaining and restoring native plant and animal (including fish) species, populations and communities (including threatened, endangered and other special status species and species of local importance). In meeting the standard, native plant communities and animal habitats would be spatially distributed across the landscape with a density and frequency of species suitable to ensure reproductive capability and sustainability. Plant populations and communities would exhibit a range of age classes necessary to sustain recruitment and mortality fluctuations. The plant communities on this allotment are floristically diverse, healthy, and support a wide variety of animal species consistent with the surrounding soil, landscape and climate.

Species are recognized as "special status" if they are federally listed as threatened or endangered, proposed as or are a candidate for federal listing as threatened or endangered, or if they are a BLM sensitive species. BLM policy is to manage for the conservation of these species and their habitat so as not to contribute to the need to list and to recover these species or its critical habitat.

Bureau Special Status wildlife:

Livestock grazing indirectly impacts wildlife by changing vegetation composition, structure, and function. Livestock use results in a reduction of forage available to native herbivores (e.g. deer and elk), as well as reductions in vegetative ground cover for ground nesting birds, burrowing rodents, and other wildlife species dependent on ground cover for protection, food, and breeding sites.

Table A. Special Status Species (Terrestrial Wildlife)

Species	Status
Great gray owl (<i>Strix nebulosa</i>)	S&M
Northern spotted owl (<i>Strix occidentalis</i>)	FT
Lewis’s woodpecker (<i>Melanerpes lewis</i>)	BS
Northwestern pond turtle (<i>Clemmys marmorata marmorata</i>)	BS

S&M - Northwest Forest Plan Survey and Manage

FT - Federal Threatened

BS - Bureau Sensitive

Livestock use levels on the allotment have been light the last several years. Due to that, adverse impacts to special status species associated with the grazing operation during that time have likely been minor. Northern spotted owls are not likely to be affected by the grazing operation because their preferred habitat is dense forest and grazing is light to non-existent in these areas. Lewis’s woodpeckers would not likely be affected because their primary food sources are insects, acorns and fruit.

The riparian areas are in good condition so impacts to pond turtles are minimal.

Big Game Winter Range Area:

Areas of the allotment in the lower elevations are within an area designated by the Medford RMP as Big Game Winter Range. This designation is meant to identify areas to promote forage, and hiding and thermal cover for deer and elk. (USDI BLM, 1994). Grazing has little influence on hiding and thermal cover conditions, but it can affect forage conditions for big game.

High quality forage is important to both deer and elk, especially on winter ranges. Utilization late into the grazing season (late October) can result in inadequate regrowth by grasses and forbs. This regrowth (fall green-up) is important to deer and elk in building fat reserves that help sustain them during the winter season. Since all of the cows (133) are removed from the allotment in mid June, and only 10 cows are put back on the allotment in October, the impact to regrowth is likely minimal.

Undoubtedly, though, grazing has influenced the introduction and encroachment of noxious grasses and forbs in the allotment. Compared to native species, these species are much less palatable and nutritious to wildlife.

Table B. Special Status Species (Aquatic Wildlife)

Species	Status
Keene Creek Pebblesnail (<i>Fluminicola</i> sp. 16)	Strategic

Special Status Species (Aquatic Wildlife):

Populations of the Keene Creek Pebblesnail occur in the headwaters of Sampson Creek, just upstream of the allotment boundary. The headwaters of the Emigrant Creek in the upper Bear Creek drainage, is a center of endemism, with such taxa as the Emigrant Creek Pebblesnail (*Fluminicola* n. sp. 17?), a narrow endemic species not currently on the 2007 Special Status Species list (Frest and Johannes 2005).

Emigrant Creek is considered critical habitat for Southern Oregon/Northern California (SONC) coho salmon (*Onchorhynchus kisutch*). Current conditions suggest this action is a No Effect for coho salmon or Coho Critical Habitat (CCH) because there are relatively few impacts from cows and they occur well upstream (4.0 miles) of CCH and upstream of Emigrant Reservoir.

Survey and Manage and Bureau Special Status fungi, lichens, and bryophytes:

There are no known occurrences of any special status fungi, lichens, and bryophytes.

Federally Listed, and Bureau Special Status Vascular Plants

The allotment is within the range of *Fritillaria gentneri*, a federally listed endangered vascular plant. It is estimated by aerial photo interpretation, that 70% of the allotment provides suitable habitat for *Fritillaria gentneri*. No occurrences of *Fritillaria gentneri* or any other federally listed plant species are known on federal lands within the allotment. The allotment is outside the range of federally listed plants (*Limnanthes floccosa*, *Arabis macdonaldiana*, and *Lomatium cookii*) defined by the U.S. Fish and Wildlife Service (USDI Fish and Wildlife Service, 2003).

Table C. Special Status Species (Vascular Plants)

Species	Status	Occurrences
<i>Ranunculus austro-oreganus</i>	BSO	7
<i>Cheilanthes intertexta</i>	BSO	2

BSO - Bureau Sensitive Oregon

Recent surveys for Special Status Plants found seven populations of *Ranunculus austro-oreganus*, the Southern Oregon buttercup, within the allotment. These populations occur in the more open habitats of the allotment which includes the oak woodlands, widely spaced chaparral, and sporadically, in the savannahs. *Ranunculus austro-oreganus* is found only in the valley bottoms and foothills of the Rogue River drainage in Jackson County. The typical habitat for this plant is Oregon white oak woodland.

There are 37 known sites of *Ranunculus austro-oreganus* on BLM managed land within the Medford District. Approximately 40% (15 sites) of these populations consist of 1000 individuals or more. Many of the known populations extend onto private lands. Although this species appears to be tolerant of moderate disturbance, suitable habitat is declining. Threats to this species include fire suppression, trampling by livestock, land conversion for human uses, displacement by noxious weeds and invasive introduced plants, and unmanaged off-highway vehicle use.

Cheilanthes intertexta is a fern found in California and Oregon. *Cheilanthes intertexta* grows in crevasses in cliffs and rocks. The two occurrences of this species are protected from grazing simply by the slope position and habitat. Based on existing information grazing is not having an impact on this listed species.

Noxious Weeds:

The degree that invasive plants occur on the allotment can be used as an indicator of ecosystem health. Invasive plants may or may not be noxious or nonnative and are generally classified as invaders or increasers. At least two noxious weed species; *Centaurea solstitialis* (yellow star thistle), and *Cirsium arvense* (Canada thistle) are known to occur within the allotment. The populations of yellow star thistle occur in section 24,25,26,27, and 35, with large populations (over 2,000 plants) in sections 27 and 35. The small population of Canada thistle occurs along a road in section 18. In the non-conifer habitats preferred by livestock, medusahead, annual oatgrass and other exotic annual grasses are present in most meadows, and dominant in some areas.

Disturbance from historic livestock grazing practices contributed to the invasion and conversion of native perennial grasslands throughout Southern Oregon and California in the past (D'Antonio and Vitousek, 1992). Exotic annual grass infestations are of concern because they alter the ecological functioning of native plant communities, reduce the value of wildlife habitat, and provide inferior forage for wildlife and livestock (D'Antonio and Vitousek, 1992).

Due to their invasive nature, noxious weeds present on the allotment continue to spread when left untreated. Field visits and compliance checks on the allotment coupled with BLM monitoring data in surrounding areas suggests exotic annual grasses are not spreading rapidly under current grazing regimes. However, areas of moderate to heavy livestock utilization, congregation areas (salt blocks, water sources, shade) and loading areas that experience soil and vegetation disturbance within the allotment are at risk for weed colonization. The small population of Canada thistle (approximately 30 plants) was treated in 2007 with Glyphosate. The primary method of weed treatment on this allotment is herbicide application. The release of bio-control agents may influence weed reductions across the larger landscape over time..

RANGELAND HEALTH FIELD ASSESMENTS

Rangeland Health is defined as the degree in which the integrity of the soil, vegetation, water, and air as well as the ecological processes of the rangeland ecosystem are balanced and sustained (USDA 1997). This qualitative assessment along with quantitative monitoring data is an attempt to look at how well ecological processes such as the water cycle (capture, storage, and safe release of precipitation), energy flow (conversion of sunlight to plant and then animal matter), and nutrient cycle (the cycle of nutrients through the physical and biotic components of the environment) are functioning. The product of this qualitative assessment is not a single rating of rangeland health, but an assessment of three interrelated attributes: Soil/site stability, Hydrologic function, and Biotic integrity. Attributes are rated in their currently state against what would be expected when compared to a “reference state” based on soils, climate and topography. The attributes are split into seventeen indicators that are rated as none to slight, slight to moderate, moderate, moderate to extreme, and extreme to total departures from the reference state. (see table D-G)

Rangeland health assessments were completed at two ecological sites on the Buck Point allotment; Mixed Fir Forest, and semi-wet meadow. These ecological sites were chosen by using GIS (Global Information Systems) mapping that defined vegetative communities and soils followed by field surveys to determine a representative location to complete the assessment. The assessments were completed with an IDT (Interdisciplinary team).

Location 1: Mixed Fir Forest Summary

The overall rating for this location is a None to Slight departure from what would be expected for this site. All seventeen indicators (100%) were rated None to Slight, zero indicators (0%) were rated Slight to Moderate, Moderate, Moderate to Extreme, and Extreme to Total.

Photo 1. Photo taken at the Mixed Fir ecological site.



Table D: RHA location 1 indicator summary

Location 1: Mixed fir forest					
Indicator	Degree of Departure from Ecological Site Description				
	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
1. Rills					✓
2. Water Flow Patterns					✓
3. Pedestals and/or Terracettes					✓
4. Bareground					✓
5. Gullies					✓
6. Windscooured Blowouts					✓
7. Litter movement					✓
8. Soil surface resistance to erosion					✓
9. Soil surface loss or degradation					✓
10. Plant community composition and distribution relative to infiltration					✓
11. Compaction Layer					✓
12. Functional/Structural groups					✓
13. Plant mortality/ decadence					✓
14. Litter amount					✓
15. Annual Production					✓
16. Invasive Plants					✓
17. Reproductive capability of Perennial plants					✓

Location 2: Semi-wet meadow Summary

The overall rating for this location is a None to Slight departure from what would be expected for this site. All seventeen indicators (100%) were rated None to Slight and zero indicators (0%) were rated Slight to Moderate, Moderate, Moderate to Extreme or Extreme to Total departures.

Photo 2. Photo taken at the Semi-wet meadow ecological site.



Table E: RHA location 2 Indicator summary

Table E: RHA location 2 Indicator summary

Location 2: Semi-wet meadow					
Indicator	Degree of Departure from Ecological Site Description				
	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
1. Rills					✓
2. Water Flow Patterns					✓
3. Pedestals and/or Terracettes					✓
4. Bareground					✓
5. Gullies					✓
6. Windscored Blowouts					✓
7. Litter movement					✓
8. Soil surface resistance to erosion					✓
9. Soil surface loss or degradation					✓
10. Plant community composition and distribution relative to infiltration					✓
11. Compaction Layer					✓
12. Functional/Structural groups					✓
13. Plant mortality/decadence					✓
14. Litter amount					✓
15. Annual Production					✓
16. Invasive Plants					✓
17. Reproductive capability of Perennial plants					✓

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