

**WILDLIFE SPECIALIST REPORT**

**For the  
Jump Creek, Succor Creek, and Cow Creek Watersheds  
Grazing Permit Renewal Environmental Impact Statement  
EIS# DOI-BLM-ID-B030-2012-0014-EIS**

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## **WILDLIFE HABITAT**

The dominant upland wildlife habitats in these allotments include sagebrush steppe, native grasslands, annual grasslands, juniper woodlands, mountain shrublands, and sparsely vegetated rocky outcrops and canyons (Map WDLF-1 and 2). Juniper encroachment is occurring within mid-elevation sagebrush-steppe communities in allotments to the south. Riparian/wetland wildlife habitats include wet meadow complexes and woody/herbaceous riparian areas along perennial and intermittent streams and around springs, seeps, and reservoirs. Annual grasslands dominated by exotic species such as cheatgrass and medusahead are prevalent at low to mid-elevations. See Sections 3.3 (Upland Vegetation/Noxious Weeds), Section 3.4 (Upland Soils), and Section 3.5 (Water Resources and Riparian/Wetland Areas) in the DEIS for additional ecological information regarding upland and riparian communities, soils, geology and topography.

Changes in vegetation communities occurring over the past 150 years have resulted in modified wildlife habitats within these allotments. The introduction of Eurasian annual grasses (cheatgrass and medusahead) into the western United States in the later part of the 1800s has greatly modified wildlife habitats, and these invasive species continue to expand to this day. This has resulted in a significant increase in fire fuels and frequency of wildfires resulting in reductions of sagebrush cover on the landscape on the lower-elevation, drier habitats (Miller, et al., 2011). At higher elevations, western juniper has increasingly encroached into sagebrush communities following post-European settlement. This increase coincided with the introduction of large numbers of livestock in the 1800s (Miller & Rose, 1999), (Heyerdahl, Miller, & Parsons, 2006). Juniper woodlands encroach into sagebrush communities when the interval between fires becomes long enough for juniper to become established and mature. The probability of western juniper being killed by fire decreases with age of trees (Burkhardt & Tisdale, 1976), (Bunting, Kilgore, & Bushey, 1987), (Miller & Rose, 1999).

## **WILDLIFE SPECIES**

Many wildlife species utilize a variety of habitats in the Chipmunk Group allotments. These habitats provide forage, nesting substrate, and cover for a variety of bird, mammal, amphibian, reptile, and fish species common to southwestern Idaho and the Northern Great Basin region. Although all of the species are important members of native communities and ecosystems, most are common and have wide distributions within the allotments, state, and region. Consequently, the relationship of most of these species to the permit renewal is not discussed here in the same depth as species upon which the BLM places management emphasis.

The BLM, U. S. Fish and Wildlife Service (USFWS), and Idaho Department of Fish and Game (IDFG) maintain an active interest in other special status species that have no legal protection under the ESA. BLM special status species are: 1) species listed or proposed for listing under the ESA, and 2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA (USDI BLM, 2008), which are designated as sensitive by the BLM State Director(s). Special status wildlife species discussed in this document include those listed on the Idaho BLM State Sensitive Species List (USDI BLM, 2003) and those afforded protection under the Bald and Golden Eagle Protection Act (BGEPA) (USDI USFWS, 1940) and the Migratory Bird Treaty Act (MBTA) (USDI USFWS, 1918) with potential to occur within the Chipmunk Group allotments and whose habitat may be affected by grazing activities.

One bird and one amphibian species are listed as candidates under the ESA. Eight mammals, 11 birds, four reptiles, one amphibian, and one fish with special status potentially occur within these allotments and may be affected by grazing activities. Common and scientific names of special status wildlife species, their status, and occurrence potential within each Chipmunk Group allotments are summarized in the Appendix, Table 1.

With the exception of a few well-studied species, current occurrence and population data for most special status animal species within the Chipmunk Group allotments are limited due to a deficiency of surveys and directed research. Therefore, only a few focal special status animal species will be discussed in detail individually. These species include the greater sage-grouse, Columbia spotted frog, Columbia River redband trout and California bighorn sheep. Other special status animal species, migratory birds, raptors, and species of socio-economic importance (e.g., big game) will be included in a general discussion by taxonomic grouping.

## **THREATENED AND ENDANGERED SPECIES**

There are no federally listed threatened or endangered species (Endangered Species Act of 1973, as amended), nor is there any designated critical habitat listed within or reasonably near the Chipmunk Group allotments. Thus, no further discussion regarding threatened and endangered species will be carried forward in this document. No formal/informal consultation with the U.S. Fish and Wildlife Service will be required.

Two candidate species are known to occur or have the potential to occur within these allotments: the greater Sage-grouse (*Centrocercus urophasianus*) and the Columbia spotted frog (*Rana luteiventris*).

## **FOCAL SPECIES**

### **Greater Sage-grouse**

On March 5, 2010, the USFWS (2010) published a finding in the Federal Register which announced that listing the greater sage-grouse was warranted but precluded by the need to take action on other species facing more immediate and severe extinction threats. The finding has changed the status of sage-grouse from a BLM Type 2 sensitive species to a candidate species under the ESA.

The greater sage-grouse is a sagebrush-obligate species that requires large areas of relatively undisturbed sagebrush steppe habitat. Sage-grouse were once abundant and concomitant with sagebrush steppe ecosystems across western North America (Schroeder, Young, & Braun, 1999). Currently, their distribution has been reduced to nearly half of what it was historically (Schroeder, et al., 2004). Despite long-term population declines, sage-grouse persist across more than 250,000 square miles of the sagebrush ecosystem in the western United States (Schroeder, et al., 2004). Within this requisite sagebrush landscape, important seasonal habitats (e.g., wet meadows, higher elevation mesic shrublands) are also necessary (Connelly, Schroeder, Sands, & Braun, 2000).

Sage-grouse traditionally congregate on communal strutting grounds (i.e., leks) from April to early May. The nesting season occurs soon after, extending from May to early June. Broods remain with females for several more months, and as seasonal changes occur, they move from early brood-rearing areas (i.e., forb- and insect-rich upland areas surrounding nest sites) to late brood-rearing and summer habitats (i.e., wet meadows and riparian areas) from June to August. Based on locations acquired through lek surveys, telemetry studies, and incidental observations, sage-grouse seasonal ranges associated breeding (i.e., lekking, nesting and early brood-rearing), late brood-rearing/summer, and winter habitats occur within the Chipmunk Group allotments to varying degrees.

Because sage-grouse are a broadly distributed species, dependent on a diversity of heterogeneous seasonal habitats, and some populations are wide-ranging, they are expected to be vulnerable to changes to the sagebrush ecosystem. Due to these factors, the focal species concept (Mills, 2007) is applicable because sage-grouse can serve as an umbrella species for broader conservation of the sagebrush habitats across the West (Hanser & Knick, 2011). It is expected that this concept will benefit other sagebrush-dependent

species such as pygmy rabbit, sage sparrows, and sage thrashers, as well as generalist species such as mule deer and pronghorn antelope.

The Chipmunk Group allotments are located in the Western Association of Fish and Wildlife Management Agencies (WAFWA) Snake River Plain Management Zone (MZ; (Stiver, et al., 2006)). The Northern Great Basin population within the Snake River Plain MZ (Garton, et al., 2011) is a large population in Nevada, southeast Oregon, southwest Idaho, and northwest Utah (Map CMLV-2). Of the three subpopulations identified by Connelly et al. (2004) within the Northern Great Basin population, the north-central Nevada/southeast Oregon/southwest Idaho (hereafter Owyhee) subpopulation overlaps the Chipmunk Group allotments.

Habitat conditions have deteriorated or been altered to some degree throughout the entire distribution of sage-grouse by a combination of man-made and natural forces (e.g., livestock management, wildfire, fire suppression, and natural progression) on the plant community over time. This has resulted in the loss of native bunchgrasses and the increased dominance of short-statured species such as Sandberg bluegrass and exotic species such as cheatgrass and medusahead. These forces have further contributed to a shortened fire interval that removes sagebrush, impedes its regeneration, and promotes invasive species, as well as facilitates the encroachment of juniper in sagebrush habitat. This has caused local extirpations or declines in sage-grouse populations throughout their historical range and in the Chipmunk Group allotments and surrounding area. An Idaho population analysis conducted by Connelly et al. (2004) suggests a long-term decline for sage-grouse within the state. More recently, Garton et al. (2011) conducted a population analysis of the Northern Great Basin population based on data from 1965 to 2007. During the assessment period, the proportion of active leks decreased and average number of males per active lek declined by 17 percent (Garton, et al., 2011).

Recently, Idaho BLM initiated a modeling effort to identify sage-grouse preliminary priority habitat (PPH) and general priority habitat (PGH) within the Snake River Plain MZ (Makela & Major, 2012). Preliminary priority habitat includes breeding, late brood-rearing and winter concentration areas. General priority habitat are lands that may serve as important corridors between PPH and habitat islands within corridors, or occupied habitats characterized by low lek densities (Makela & Major, 2012). The BLM collaborated with respective state wildlife agencies to identify these areas. Modeling results indicate that the Chipmunk Group allotments encompass large and contiguous areas of PPH (Table WDLF-1).

**Table WDLF-1:** Acres<sup>1</sup> and Portions of Preliminary Priority and General Priority Habitat within each allotment (Map WDLF-3)

Allotment Name	Acres of PPH Sagebrush Habitat in Allotment <sup>2</sup>	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Alkali-Wildcat	4,247	0	0	1,413	91%
Baxter Basin	1,422	0	0	0	100%
Blackstock Springs	14,781	2,556	0	0	100%
Burgess	1,161	0	0	0	89%
Burgess FFR	723	0	0	0	100%
Chimney Pot FFR	1,266	0	15	0	100%
Chipmunk Field	12,835	0	136	0	100%
Corral Creek FFR	193	79	0	0	100%
Cow Creek	7,255	57	395	186	99%

Allotment Name	Acres of PPH Sagebrush Habitat in Allotment <sup>2</sup>	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Elephant Butte	112	0	0	1,935	22%
Ferris FFR	2,914	0	229	0	100%
Franconi	1,457	602	0	0	100%
Jackson Creek	5,590	15	4,240	913	100%
Joint	3,443	774	0	0	100%
Lowry FFR	266	0	0	0	100%
Madriaga	3,943	0	0	0	96%
Poison Creek	3	0	0	3,372	64%
R Collins FFR	244	0	191	0	100%
Rats Nest	1,899	0	0	1,385	59%
Sands Basin	5,480	0	0	8,043	100%
Soda Creek	1,709	4,068	2,159	861	100%
Stanford FFR	1,892	0	0	0	100%
Texas Basin FFR	1,366	631	0	0	100%
Trout Creek	1,793	1	1,626	25	100%
Trout Creek/Lequerica	1,009	0	135	0	100%
<b>TOTAL ACRES</b>	<b>77,003</b>	<b>8,783</b>	<b>9,126</b>	<b>18,133</b>	<b>113,045</b>

<sup>1</sup>PPH/PGH habitat acreage totals include public lands, state lands, and private property.

<sup>2</sup>PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

### Columbia Redband Trout

Redband trout of the Columbia River Basin are a BLM Type 2 sensitive species. BLM manages the habitats that support the species to prevent future ESA listing as threatened or endangered.

Columbia River Basin redband trout is sub-species of rainbow trout and is the resident life form of steelhead trout. They are found in a wide range of stream habitats from desert areas in southwest Idaho to forested mountain streams in central Idaho. Spawning occurs in the spring from February to June, depending on temperature and location (IDFG, 2005). They eat mainly streamside and benthic (bottom-dwelling) macroinvertebrates (USDI USFWS, 2013).

Similar to other species of trout, redband trout abundance is strongly correlated with riparian cover components, including undercut banks, large woody debris, and overhanging vegetation. Productive redband trout habitat is associated with higher gradient channels, often in riffles or with substrates dominated by boulders, cobbles, and pocket water. Redband trout also occupy pools in lower gradient streams that provide important holding and rearing habitat, resting places, over-wintering areas, and refuges from floods, drought, and extreme temperatures. Spawning habitat includes loose gravelly substrates to provide for oxygenation of eggs and embryos in redds in streams (USDI USFWS, 2013).

Redband trout have been documented in various rivers and streams in and around the Chipmunk Group allotments (Map WDLF-4). In the Owyhee Uplands, redband trout prefer cool streams with temperatures below 70° F (21° C). However, they can survive daily cyclic temperatures up to 80° F (27° C) for a short period of time (IDFG, 2006). Habitat loss and fragmentation are the major threats to population viability. Functional stream habitat conditions include a vigorous and diverse riparian habitat that includes

overhanging vegetation with deep root systems that secures banks and filters sedimentation and provides woody debris for stream structure and controls flow.

Under the focal species concept, assessing grazing impacts to Columbia River redband streams and near-stream habitat conditions will benefit a variety of aquatic and riparian-dependent species. Conclusions on whether stream or near-stream habitat conditions are providing for sustainable populations of Columbia River redband trout are dependent upon proper functioning condition assessment findings provided in Standards 2, 3, and 7.

### Columbia Spotted Frog

The Great Basin DPS of the Columbia spotted frog occurs in eastern Oregon, southwestern Idaho, and northern Nevada. The species is highly aquatic and is seldom found far from water. They are most often found in herbaceous wetland plant communities comprised of sedges, rushes and grasses, and use thick floating algae and riparian vegetation for cover (Tait & Vetter, 2008). Frogs require well-oxygenated water for hibernation, and springs or saturated burrows are used as over-wintering sites. For Great Basin populations, breeding occurs in March and April in lower elevations and from April through mid-May at higher elevations. Columbia spotted frogs lay their eggs in the shallows of permanent water associated with pond edges, stream margins, and inundated floodplain areas. The eggs are deposited in spherical clusters of up to 1,300 eggs that are allowed to float freely. In very shallow waters, the egg clusters protrude above the water, which can result in egg mortality due to freezing and desiccation (Tait & Vetter, 2008).

Spotted frog population declines are attributed to habitat loss through conversion of wetlands to irrigated pastures, de-watering of rivers for irrigation uses, drying of ponds due to drought or overuse, and reduction of riparian habitat quality due to overgrazing (IDFG, 2009). Improper grazing of the wetlands results in severely hummocked surface soils, broken-up the dense sod, which exposes mineral soil and leads to erosion potential and weed invasion. These disturbances lead to soil compaction, streambank sloughing, damage to vegetation, and premature drying of the soil surface (Engle & Munger, 2003).

Known locations and potential habitat of Columbia spotted frogs occur within the Chipmunk Group allotments (Map WDLF-4). Implementation of the focal species concept by assessing grazing impacts to riparian/wetland habitat associated with seeps, springs, and streams will benefit a variety of aquatic and riparian-dependent species. Conclusions on whether riparian habitat conditions or water quality parameters along streams, wetlands, and springs are providing for sustainable Columbia spotted frog populations will be dependent upon proper functioning condition assessments provided in Standard 2, 3, and 7.

### California Bighorn Sheep

California bighorn sheep are an Idaho BLM sensitive species. As a BLM sensitive species, California bighorn sheep and their habitats are managed to promote their conservation and reduce the likelihood and need for the species to be listed pursuant to the ESA. Bighorn sheep are managed as big game species in both Idaho and Oregon, and controlled hunting opportunities are provided in each state. In managing bighorn sheep habitat in Idaho, BLM works closely with the IDFG.

California bighorn sheep are a subspecies of bighorn sheep native to North America. They are usually smaller than their cousins the Rocky Mountain bighorn sheep, with a less-bulky build and smaller horns. Prior to western expansion, California bighorn sheep occupied all of the dry mountain ranges west of the Rocky Mountains and east of the Cascade and Sierra ranges, and from British Columbia to California. California bighorn sheep (hereafter referred to as bighorn sheep) are generally found in arid mountain ranges below 8,000 feet (ODFW, 2003). Distribution of bighorn sheep within the study area of southwest

Idaho and southeast Oregon can be reviewed on Map WDLF-5. In Idaho, bighorn sheep ranges are identified as population management units (PMUs) and in Oregon as herd management areas.

Historically, bighorn sheep ranged widely in Idaho and are believed to have been a common game animal in the state until the late 1800s (IDFG, 2010a). Beginning in the 1870s, bighorn sheep experienced severe declines that led to extirpation of the species in Oregon in 1915 (ODFW, 2003) and the Owyhee River area of Idaho by 1940 (IDFG, 2010a). Extirpation coincided with western expansion and growth by settlers, and the unregulated hunting and domestic livestock grazing that accompanied it. Grazing domestic sheep not only compete with wild bighorn sheep for forage but also have the potential to transmit disease.

To restore populations, bighorn sheep from British Columbia were transplanted in the East Owyhee River drainage in 1963 (IDFG, 2010a), and from 1954 through 1985, were also transplanted across Oregon, including the Leslie Gulch area (ODFW, 2003). Both areas continue to support populations, and the East Owyhee River population has been used to contribute to other transplanting efforts. Management objectives in both states are to maintain and improve bighorn sheep populations and distribution. Eight core habitat home ranges (CHHR) have been identified within the vicinity of the Chipmunk Group allotments. Map WDLF-5 provides the location of the CHHRs and Table WDLF-2 provides current populations and sex ratios obtained from IDFG and ODFW during coordination meetings.

**Table WDLF-2:** Populations and ram: ewe ratios of bighorn sheep within core habitat home ranges.

<b>Core Habitat Home Range<sup>1</sup></b>	<b>Population</b>	<b>Ram:Ewe Ratio</b>
Reynolds Creek	25	46:100
Federal Butte	5	10:0
Castle Creek/Jack's Creek	300	46:100
Owyhee River	350	50:100
Leslie Gulch	298	68:100
Juniper Ridge	12	23:100
Round Mountain	15	46:100
Three Forks	32	23:100

<sup>1</sup>Names of Core Habitat Herd Areas are unique names created by the BLM specifically for the analysis of this EIS and may not be consistent with Population Management Areas (PMUs) and Herd Management Areas used by IDFG and ODFW.

In general, bighorn sheep prefer rugged, open habitats with high visibility of their surroundings. Survival is positively correlated with amount of cliffrock, rimrock, and rocky outcroppings present on the landscape. Rocky outcrops are particularly important for lambing and escape from predators. Breeding occurs in October and November and lambing occurs in April and May. Large, dense stands of juniper can reduce visibility and increase predator effectiveness and generally have a negative effect to bighorn sheep (ODFW, 2003) movement. Rams commonly congregate in male groups away from ewe and lamb herds in the summer. In the late fall and during the time of rut, rams will disperse to areas occupied by ewes to breed.

Bighorn sheep in the Owyhee Mountain Region are non-migratory (ODFW, 2003); however, individuals are known to irregularly foray (sporadically range or explore) outside identified CHHRs. Larger groups may immigrate to other herd areas following large landscape events such as wildfire. Telemetry data obtained by the Hells Canyon Bighorn Sheep Restoration Committee (unpublished data) used for the Payette National Forest Record of Decision (USDA USFS, 2010) showed that one Rocky Mountain

bighorn sheep ram in the Hells Canyon/Salmon River country forayed up to 35 kilometers (about 22 miles); however, their data indicated that the vast majority of forays ended at 26 kilometers (about 16 miles). Information from Idaho reported that some Oregon bighorns moved approximately 56 to 80 kilometers (about 35 to 50 miles) from Oregon and into Idaho (into the Owyhee Mountains) following the transplanting of individuals and major wildfire. Big-game biologists believe that this is how bighorns established the Owyhee Front population in Idaho, and they suspect individual bighorns originated from the Leslie Gulch herd in Oregon in the 1980s (Jake Powell, personal communication 2012).

Current bighorn sheep populations in both Idaho and Oregon are below IDFG and ODFW management objectives. Present-day stressors on bighorn sheep individuals and populations include habitat degradation, recreation, predation, competition with livestock and wild horses, and disease (IDFG, 2010a). Disease transmitted from domestic sheep is identified as a primary threat and is recognized by IDFG as a key factor in the recovery of bighorn sheep populations in Idaho (IDFG, 2010a).

Free-ranging bighorn sheep are susceptible to many diseases. The most important of these is bronchopneumonia, which is usually associated with bacteria *Mycoplasma ovipneumonia*, *Pasteurella multocida*, *Mannheimia haemolytica* (formerly in the genera *Pasteurella*) and *Bibersteinia trehalosi* (*Pasteurella* genera). Pneumonia caused by these bacteria is attributed to die-offs that can kill some, many, or all adult bighorn sheep in a herd. Outbreaks of pneumonia are often followed by subsequent years or decades of sporadic cases of pneumonia in adult sheep and annual epizootics of pneumonia in lambs (Besser, et al., 2012). This results in reduced lamb recruitment and continued low populations of bighorn sheep, further impairing population recovery and stability. Bighorn sheep lambs are born healthy, then subsequently sicken and die after several weeks, presumably after loss of protection via passive immunity from the mother's colostrum. Once *M. ovipneumonia*, *Pasteurella* spp. and *Mannheimia* spp., have been introduced into bighorn sheep populations, it is speculated that the disease can become endemic and continue to cycle for decades (Besser, et al., 2012).

The prevailing theory for the susceptibility of bighorn sheep to the above pathogens is attributed to the concept that New World sheep (bighorns) did not co-evolve with the same pathogens as domestic sheep and have not developed an effective immunity against the bacteria. Old World sheep (domestics), through centuries of husbandry and natural selection, have developed a resistance against them but carry the bacteria within their blood. Both species are gregarious by nature and have a natural attraction for each other. Subsequently, when the two species come into contact and the pathogens are transmitted, the bighorns have little defense.

In 2012, two bighorn sheep adult rams were recaptured in the Reynolds Creek herd in Idaho to replace radio collars. The individuals were tested for bacteria and found positive for *Mycoplasma ovipneumonia*, *Pasteurella multocida* and *Mannheimia haemolytica*. Another hunter harvested adult ram was sampled in the Jack's Creek herd the same year and tested positive for elevated levels of *Mannheimia haemolytica*. However, the final diagnosis from the laboratory reports stated that the individuals tested were healthy animals (IDFG, 2012), although the elevated levels of *Mannheimia haemolytica* in the Jack's Creek animal is a concern. Lamb recruitment in these herds appears to be favorable, based on the 2010 Idaho Bighorn Sheep Plan. In Oregon, although no bacteria samples were collected, bighorn sheep numbers in the Upper Owyhee River prior to 2007 numbered 200 individuals and have declined to an estimated 45 individuals (includes both the Round Mountain and Three Forks CHHRs) currently. There is no information on lamb recruitment at this time, but the population of the herd is currently depressed and not rebounding from the 2008 decline.

In Oregon, a similar situation occurs. Twenty yearling females were captured from the Leslie Gulch herd in late November 2012 and were tested for pneumonic bacteria. The lab reports documented that all the individuals tested positive for *Mannheimia haemolytica* and/or *Bibersteinia trehalosi* and all were

negative of *Mycoplasma ovipneumonia*. The final diagnosis was that all the individuals were healthy (ODFW, 2013). However, bighorn sheep numbers in the Upper Owyhee River prior to 2007 numbered 200 individuals and have declined to an estimated 45 individuals (includes both the Round Mountain and Three Forks CHHRs) currently. There is no information on lamb recruitment at this time, but the population of the herd is currently depressed and not rebounding from the 2008 decline. No bacteria samples were collected to determine what might be the cause of the decline<sup>1</sup>.

Healthy infected bighorn sheep carrying pneumonia bacteria without showing clinical signs or becoming fatally sick does occur. However, conclusive understanding of how pneumonia bacteria is introduced, persists, and fades in a population is still under much investigation. Cassirer et al. (2013) discussed that bighorn sheep exposed to pneumonia bacteria initially incurred large (Miller, et al., 2012) (Subramaniam, et al., 2011) die offs in naïve (non-infected) populations, subsequently followed by years of low lamb recruitment infected by pathogen-carrying ewes, and sporadic small/large mortalities of infected adults over a period of years. A combination of factors including exposure to hosts (domestic sheep or infected bighorn sheep), the type/strain of bacteria, virulence of the pathogen, and seasonal behavioral movements and exposure to environmental stressors that can compromise the immune system (Cassirer, et al., 2013), (Wehausen, Kelly, & Ramey, II, 2011), (Dassanayake, et al., 2009), (Besser, et al., 2008), (Cassirer & Sinclair, 2007), all play a role in how an infection of pneumonia bacteria can be transmitted, persist, and fade within a population. A healthy bighorn sheep individual may be able to control a less-virulent species of bacteria over a greater period of time but could be re-infected with a more virulent strain of bacteria and could perish within days; thus, even though healthy infected populations of bighorn sheep can exist, separation of domestic sheep and bighorn sheep still needs to occur (Cassirer, et al., 2013) (Besser, et al., 2012) (Wehausen, Kelly, & Ramey, II, 2011) (Subramaniam, et al., 2011) (Dassanayake, et al., 2009). Environmental stressors, such as added infections like lungworm or mites, as well as nutritional deficiencies, poor forage quality and quantity, harassment, and density-dependent factors resulting from overcrowding may compromise the health of an individual and contribute to their vulnerability of succumbing to a pneumonia outbreak (Miller, et al., 2012), (Malmberg, Nordeen, & Butterfield, 2008).

Studies conducted by Dixon et al. (2002) have demonstrated in a controlled environment, and by Besser (2013) in pen trials, that there is also the potential for selected strains of *Pasteurella* spp. to be transmitted aurally. This suggests that physical contact between the two species does not necessarily need to occur to transmit bacteria associated with pneumonia. Research on this subject is ongoing, with the goal of further isolating and understanding the bacterial agents and mechanisms associated with disease transmission and pneumonia outbreaks.

Miller et al. (2012) discussed the management challenges and uncertainties of respiratory disease die-offs in bighorn sheep populations. In his review, he discusses multiple environmental, host, and agent factors that have been hypothesized as limiting to bighorn sheep populations and/or contributing to disease outbreaks. They further identify limitations of the current knowledge base and recommend research needs to progress understanding the relationships of disease and environmental, host, and agent factors. In particular, there has not been documented a “clear, invariant relationship shown between a single agent and field outbreaks. However, more recent diagnostic research findings by Besser et al. (2013), (2012), (2012) have shown that *Mycoplasma ovipneumonia* is a primary agent in pneumonic bighorn sheep die-offs and acts to induce secondary infection with other opportunistic pathogens such as *Pasteurella multocida*, *Mannheimia haemolytica* and *Bibersteinia trehalosi*. Each of the latter three pathogens can also result in the mortality of BHS by themselves. These findings are consistent with the association of

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<sup>1</sup> Discussed during interagency meeting with ODFW and Vale District to discuss bighorn sheep; meeting held at the Vale District in Vale, Ore., on 9-26-12

disease outbreaks and contact with domestic sheep, although further research into the prevalence, infectivity, and virulence of *Mycoplasma ovipneumonia* will need to continue (Besser, et al., 2012).

The transmission of disease from domestic sheep to bighorn sheep is a complex and controversial issue. Although there is circumstantial evidence linking bighorn sheep die-offs in the wild to contact with domestic sheep, and controlled experiments where healthy bighorn sheep exposed to domestic sheep displayed subsequently high mortality (Besser, et al., 2012), (Besser, et al., 2008), (George, Martin, Lukacs, & Miller, 2008), (Wehausen, Kelly, & Ramey, II, 2011), (Lawrence, et al., 2010), opponents to this evidence have argued that transmission of disease from domestic sheep to bighorn sheep has not indisputably been proven in the wild, that the disease risk is exaggerated, and that grazing restrictions should be eased. These discussions are driven mostly by the economic consequences of restricting domestic grazing that have polarized the debate (O'Laughlin & Cook, 2010). However, a majority of the current research findings strongly suggest that the co-mingling and contact of domestic sheep and bighorn sheep is largely acknowledged to be the causal factor for the transmission of these bacteria, and that separation of the two species is the only effective tool to prevent disease transmission (WAFWA, 2012).

Throughout the analysis of this EIS, the assumption will be carried forward that the co-mingling of domestic sheep and bighorn sheep creates a risk to the viability and sustainability of bighorn sheep populations. This assumption is based on:

- The BLM's responsibility to provide habitats on public land that support viable populations of bighorn sheep;
- The extent of peer-reviewed and published science that in controlled settings has demonstrated that the transmission of disease from domestic sheep to bighorn sheep can occur (Besser, et al., 2012) (Besser, et al., 2012), (Wehausen, Kelly, & Ramey, II, 2011), (Lawrence, et al., 2010), (Dassanayake, et al., 2009), (Foreyt, Snipes, & Kasten, 1994), (Onerka & Wishart, 1988);
- The results of comparative field investigations that have shown the presence and absence of pneumonic agents in infected vs. non-infected bighorn sheep herds (Besser, et al., 2012), (Besser, et al., 2008), (George, Martin, Lukacs, & Miller, 2008); (Cassirer & Sinclair, 2007); and
- The absence of evidence falsifying the hypothesis of disease transmission from domestic sheep to bighorn sheep and the magnitude of any interaction.

Fundamental to the analysis will be to use a Bighorn Sheep Risk of Contact Tool (RCT) (USDA USFS, 2013a) to quantify the probability of a bighorn sheep intersecting an allotment used for grazing and/or trailing of domestic sheep. The version used in this EIS has been adapted for California bighorn sheep in the basin/range topography characteristic of southwest Idaho and southeast Oregon. The model does not consider the attraction between domestic sheep and bighorn sheep, travel distances of stray domestic sheep and potential contact with bighorn sheep, transmission of disease after contact, or the overlap of bighorn sheep forays from multiple CHHRs.

Modeling criteria for summer source habitat for the Owyhee region was similar to that used by the Payette National Forest, with one deviation: the de-emphasis of the factor of slope, which was still considered in the ruggedness component. Differences in terrain between the dense sheer cliff faces of the Hell's Canyon area, as explained in the RCT report (USDA USFS, 2013b), and the dispersed rim rock faces of the Owyhee area were the basis for the de-emphasizing of a slope factor. Upon comparison with telemetry and other animal observation data, modeling a modified slope produced habitat areas that more closely matched the topography in the Owyhee region with bighorn sheep occupation. Connectivity habitat was modeled using the RCT process described in the technical report with no deviations (USDA USFS, 2013b). All modeling and comparison to animal observation data for the Owyhee area was conducted at the Idaho State Office of the Bureau of Land Management. The BLM coordinated with

IDFG and ODFW biologists to obtain herd information (i.e., populations and sex ratios) (Table WDFL-2) and confirm core habitat home ranges (CHHRs) (Map WDLF-5).

Both Idaho and Oregon have management objectives to maintain and increase the populations of bighorn sheep within their states. Both states are aware of domestic sheep grazing/trailing and have management objectives to reduce or eliminate the potential for contact between the two species. Both states have removal objectives (through the culling of potentially exposed individuals) if bighorn sheep and domestic sheep are known to be in close proximity. Oregon has an objective to remove any wild sheep east of the Lower Owyhee River herd area, and Idaho has taken steps through a Separation Agreement with the Poison Creek Grazing Association that provides BMPs and contact information (Appendix H) if bighorn sheep are observed during an operator's activities. The BLM Owyhee Field Office, as a signator, also has a Separation Agreement with the permittee (very similar to IDFG's agreement) that requires the permittee to notify the BLM so that IDFG can be contacted. Implementation and effectiveness of the BMPs in the current BLM Separation Agreement are questionable and are being elevated to Boise District terms and conditions to emphasize their importance. To date, no bighorn sheep have been removed from either Idaho or Oregon near the Poison Creek allotment or along the domestic sheep trailing route, although bighorn sheep have been documented within the general vicinity (Table WDFL-4) and well within foray distance of 35 kilometers (about 22 miles) used by the RCT model (USDA USFS, 2013a).

### **MIGRATORY BIRDS, RAPTORS, AND OTHER BIRDS (INCLUDING SPECIAL STATUS SPECIES)**

A variety of special status bird species occur or are likely to occur within the Chipmunk Group allotments (Appendix Table 1). The majority of these species are associated with shrub steppe, grassland or riparian habitats. Brewer's sparrow, sage sparrow, and sage thrasher are heavily reliant on sagebrush steppe for nesting and foraging. Loggerhead shrike, black-throated sparrow, and green-tailed towhee are less reliant on sagebrush but are dependent on shrubland habitat. Grassland species include long-billed curlew and grasshopper sparrow. Brewer's blackbird, calliope hummingbird, and willow flycatcher typically are associated with riparian areas, and black tern, white-faced ibis, and Wilson's phalarope are associated with ponds and wetlands. Cassin's finch, Lewis' woodpecker, and red-naped sapsucker prefer forest habitat. As per the Migratory Bird Treaty Act (MBTA) and under a signed Memorandum of Understanding with the USFWS, the BLM has a responsibility to "as practical, protect, restore, and conserve habitat of migratory birds, addressing the responsibilities in Executive Order 13186" (USDI, 2010).

The North American Bird Conservation Initiative (NABCI) is a comprehensive instrument by which government agencies, such as the BLM, and private partners can promote and achieve integrated continental bird conservation as specified by Executive Order 13186 and the BLM-USFWS MOU. One product of the NABCI is the designation of Bird Conservation Regions (BCR) across North America. BCRs are ecologically distinct regions with similar avian communities, habitats, and management concerns developed as the primary unit within which issues are resolved, sustainable habitats are designed, and priority projects are initiated (NABCI-US, 2012). On a regional scale, the Chipmunk Group allotments fall within the Great Basin BCR and the more localized Owyhee Bird Habitat Conservation Area (BHCA). The Owyhee BHCA has been identified by the Intermountain West Joint Venture as an area of statewide importance for priority bird species where the opportunity for effective conservation activities exists. Within the Great Basin BCR and the Owyhee BHCA, partner agencies and organizations have compiled a list of continentally important bird species, based on a variety of bird initiatives and plans. Among birds, grassland and shrubland species are declining faster than any other group of species in North America (Dobkin & Sauder, 2004).

Riparian habitats support the most diverse migratory bird communities in the arid and semiarid portions of the Intermountain West (Knopf, Johnson, Rich, & Samson, 1988) (Dobkin, 1994) (Dobkin, 1998). In addition, healthy riparian areas sustain high densities of breeding migratory birds (Mosconi & Hutto, 1982). In Idaho, 60 percent of migratory land birds are associated with riparian habitats (IDFG, 1992), and one of the main reasons for the decline of migratory land birds is the loss of riparian habitat (DeSante & George, 1994).

An assortment of raptor species occur or potentially occur within the Chipmunk Group allotments. The juniper woodlands, rock outcrops, and shrub steppe located within the Chipmunk Group allotments provide nesting and foraging substrate for many of these species. Generally, raptors return to areas in which they have nested in the past, often using the same nesting territories. Nesting activities may be initiated in mid-February to late April, depending upon species. Nest occupation continues until chicks are fledged, which usually occurs from early June to mid-August. Raptor nesting is expected to occur in suitable habitats within these allotments.

Eagle species are afforded additional protection under the Bald and Golden Eagle Protection Act. Although bald eagles have been documented near the allotments during winter months, their use of the area is not well known. It is doubtful that bald eagles nest within any of the Chipmunk Group allotments; however, winter migrants foraging on carrion are probable.

Golden eagles, prairie falcons, ferruginous hawks, and Swainson's hawks prefer open shrub steppe, sagebrush and grassland habitats. Golden eagles, ferruginous hawks, and prairie falcons nest on cliffs and rocky outcrops throughout southwest Idaho. All three species breed and forage in and/or around the Chipmunk Group allotments. Documented nest sites and potential nesting habitat for these species is abundant in the uplands and nearby deep canyons. Prairie falcons prey on small mammals, especially ground squirrels, but a large portion of their diet also can be comprised of birds. Eagles and hawks will prey upon small mammals, reptiles, and birds.

The *Accipiter* species (northern goshawk, Cooper's hawk and sharp-shinned hawk) and most owls prefer mixed open forest to more dense forest. In semiarid areas, these species often focus hunting efforts in riparian areas due to the abundance of prey found in these habitat types. At higher elevations, juniper woodlands provide suitable *Accipiter* foraging habitat for other birds and small mammals.

Several species of owls that potentially occur within these allotments include great horned owl, long-eared owl, northern saw-whet owl, and western screech owl. These species generally are associated with greater tree cover found in woodlands, forest, and riparian areas. Flammulated owls prefer dense forest and probably have occupied the area recently as juniper has expanded and become thicker.

A number of raptor species prefer open woodland or shrub steppe to dense forest. American kestrel, northern harrier, red-tailed hawk, short-eared owl, and western burrowing owl usually are found in more open areas such as sagebrush steppe, grasslands, meadows, or open riparian areas and prey on a wide variety of small mammals, reptiles, birds, and insects. Northern harriers and short-eared owls are ground nesters and need adequate cover for suitable nest sites. Burrowing owls nest in burrows dug by other animals, usually badgers, and they hunt in grasslands and sagebrush steppe areas. Expansion of juniper woodlands probably has restricted the distribution of these open habitat species within parts of the Chipmunk Group allotments.

## **BIG GAME AND OTHER MAMMALS (INCLUDING SPECIAL STATUS SPECIES)**

Several special status mammal species have been documented or have the potential to occur within the Chipmunk Group allotments (Appendix). Special status bat species occurring or potentially occurring

within these allotments include fringed myotis, spotted bat, and Townsend's big-eared bat. Although these species have been detected in the general area, research conducted in the juniper woodlands in the Owyhee Uplands suggests that bat populations are not numerous and species diversity is low (Perkins & Peterson, 1997). Quality day-roosting habitat (particularly caves and large, mature, live cottonwoods and snags) appears to be a limiting factor for bats in the area. Although abundant, the cliffs, rock outcrops, and seral junipers found in the portions of the allotments only provide marginal roosting habitat (Perkins & Peterson, 1997). Because the effects of livestock grazing on bats are not well-known and old growth junipers would remain the most abundant day roost substrates in the area, effects of grazing to bats are expected to be negligible to none. However, bats do require open water and will utilize livestock developments with limited risk if designed and maintained properly with minimal flight path obstructions. Kit fox and various special status small mammal species including the Piute ground squirrel, dark kangaroo mouse, and Wyoming ground squirrel have the potential to occur within the Chipmunk Group allotments. These species prefer open habitats including sagebrush steppe, salt desert scrub, grasslands, meadows and other productive bottomlands. As well as being major constituents to biodiversity, small mammals serve as predators, prey, seed dispersers, and grazers. An abundant and diverse small mammal community can be an indicator of a healthy and functioning ecosystem (Fricke, Kempema, & Powell, 2009).

The Chipmunk Group allotments have long supported populations of a wide variety of big game species. Rocky Mountain elk, mule deer, and pronghorn use portions of the area year-long. However, some areas are used specifically as seasonal ranges (i.e., spring, summer, fall, and winter). Most elk and mule deer within the Chipmunk Group allotments migrate to lower elevations in the winter and to areas in Oregon. Nevertheless, mule deer are common year-round in the uplands and canyonlands and pronghorn occur year-round throughout the uplands in much of these allotments. While juniper does provide hiding and thermal cover for elk and deer, juniper encroachment reduces forage and habitat diversity. Browse species important to deer, such as mountain big sagebrush, mountain mahogany, and bitterbrush, have decreased in juniper encroachment areas.

The Chipmunk Group allotments are located within the IDFG game management unit (GMU) 40. Current population data for elk and mule deer are lacking because surveys have not been conducted within GMU 40 for several decades (IDFG, 2000a) (IDFG, 2000b). Elk in GMU 40 are managed as part of the greater Owyhee-South Hills Zone. IDFG estimated the 2002 population at approximately 450 elk within GMUs 40 and 42. IDFG does not have any current population estimates for mule deer in GMU 40 and managers have identified population information within the GMU as a primary data need in the future (IDFG, 2010b). The IDFG objective for mule deer within GMU 40 is to increase populations within these important herds (IDFG, 2010b). No pronghorn surveys have been conducted in GMU 40, although pronghorn are known to occur within these allotments. Besides maintaining a variety of hunting opportunities and average horn lengths, IDFG has no explicit population objectives for pronghorn within GMU 42 (IDFG, 2010c).

Large predators that occur within the Chipmunk Group allotments include bobcat, coyote, and mountain lion. These predators are quite secretive and elusive. Because of their secretive nature, predator densities are difficult to determine. However, predators are closely tied to their prey, and if prey numbers are low, predator numbers reflect corresponding low numbers as well. Because these species are relatively common and abundant habitat exists in the area, they will not be discussed further.

Beavers are not as widespread throughout the area as they once were. Riparian habitat along many of the streams has deteriorated to the point that only remnant populations may remain. Loss of aspen, cottonwood, and willow trees will affect beaver by reducing suitable forage and material for building dams to create pond habitat. The loss of beavers throughout much of the area is suspected of leading to declines in spotted frog numbers.

## AMPHIBIANS AND REPTILES (INCLUDING SPECIAL STATUS SPECIES)

Several special status amphibians and reptiles, including the northern leopard frog, western toad, and common garter snake, have been documented or have the potential to occur within the Chipmunk Group allotments (Appendix). All three species prefer habitats in proximity to water, including springs, streams, wetlands, and meadows. Loss and degradation of riparian/wetland habitats are the most serious threats to the maintenance of viable populations of these species. Because very little is known about amphibian (with the exception of spotted frogs) and reptile populations in the Chipmunk Group allotments, individual species will not be discussed in detail further. Amphibian and reptile habitat in general will be included in discussions under spotted frogs and in the broader context of upland and riparian habitat conditions.

## FISHERIES

Other fish species that occur or potentially occur within streams in the Chipmunk Group allotments include dace (*Rhinichthys* spp.), redband shiner (*Richardsonius batesi*), and sculpin (*Cottus* spp.). Fish habitat is degraded within the majority of the streams due to grazing effects along the stream channel and riparian areas (see Section 3.4.1). These species will not be discussed further, as fish habitat and effects in general will be discussed in more under Columbia redband trout.

## REPORT STRATEGY

### Uplands

A number of wildlife species associated with shrub/steppe environments occur or potentially occur within the Chipmunk Group allotments. The strategy for assessing habitat conditions within the Chipmunk Group 2 allotments will be to apply a landscape species approach guided largely by habitat attributes required by greater sage-grouse. Greater sage-grouse are considered a sagebrush-obligate species and protection and restoration of sage-grouse will likely benefit many other sagebrush-obligate species (i.e., pygmy rabbit; migratory birds) and enhance efforts to conserve and restore sagebrush-steppe habitat. Tables WDLF-1 and -2 provide a matrix of habitat indicators and suitability scoring to assess sage-grouse breeding and late brood-rearing habitat composition and structure.

Below in Table WDLF-3 and -4 are descriptions of the indicators used to evaluate sage-grouse breeding and late brood-rearing habitat suitability. The habitat indicators below should not be viewed independently but rather as an assembly of vegetation elements required to provide effective sage-grouse breeding habitat. For clarification, Sandberg bluegrass was not included in generating average perennial grass canopy cover estimates for sage-grouse breeding habitat suitability. This approach is consistent with *A Framework to Assist in Making Sensitive Species Habitat Assessments for BLM-Administered Public Lands in Idaho* (USDI BLM 2000) and provided information on more robust perennial grasses with greater effective growth form and vertical height.

**Table WDLF-3: Sage-grouse breeding habitat suitability indicators (USDI BLM 2010)**

Habitat Indicator	Suitable Habitat	Marginal Habitat	Unsuitable Habitat
Sagebrush Canopy Cover (mean)	15% - 25%	5 to <15% or >25%	<5%
Sagebrush Height (mean)			
Mesic	40 to 80 cm <sup>1</sup>	20 to <40 cm or >80 <sup>1</sup>	<20 cm <sup>1</sup>
Arid	30 to 80 cm <sup>1</sup>	20 to <30 cm or >80 <sup>1</sup>	<20 cm <sup>1</sup>
Predominant Sagebrush Shape	Spreading	Mix of spreading and	Columnar

Habitat Indicator	Suitable Habitat	Marginal Habitat	Unsuitable Habitat
		columnar	
Perennial Grass and Forb Height (mean)	>18 cm <sup>1</sup>	10 to <18 cm <sup>1</sup>	<10 cm <sup>1</sup>
Perennial Grass Canopy Cover (mean) <sup>2</sup>			
Mesic	≥15%	5 to <15%	<5%
Arid	≥10%	5 to <10%	<5%
Perennial Forb Canopy Cover (mean)			
Mesic	≥10%	5 to <10%	<5%
Arid	≥5%	3 to <5%	<3%
Preferred Forb Availability	Preferred forbs are common with several species present	Preferred forbs are common but only a few species are present	Preferred forbs are rare
Overall Site Evaluation			

<sup>1</sup>Information is collected in metric units. U.S unit conversion (rounded): 10cm = 4"; 18cm = 7"; 20cm = 8"; 30cm = 12"; 40cm = 16"; 80cm = 32"

<sup>2</sup>Average perennial grass canopy cover does not include Sandberg bluegrass.

**Table WDLF-4: Sage-grouse upland summer habitat suitability indicators (USDI BLM 2010)**

Habitat Indicator	Suitable Habitat	Marginal Habitat	Unsuitable Habitat
Sagebrush Canopy Cover (mean)	15% - 25%	5 to <15% or >25%	<5%
Sagebrush Height (mean)	40 to 80 cm <sup>1</sup>	20 to <40 cm or >80 <sup>1</sup>	<20 cm <sup>1</sup>
Perennial Grass and Forb Height (mean)	>18 cm <sup>1</sup>	10 to <18 cm <sup>1</sup>	<10 cm <sup>1</sup>
Perennial Grass Canopy Cover (mean) <sup>2</sup>	≥15%	5 to <15%	<5%
Preferred Forb Availability	Preferred forbs are common with several species present	Preferred forbs are common but only a few species are present	Preferred forbs are rare
Overall Site Evaluation			

<sup>1</sup>Information is collected in metric units. U.S unit conversion (rounded): 10cm = 4"; 18cm = 7"; 20cm = 8"; 30cm = 12"; 40cm = 16"; 80cm = 32"

<sup>2</sup>Average perennial grass canopy cover does not include Sandberg bluegrass.

**Table WDLF-5: Sage-grouse riparian summer habitat suitability indicators (USDI BLM 2010)**

Habitat Indicator	Suitable Habitat	Marginal Habitat	Unsuitable Habitat
Riparian and wet meadow Stability (mode)	Majority of areas are in PFC	Majority of areas are FAR	Majority of areas are NF
PFC <sup>2</sup> (n)			

<sup>2</sup> PFC = proper functioning condition

Habitat Indicator	Suitable Habitat	Marginal Habitat	Unsuitable Habitat
FAR <sup>3</sup> (n)			
NF <sup>4</sup> (n)			
Forb availability (relative to site potential)	Preferred forbs are common with several species present	Preferred forbs are common but only a few species present	Preferred forbs are rare
Proximity of sagebrush cover	Sagebrush cover is adjacent to brood-rearing area (< 90m) <sup>1</sup>	Sagebrush cover is in close proximity of brood-rearing areas (90m to 275 m) <sup>1</sup>	Sagebrush cover is unavailable (>275m) <sup>1</sup>
Overall Site Evaluation			

Conversions: 90m = near 100 yards; 275m = near 300 yards;

**Table WDLF-6:** Sage-grouse late brood-rearing habitat suitability indicators (USDI BLM 2000)

Habitat Indicator	Suitable Habitat	Marginal Habitat	Unsuitable Habitat
Riparian and wet meadow plant community	Mesic and wetland plant species dominate wet meadow or riparian area	Xeric plant species invading wet meadow or riparian area	Xeric plant species along water's edge or near center of wet meadow
Riparian and wet meadow stability	No erosion evident: some bare ground may be evident but vegetative cover dominates the site	Minor erosion occurring and bare ground may be evident but vegetative cover dominates the site	Major erosion evident; large patches of bare ground
Forb availability in uplands and wetland areas	Succulent forbs are readily available in terms of distribution and plant structure	Succulent forbs are available though distribution is spotty or plant structure limits effective use	Succulent forbs are not available
Proximity of sagebrush cover	Sagebrush cover is adjacent to brood-rearing area (<100 yards)	Sagebrush cover is in close proximity (>100 yards but <300 yards) of brood-rearing areas	Sagebrush cover is unavailable (>300 yards)
Overall Site Evaluation			

### Riparian

Aquatic species such as the Columbia River redband trout and the Columbia spotted frog require functional lotic and lentic systems that provide intact stream channels, floodplains and wet meadows that make up a dynamic complex of healthy riparian vegetation. These attributes are supplied by properly functioning lotic and lentic systems. The strategy will be to apply findings presented in the evaluation of

<sup>3</sup> FAR = functioning at-risk

<sup>4</sup> NF = non-functioning

Standard 2 regarding the functionality of lotic and lentic systems and consider if the riparian community is providing adequate in-stream, floodplain, and wet meadow composition, structure, and function to support viable populations of redband trout and Columbia spotted frogs.

## **ASSESSMENTS, EVALUATIONS, and DETERMINATIONS**

### ALKALI-WILDCAT

#### **Previous Assessment 2001**

##### *Uplands*

According to the Northwest Owyhee Front Assessment (USDI BLM, 2001), desirable bunchgrasses are generally present throughout the allotment, while shallow-rooted bunchgrasses (e.g., Sandberg bluegrass) and some cheatgrass dominate the shrub interspaces. Community structure is good, although forbs are generally lacking throughout the allotment. Throughout much of the allotment, a healthy shrub component and associated decreaser grasses (e.g., bluebunch wheatgrass, Idaho fescue) in the shrub understory are providing marginally adequate cover for nesting and foraging birds including a diversity of Neotropical birds and possibly sage-grouse. Overall, quality of habitat is limited by the scarcity of forbs and dominance of Sandberg bluegrass and cheatgrass in the interspaces, which provide very little effective cover.

##### *Riparian*

According to the Northwest Owyhee Front Assessment (USDI BLM 2001), all 1.63 miles of assessed stream riparian habitat along Jump Creek (common boundary between Alkali-Wildcat and Poison Creek allotments) was rated in proper functioning condition and is likely providing at least marginally suitable habitat for dependent special status species and other wildlife species. Trampling of the riparian/floodplain vegetation caused by recreationists was negatively impacting the riparian habitat.

#### **Current Assessment**

##### Pasture 1

##### *Uplands*

- This pasture is managed as a native plant community.
- Potential plant community:
  - a. Wyoming sagebrush/bluebunch wheatgrass
- Four fires (totaling 3,685 acres, 59 percent of the allotment) have burned in this allotment dating back to the 1960s.
- Rangeland health assessments identified a reduction in deep-rooted grasses (e.g., bluebunch wheatgrass) with an increase in Sandberg bluegrass and the presence of cheatgrass. Overall, biotic integrity is a moderate departure from potential ecological plant community due to soil surface loss and degradation and functional/structural group ratings.
- Nested frequency trend monitoring indicated an increase in Wyoming big sagebrush, a decrease in bluebunch wheatgrass, and an increase in Sandberg bluegrass with cheatgrass and medusahead becoming established. The conclusion in the evaluation of Standard 4 is that there has been a plant composition shift from a Wyoming sagebrush/bluebunch wheatgrass reference site plant community to a Wyoming sagebrush/Sandberg bluegrass – cheatgrass community.

##### *Riparian*

- Total stream miles = 26.3 miles
  - Perennial flow = 0.16 miles
  - Intermittent flow = 25.86
- Total miles assessed = 3.05

Miles at PFC = 0.8  
 Miles FAR = 2.25  
 Miles NF = 0

*Focal Species*

Greater Sage-grouse

- Two sage-grouse breeding habitat assessments were conducted in 2012.
- There are no leks identified within this allotment.
- PPH = 4,247 acres (68 percent) of allotment  
 PGH = 1,413 acres (23 percent) of allotment
- Sage-grouse breeding habitat suitability = unsuitable.

Rationale: Primary driver for the overall rating is the less than 5 percent canopy cover of large deep-rooted perennial grasses in the understory essential for effective for nesting, security, and foraging cover.

**Table WDLF-7:** Sage-grouse breeding habitat assessments conducted May 7, 2012, in Alkali-Wildcat allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 1N5W12 rating	Site 1N5W15 rating
Sagebrush Canopy Cover	suitable	marginal (5 to <25%)
Sagebrush Height	marginal (>80 cm)	suitable
Sagebrush Growth Shape	suitable	suitable
Grass and Forb Height	suitable	marginal
Perennial Grass Canopy Cover	unsuitable	unsuitable
Forb Canopy Cover	unsuitable	unsuitable
Preferred Forb Availability	marginal	suitable
<b>Overall Site Evaluation</b>	<b>unsuitable</b>	<b>unsuitable</b>

Columbia Redband Trout

- Jump Creek is identified as a Columbia River redband trout stream
- Allotment riparian suitability = unsuitable

Rationale: The unsuitable riparian habitat rating is due to the 2.25 miles of perennial/intermittent stream rated FAR. Riparian areas that are FAR are usually lacking in a healthy riparian composition in some respect and remain at a higher risk of further degradation usually associated with larger flow events. Common riparian deficiencies include reduced occurrence of deep-rotted vegetation, lack of overhanging material for shade, and lack of woody debris for instream/floodplain structure and function.

**Evaluation**

Evaluation Finding – Allotment/watershed is:

- Meeting the Standard
- Not meeting the Standard, but making significant progress towards meeting
- Not meeting the Standard

**Rationale for Evaluation and Determination**

*Uplands*

This allotment is managed as a native plant community and is not meeting Standard 4. The combination of historic grazing, invasion of exotic annual grasses, and wildfire have resulted in the vegetation

community transitioning from a reference site community of perennial grasses (e.g., bluebunch wheatgrass) to a less-desirable community of more grazing-tolerant species such as Sandberg bluegrass and cheatgrass (see Standard 4). This transition exposes the understory and reduces effective nesting, escape, hiding, travel, and foraging cover values for all wildlife associated with sagebrush steppe communities. Because upland habitat values are changing to a less-desirable vegetation state, this allotment is failing to provide adequate upland habitat conditions for sagebrush steppe-associated wildlife and therefore is not meeting Standard 8.

#### *Riparian*

Evaluation of Standards 2, 3, and 7 identified streams and springs within this allotment that are not properly functioning or meeting water quality parameters due to current grazing practices. Streams, springs, and wetlands that are NF or are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive environment. Because Standards 2, 3, and 7 are not being met, this allotment is failing to provide adequate riparian habitat conditions for aquatic and terrestrial species and is therefore not meeting Standard 8.

#### *Focal Species*

Ninety-one percent of this allotment falls within modeled PPH/PGH habitat for sage-grouse. A total of two sage-grouse breeding habitat assessments were collected in 2012 and indicated:

- Pasture 1 - Providing unsuitable breeding habitat conditions for sage-grouse;

The unsuitable rating is due to the lack of large deep-rooted perennial grasses (i.e., bluebunch wheatgrass) in the understory. This condition fails to provide the understory composition and structure for effective nesting, security, and foraging cover values for sage-grouse. Combined with the upland discussion, Standard 4 not being met, and the dominance of exotic annuals, this allotment is failing to provide suitable sage-grouse habitat conditions and therefore is not meeting Standard 8.

Columbia River redband trout are known to occur within the Jump Creek system. Evaluation of Standards 2, 3, and 7 identified streams and springs within this system that are not properly functioning or meeting water quality parameters due to current grazing practices. Redband trout require intact channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filter sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flows. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and is therefore not meeting Standard 8.

## BAXTER BASIN

### **Previous Assessment (2006 Evaluation and Determination)**

#### *Uplands*

#### Standard 4

In pasture 1, the native plant community, including shrubs, has re-established following the 1960s wildfire and subsequent re-seeding. The community is characterized by scattered basin big sagebrush and antelope bitterbrush, with an understory consisting of Sandberg bluegrass, crested wheatgrass, bulbous bluegrass, bottlebrush squirreltail, and bluebunch wheatgrass. The invasive annual grass medusahead wildrye occurs in dense stands in small pockets in pasture 1. Overall, plant vigor and seedstalk production of shrubs and grasses are good and appear adequate to enable recruitment in response to favorable climatic events.

In pasture 2, the native plant communities resemble reference condition, with changes in the plant community composition, resulting in minimal deviation of organic matter content in the soil and residual plant material. Relative to the structural diversity of the plant communities, the soils are replenished with appropriate organic inputs which are necessary for nutrient cycling and continued productivity of the soils and plant communities.

Pastures 1 and 2 are meeting Standard 4.

#### Standard 6

Pasture 3 is largely dominated by the invasive annual grass medusahead wildrye. Although the invasive exotic species has replaced the native plant community, the requirements for soil stability are being met. There is little indication of accelerated erosion occurring and noxious weeds were not found in this pasture. The remnant perennial grasses appear vigorous and reproductively capable; however their populations do not appear large enough to compete with the medusahead wildrye, or to contribute to recruitment of native plant communities.

Pasture 3 is meeting Standard 6.

#### Standard 8

Overall, plant communities are providing marginal sage-grouse nesting, brood rearing, and wintering habitat. Sage-grouse evaluations rated the habitat as marginal for both breeding and brood rearing due to sparse forbs and naturally fragmented big sagebrush habitat.

In pastures 1 and 2, the native tall bunchgrasses are vigorous. The hills contain native vegetation and shrubs and are in better condition than the flats. These areas of native vegetation provide good habitat for sagebrush songbirds and other wildlife as well, as observed in 2003.

Pasture 3 contains some native perennial grasses that appear vigorous and reproductively capable; some forbs remain, such as big-head clover, which is valuable for antelope and sage-grouse. However, the flats in pasture 3 are dominated by medusahead wildrye, which reduces the food and cover value for most wildlife.

Most of the allotment is within crucial deer winter range. The antelope bitterbrush is in good condition with long leaders and none-to-slight use levels. Low sagebrush areas provide habitat for antelope, which have been seen in this allotment, although the forb component is sparse.

The allotment is not meeting Standard 8 but is making significant progress toward meeting.

#### *Riparian*

#### Standard 2

Baxter Creek flows through three pastures of this allotment, although in pasture 3 it is an intermittent reach without permanent surface water. In pastures 1 and 2, it appears that there is adequate subsurface water to support some hydric vegetation, but the stream is primarily a low-gradient, rocky channel supporting herbaceous upland vegetation. Willows and hawthorn are the dominant shrubs. There is a great deal of medusahead wildrye in pasture 3 and part of pasture 1, and is encroaching into riparian areas. The drainage in pasture 3 carries seasonal runoff and does not support hydric vegetation.

The allotment is not meeting Standard 2 but is making significant progress toward meeting (see Standard 2, 2006 Evaluation and Determination).

### Standard 3

Stream channel and floodplain condition was evaluated by assessing existing vegetation conditions and channel type. Baxter Creek is primarily a low-gradient, E-channel type with moderate entrenchment, good floodplain connectivity, and stability. This stream is intermittent and does not have perennial surface water. It contains large substrate throughout, and is stabilized by vegetation and cobbles. The stream is rated as FAR due to low water flow and encroachment of medusahead.

The allotment is not meeting Standard 3 but is making significant progress toward meeting (see Standard 3, 2006 Evaluation and Determination).

### **Current Assessment**

#### Pasture 1

##### *Uplands*

- This pasture is managed as a native plant community.
- Wildfire in the 1960s burned 331 acres (100 percent) of this pasture. The pasture was reseeded after the fire.
- Potential plant community:
  - a. Low sagebrush / Idaho Fescue
  - b. Wyoming big sagebrush / bluebunch wheatgrass
- No new information is available beyond that provided in the 2006 Evaluation and Determination.

##### *Riparian*

- No new information is available beyond that provided in the 2006 Evaluation and Determination.

##### *Focal Species*

#### Greater Sage-grouse

- One sage-grouse breeding habitat assessment was conducted in 2009.
- One sage-grouse late brood rearing habitat assessment was conducted in 2003.
- There are no leks within this pasture.
- PPH = 331 acres (100 percent) of the pasture.
- PGH = 0
- Sage-grouse breeding habitat suitability rating: suitable

Rationale: The overall suitable rating is driven largely by favorable sagebrush overstory conditions supported by an adequate canopy cover of perennial grasses in the understory. Although the height of perennial grasses/forbs is less than desirable in the understory, the sagebrush growth shape in the overstory contributes to providing effective nesting, security, and foraging cover for sage-grouse (Table WDLF-8).

**Table WDLF-8:** Sage-grouse breeding habitat assessments conducted May 15, 2009, in the pasture 1 of Baxter Basin allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 5S6W2 (2009) rating</b>
Sagebrush Canopy Cover	suitable
Sagebrush Height	marginal (>80%)
Sagebrush Growth Shape	suitable
Grass and Forb Height	marginal
Perennial Grass Canopy Cover	suitable
Forb Canopy Cover	unsuitable

Habitat Indicator	Site 5S6W2 (2009) rating
Preferred Forb Availability	unsuitable
Overall Site Evaluation	suitable

- Sage-grouse late brood-rearing habitat suitability rating: marginal

Rationale: The 2003 assessment noted that wetland plants dominate the meadow/wetland habitat area and that sagebrush cover is less than 100 yards away. However the marginal rating is driven by the occurrence of minor erosion and reduced availability of forbs and plant structure.

### Pasture 2

#### *Uplands*

- This pasture is managed as a native plant community.
- Wildfire in the 1960s burned 586 acres (100 percent) of this pasture. No reseeding occurred after the fire.
- Potential plant community:
  - a. Low sagebrush / Idaho Fescue
  - b. Low sagebrush / bluebunch wheatgrass
  - c. Wyoming big sagebrush / bluebunch wheatgrass
- No new information is available beyond that provided in the 2006 Evaluation and Determination.

#### *Riparian*

- No new information is available beyond that provided in the 2006 Evaluation and Determination.

### *Focal Species*

#### Greater Sage-grouse

- One sage-grouse breeding habitat assessment was conducted in 2009.
- One sage-grouse late brood rearing habitat assessment was conducted in 2003.
- There are no leks within this pasture.
- PPH = 586 acres (100 percent) of the pasture.
- PGH = 0
- Sage-grouse breeding habitat suitability rating: suitable

Rationale: The overall suitable rating is driven by favorable sagebrush and herbaceous plant conditions in the understory/overstory providing effective nesting, security, and foraging cover for sage-grouse (Table WDLF-9).

**Table WDLF-9:** Sage-grouse breeding habitat assessments conducted May 19, 2009 in pasture 2 of the Baxter Basin allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 5S6W35 rating
Sagebrush Canopy Cover	suitable
Sagebrush Height	suitable
Sagebrush Growth Shape	suitable
Grass and Forb Height	marginal
Perennial Grass Canopy Cover	suitable
Forb Canopy Cover	suitable
Preferred Forb Availability	suitable
Overall Site Evaluation	suitable

- Sage-grouse late brood-rearing habitat suitability rating: marginal

Rationale: The 2003 assessment noted that wetland plants dominate the meadow/wetland habitat area and that sagebrush cover is less than 100 yards away. However, the marginal rating is driven by the occurrence of minor erosion and reduced availability of forbs and plant structure.

### Pasture 3

#### *Uplands*

- This pasture is managed as an exotic plant community.
- Wildfire in the 1960s burned 467 acres (92 percent) of this pasture. The pasture was reseeded after the fire.
- Potential plant community:
  - a. Low sagebrush / Idaho fescue
  - b. Wyoming big sagebrush / bluebunch wheatgrass
- No new information is available beyond that provided in the 2006 Evaluation and Determination.

#### *Riparian*

- No new information is available beyond that provided in the 2006 Evaluation and Determination.

#### *Focal Species*

##### Greater Sage-grouse

- One sage-grouse breeding habitat assessment was conducted in 2009.
- There are no leks within this pasture.
- PPH = 586 acres (100 percent) of the pasture. BLM = 586 acres (100 percent)
- PGH = 0
- Sage-grouse breeding habitat suitability rating: suitable

Rationale: The overall suitable rating is driven by the combination of adequate sagebrush structure in the overstory and favorable perennial grass and forb conditions in the understory providing effective nesting, security, and foraging cover for sage-grouse (Table WDLF-10). Although this site is suitable, the pasture is dominated by medusahead and is fragmented. Pasture is overall unsuitable.

**Table WDLF-10:** Sage-grouse breeding habitat assessments conducted July 1, 2003, and May 19, 2009, in the Baxter Basin allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 5S6W35 (2009) rating
Sagebrush Canopy Cover	marginal (5 to <15%)
Sagebrush Height	marginal (>80 cm)
Sagebrush Growth Shape	suitable
Grass and Forb Height	suitable
Perennial Grass Canopy Cover	suitable
Forb Canopy Cover	marginal
Preferred Forb Availability	suitable
Overall Site Evaluation	suitable

### **Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

\_\_\_ Not meeting the Standard

### **Rationale for Evaluation and Determination**

#### *Uplands*

Pastures 1 and 2 are identified as meeting Standard 4 and therefore should be providing adequate vegetation composition, structure, and function for most upland species for nesting, escape, hiding, and foraging.

Pasture 3 is managed as an exotic plant community due to the dominance of cheatgrass and medusahead. Upland habitats managed under Standard 6 do not meet the requirements of Standard 8. Vegetation composition, structure, and function are lacking or absent in these communities, substantially reducing effective nesting, hiding, escape, travel, and foraging cover values for all upland wildlife species. These exotic communities further create large open spaces, diminish habitat connectivity, and increase sagebrush community fragmentation.

#### *Riparian*

Evaluation of Standards 2 and 3 identified streams and springs within this allotment that are not fully functioning and that water quality parameters were not being met but are making significant progress toward meeting riparian standards. Streams, springs, and wetlands that are not fully functioning are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive environment for wildlife. Because Standards 2 and 3 are not fully being met, the allotment does not have adequate riparian habitat conditions to support viable aquatic and terrestrial species populations and is not meeting Standard 8.

#### *Focal Species*

The entire allotment falls within modeled PPH/PGH habitat for sage-grouse. A total of five sage-grouse breeding and late brood-rearing habitat assessments collected from 2003 to 2009 identified:

- Pasture 1 - Providing suitable breeding and marginal late brood-rearing habitat conditions;
- Pasture 2 - Providing suitable breeding and marginal late brood-rearing habitat conditions;
- Pasture 3 - Providing suitable breeding habitat conditions.

Pastures 1 and 2 appear to be providing suitable breeding habitat conditions in the uplands. However, the issues in these pastures are the marginal riparian habitat conditions for late brood-rearing habitat grouse. Although riparian habitat conditions are improving, as indicated by the evaluations of Standards 2 and 3, riparian areas that are not fully functioning are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive environment for wildlife and therefore do not meet Standard 8.

Pasture 2 is managed as an exotic pasture and is not meeting Standard 6. Exotic pastures are dominated by invasive species that do not provide nesting, hiding, and foraging cover values for this species. These exotic pastures further create large open spaces that diminish habitat connectivity and fragment sagebrush communities. Although the sage-grouse upland summer habitat assessment concluded that pasture 2 is providing desirable conditions, the assessment was conducted in a remnant sagebrush patch, suggesting that there are areas of shrub steppe within this pasture. However, due to the dominance of the exotic community, this pasture overall is providing unsuitable habitat conditions for sage-grouse and therefore does not meet Standard 8.

## BLACKSTOCK SPRINGS

### **Previous Assessment**

#### *Uplands*

Most of the uplands of the allotment are near reference conditions, with slight to moderate departure. The functional and structural groups are generally close to what is expected for the site and are likely to provide habitat that is marginally adequate for the needs of most dependent special status and other wildlife species. The localized lack of large bunchgrasses and establishment of annual grasses is negatively altering cover structure and forage for sage-grouse, numerous song birds, pygmy rabbits and others, including a diversity of insects, rodents, birds and others that are critical prey for most raptors, including prairie falcons, northern harriers, and ferruginous hawks.

#### *Riparian*

Although PFC assessments do not directly assess habitat suitability, stream-associated riparian areas that are in PFC generally provide adequate cover and other necessary riparian elements. The reaches that are in or near PFC are generally providing for the needs of dependent special status species. The reaches that are FAR are generally lacking in structural diversity, composition, and vigor of riparian vegetation, and generally are not providing suitable habitat for dependent species. They are also lacking adequate hydric vegetation to protect stream banks, leaving them vulnerable to loss of habitat during high flow events. Of 10 lentic PFC assessments completed on the Blackstock Springs allotment, three springs were rated as PFC and seven were rated as FAR. The three springs that were rated as PFC are supporting riparian habitat that is at least adequate to provide for the needs of the dependent special status animals. The three FAR static and four NF springs are not meeting the needs of dependent special status animals.

### **Current Assessment**

#### Pasture 1

#### *Uplands*

- This pasture is managed as a native grass community.
- A wildfire in the 1960s burned 6,841 acres (90 percent) of this pasture. Another smaller fire in the 1970s burned 392 acres (5 percent) of the pasture within the 1960s fire perimeter.
- Two ecological sites occur within this pasture:
  - a. Wyoming big sagebrush/bluebunch wheatgrass
  - b. Low sagebrush /Idaho fescue
  - c. Low sagebrush / bluebunch wheatgrass
- Five rangeland health field assessments (RHFA) were completed in 2003 in pasture 1; all five sites have been affected by wildfire. Two of the five RHFA sites are located within the 1960 post-Johnstone fire seeded rehabilitation area and the other three RHFA sites are within native shrub/steppe habitat.
- Overall biotic integrity of the two seeded sites rated slight to moderate due to a shift in functional/structural groups from deep-rooted bunchgrasses to shallow-rooted bunchgrasses, decreased resistance to soil erosion, and percent composition of invasive species. Vegetation composition shows a strong grass component with crested wheatgrass and bluebunch wheatgrass near ecological site potential and Sandberg bluegrass and squirreltail at higher levels than what would be expected. The shrub component is common to scattered and is lower than potential; however, this is expected for a seeded area.
- Overall Biotic Integrity rating for the three native vegetation assessment sites is a slight to moderate departure, mainly due to a shift in functional/structural groups from deep-rooted bunchgrasses to shallow-rooted bunchgrasses, decreased resistance to soil erosion, and percent composition of invasive species. Composition of shrubs is higher than expected at two sites and lower than expected at one.

- One rangeland trend monitoring site reported vigorous bluebunch wheatgrass and crested wheatgrass with scattered mountain sagebrush (misidentified and should be Wyoming big sagebrush) at the site. Also noted were occurrences of horsebrush, green rabbitbrush, and Japanese brome, with Sandberg bluegrass beginning to fill in the inner spaces.

#### *Riparian*

- Total stream miles = 5.74 miles
- Perennial stream miles = 0.44
- Intermittent stream miles = 5.31
- Total miles of stream assessed = 1.0
  - Miles at PFC = 0
  - Miles at FAR = 1.0
  - Miles at NF = 0
- Total number of springs = 12
  - Total number of springs assessed = 12
  - Number of springs at PFC = 4
  - Number of springs at FAR = 3
  - Number of springs at NF = 5
- Issues identified in the NF and FAR springs evaluation related to heavy vegetation use, hoof action, pugging, wetland soil loss, alteration of surface flows, loss of hydric vegetation, and encroachment of invasive species (Standard 2).

#### *Focal Species*

##### Greater Sage-grouse

- Seven sage-grouse breeding assessments were collected in 2012.
- Two late brood-rearing habitat assessments in 2003.
- PPH = 7,598 acres (100 percent) in this pasture
- PGH = 0
- There are four documented leks within this pasture. Two are known to be active.
- Sage-grouse breeding habitat suitability rating: suitable

Rationale: All seven sage-grouse breeding habitat assessments have been conducted within the perimeter of the 1960s wildfire. Six out of seven sites all recorded the canopy cover for sagebrush exceeding 25 percent (Table WDLF-11), which suggests either that the 1960s wildfire had little impact on sagebrush density or that the sagebrush component has recovered in the last 40 to 50 years. Also consistent throughout the pasture is a favorable height and growth shape of sagebrush, suggesting that the overstory component is providing adequate habitat structure and function.

For the most part, a majority of the understory indicators rated the herbaceous component suitable with the exception of sites 1S5W9 and 1S5W28d which scored as unsuitable and site 1S5W28e which recorded as marginal (Table WDLF-11). However, with the exception of a few troublesome sites, it appears that the understory occurrence and height of large deep-rooted perennial grasses are doing well. Overall, it appears that a large portion of this pasture is suitable for Sage-grouse breeding habitat and is providing an appropriate sagebrush overstory and perennial grass/forb understory to create an effective composition of nesting, security, and foraging cover over much of the pasture with an exception of a few assessment locations.

**Table WDLF-11:** Sage-grouse breeding habitat assessments conducted April 23 through May 25, 2012, in pasture 1 of the Blackstock Springs allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 1S5W9 rating	Site 1S5W20 rating	Site 1S5W15 rating	Site 1S5W28a rating	Site 1S5W28d rating	Site 1S5W28e rating	Site 1S5W27 rating
Sagebrush Canopy Cover	marginal (>25%)	marginal (>25)	marginal (>25%)	marginal (25%)	suitable	marginal (>25%)	marginal (25%)
Sagebrush Height	suitable	suitable	marginal (>80 cm)	suitable	suitable	suitable	suitable
Sagebrush Growth Shape	suitable	suitable	marginal	suitable		suitable	suitable
Grass and Forb Height	suitable	suitable	suitable	suitable	marginal	marginal	suitable
Perennial Grass Canopy Cover	unsuitable	suitable	suitable	suitable	unsuitable	marginal	suitable
Forb Canopy Cover	unsuitable	suitable	suitable	unsuitable	suitable	unsuitable	suitable
Preferred Forb Availability	marginal	suitable	suitable	unsuitable	suitable	unsuitable	suitable
Overall Site Evaluation	unsuitable	suitable	suitable	suitable	unsuitable	marginal	suitable

- Sage-grouse late brood-rearing habitat suitability: suitable

Rationale: Two late brood-rearing habitat assessments were conducted in this pasture. Site 1S5W10 was conducted in a wet meadow in the northern portion of the pasture, and site 1S5W20 was located within the riparian reach of an intermittent stream in the west-central portion of the pasture. Both assessments showed intact wet meadow and intermittent stream habitat conditions with no evidence of erosion, no encroachment of xeric upland plant species, and favorable availability of forbs.

#### Columbia Redband Trout

- No Columbia River redband trout streams are documented in this pasture.

#### Columbia Spotted Frog

- Columbia spotted frog habitat would exist at or near lotic and lentic environments.
- Stream segments and spring locations identified as FAR or NF are not meeting healthy and productive habitat conditions for spotted frogs or other aquatic species.

#### Pasture 2

##### *Uplands*

- This pasture is managed as a native grass community.
- A wildfire in the 1960s burned 155 acres (3 percent) of this pasture.

- Four ecological sites were assessed:
  - a. Wyoming big sagebrush/bluebunch wheatgrass
  - b. Low sagebrush/bluebunch wheatgrass
  - c. Low sagebrush/bluebunch wheatgrass/Idaho fescue
  - d. Low sagebrush – Idaho fescue
- RHFAs on Loamy 11-13” sites recorded a dominance of basin big sagebrush (probably misidentified and should be Wyoming big sagebrush) and bitterbrush, with an understory of both increaser and decreaser grasses, along with cheatgrass and various forbs. The functional/structural group departure from the potential natural community was slight to light.
- RHFAs on Shallow Claypan 11-13” sites recorded a diverse age class of shrubs at higher than expected density, with notable decadence. A slight shift from bluebunch wheatgrass to squirreltail and Sandberg bluegrass is occurring.
- RHFAs on shallow Claypan 12-14” sites recorded a dominance of low sagebrush, with an understory of bluebunch wheatgrass and Idaho fescue; the occurrence of Sandberg bluegrass and cheatgrass is higher than expected.
- RHFAs on Shallow Claypan 12-16” sites recorded the site was dominated by low sagebrush and smaller decreaser grasses (e.g., Sandberg bluegrass, cheatgrass), although recruitment of bluebunch wheatgrass was noted.
- Rangeland trend monitoring noted the dominance of Sandberg bluegrass at both locations.

#### *Riparian*

- Total stream miles = 2.68 miles
  - Perennial stream miles = 1.34
  - Intermittent stream miles = 1.34
- Total miles of stream assessed = 4.3
  - Miles at PFC = 2.3
  - Miles at FAR = 2.0
  - Miles at NF = 0
- Total number of springs = 4
  - Total number of springs assessed = 4
  - Number of springs at PFC = 2
  - Number of springs at FAR = 2
  - Number of springs at NF = 0

#### *Focal Species*

##### Greater Sage-grouse

- Five sage-grouse breeding assessments were conducted in 2012.
- One late brood-rearing habitat assessment was conducted in 2003.
- PPH = 5,495 acres (100 percent) in this pasture
- PGH = 0
- There is one documented lek in this pasture.
- Sage-grouse breeding habitat suitability rating: marginal

Rationale: The overall marginal rating is driven by the three out of five sites that rated unsuitable to marginal (Table WDLF-12). Common to all sites was a fairly favorable sagebrush overstory. The deficiencies occurred in the understory where there is a less-than-favorable canopy cover and height of larger deep-rooted perennial grasses and forbs that provide for effective nesting and security cover.

- Sage-grouse late brood-rearing habitat suitability: marginal - suitable

Rationale: Site 1S5W33 was conducted in the northern portion of the pasture in a wet meadow along the perimeter of the 1960s wildfire and rated as suitable. Information showed intact wet meadow habitat conditions with no evidence of erosion, no encroachment of xeric upland plant species, and favorable availability of forbs.

The other site (2S5W11) was conducted in the southeastern portion of the pasture in a headwater seep of Little McBride Creek and rated as marginal. The marginal rating for this site was driven by the occurrence of xeric plant species, major evidence of erosion, and spotty distribution of forbs.

**Table WDLF-12:** Sage-grouse breeding habitat assessment conducted from April 23 to May 25, 2012, in Blackstock Springs allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 2S5W33 rating	Site 2S5W4 rating	Site 2S5W8 rating	Site 1S5W9 rating	Site 2S5W11 rating
Sagebrush Canopy Cover	marginal (5 to <15%)	suitable	marginal (5 to <15%)	suitable	suitable
Sagebrush Height	suitable	suitable	suitable	marginal (>80 cm)	suitable
Sagebrush Growth Shape	suitable	suitable	suitable	marginal	suitable
Grass and Forb Height	marginal	marginal	marginal	suitable	suitable
Perennial Grass Canopy Cover	unsuitable	marginal	unsuitable	suitable	suitable
Forb Canopy Cover	suitable	unsuitable	marginal	suitable	suitable
Preferred Forb Availability	marginal	marginal	unsuitable	marginal	suitable
Overall Site Evaluation	marginal	marginal	unsuitable	suitable	suitable

1US unit conversion: 20 to 30 cm = 8 to 12 in.

#### Columbia Redband Trout

- No Columbia River redband trout streams documented in this pasture.

#### Columbia Spotted Frog

- Columbia spotted frog habitat would exist at or near lotic and lentic environments.
- Stream segments and spring locations identified as FAR or NF are not meeting healthy and productive habitat conditions for spotted frogs or other aquatic species.

#### Pasture 3

##### *Uplands*

- This pasture is managed as a native plant community.
- Wildfire burned 171 acres (4 percent) of this pasture in 1973.
- Potential plant community:
  - Low sagebrush/ Idaho fescue
  - Low sagebrush/bluebunch wheatgrass
- RHFAs concluded that the biological integrity of the pasture is similar to the ecological site potential.
- Rangeland trend monitoring data showed a vigorous community of bluebunch wheatgrass and crested wheatgrass with small amounts of Japanese brome and Sandberg bluegrass increasing. Seeded portions are transitioning back to native plant community.

##### *Riparian*

- Total stream miles = 0.90 miles

- Perennial stream miles = 0.57
- Intermittent stream miles = 0.33
- Total miles of stream assessed = 0.57
  - Miles at PFC = 0
  - Miles at FAR = 0.57
  - Miles at NF = 0
- Issues related to reaches of stream included a incised channel, discontinuous deep-rooted vegetation, 20 percent of riparian-wetland area is bare ground and unstable, and stunted willow recruitment.
- Total number of springs = 3
  - Total number of springs assessed = 1
  - Number of springs at PFC = 1
  - Number of springs at FAR = 0
  - Number of springs at NF = 0
- Of the one assessed spring, it was identified to be in PFC with multiple hydric plant species in good vigor with various age classes.
- An unnamed, developed spring that was not assessed for PFC is not operational and there is no surface water to support hydric vegetation.

*Focal Species*

Greater Sage-grouse

- Three sage-grouse breeding habitat assessments were conducted in 2012.
- One late brood-rearing habitat assessment was conducted in 2003.
- PPH = 4,244 acres (100 percent) in this pasture
- PGH = 0
- There is one documented lek in this pasture.
- Sage-grouse breeding habitat suitability rating: marginal

Rationale: Two of the three sage-grouse breeding habitat assessments rated the pasture at marginal. The third site assessment rated the habitat as suitable. Common to all three assessment locations was a less-than-desirable canopy cover of large deep-rooted perennial grasses. This suggests reduced effectiveness of the understory to provide effective nesting, security, and foraging cover for sage-grouse.

**Table WDLF-13:** Sage-grouse breeding habitat assessment conducted from April 24 and 25, 2012, in pasture 3 of the Blackstock Springs allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 2S5W21 rating	Site 2S5W22 rating	Site 2S5W28 rating
Sagebrush Canopy Cover	marginal (>25%)	marginal (5 to <15%)	suitable
Sagebrush Height	marginal (>80 cm)	marginal (>80 cm)	suitable
Sagebrush Growth Shape	suitable	marginal	suitable
Grass and Forb Height	marginal	marginal	suitable
Perennial Grass Canopy Cover	marginal	marginal	marginal
Forb Canopy Cover	suitable	suitable	suitable
Preferred Forb Availability	suitable	marginal	suitable
Overall Site Evaluation	marginal	marginal	suitable

1US unit conversion: 20 to 30 cm = 8 to 12 in.

- Sage-grouse late brood-rearing habitat suitability: marginal

Rationale: The riparian/intermittent stream assessment along McBride Creek in the central portion of the pasture rated this site as marginal. Information showed occurrence of xeric plant species, major evidence of erosion, and spotty distribution of forbs.

#### Columbia Redband Trout

- No Columbia River redband trout streams documented in this pasture.

#### Columbia Spotted Frog

- No Spotted frog habitat documented in this pasture.

### **Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

### **Rationale for Evaluation and Determination**

#### *Uplands*

Pastures 1, 2, and 3 are managed as native plant communities. Pasture 1 is the only pasture determined to be failing to meet Standard 4 due to current livestock grazing. Evaluation of Standard 4 indicates that the vegetation community is transitioning from a reference site community of robust perennial grasses (e.g., bluebunch wheatgrass, Idaho fescue) to a less-desirable community of more grazing-tolerant species such as Sandberg bluegrass. This transition exposes the understory and reduces effective nesting, escape, hiding, travel, and foraging cover values for all wildlife associated with sagebrush steppe communities. Because upland habitat values are changing to a less-desirable vegetation state, this allotment is failing to provide adequate upland habitat conditions for sagebrush steppe and therefore is not meeting Standard 8.

#### *Riparian*

Evaluation of Standards 2, 3, and 7 identified streams and springs within this allotment that are not properly functioning or meeting water quality parameters due to current grazing practices. Streams, springs, and wetlands that are NF or are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive environment. Because Standards 2, 3, and 7 are not being met, habitat conditions to support viable aquatic and terrestrial species populations are not meeting Standard 8.

#### *Focal Species*

The entire allotment falls within modeled PPH/PGH habitat for sage-grouse. Two of the four documented leks within this allotment are known to be active. A total of 19 sage-grouse breeding and late brood-rearing habitat assessments collected from 2003 to 2012 identified:

- Pasture 1 - Providing suitable breeding and suitable late brood-rearing habitat conditions;
- Pasture 2 - Providing marginal breeding and marginal late brood-rearing habitat conditions;
- Pasture 3 - Providing marginal breeding and marginal late brood-rearing habitat conditions.

Marginal breeding habitat conditions in pastures 2 and 3 and marginal late brood-rearing habitat conditions in pastures 2 and 3 are not meeting Standard 8 due to current grazing practices. Desirable habitat conditions for sage-grouse are not being provided due to reduced canopy cover and height of large deep-rooted perennial grasses (i.e., bluebunch wheatgrass, Idaho fescue) in the understory, indicating that

functional nesting, brood-rearing, escape, and hiding cover values are failing to be provided in these pastures. Late brood-rearing habitat assessments (riparian measure) in pasture 2 and 3 were rated marginal due to the increased occurrence of undesirable xeric plant species, major evidence of erosion and spotty distribution of forbs consistent with riparian conditions identified in the evaluation of Standards 2, 3, and 7.

Columbia River redband trout are known to occur within the McBride Creek system. The evaluation of Standards 2, 3, and 7 identified streams and springs within this system that are not properly functioning or meeting water quality parameters due to current grazing practices. Redband trout require intact channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercutts, minimize impacts of flood events and filter sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flow. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and is therefore not meeting Standard 8.

## BURGESS

### **Previous Assessment**

#### *Uplands*

Most of this allotment was in near-reference conditions. Abundance and diversity of grasses, forbs, and shrubs were generally as expected for the site and are likely to be providing habitat that is adequate for the needs of most dependent special status and other wildlife species. The localized lack of large bunchgrasses and reduced shrub cover were limiting cover, structure, and forage for sage-grouse, numerous song birds, pygmy rabbits and others, including a diversity of insects, rodents, birds and others that are critical prey for most raptors such as prairie falcons, northern harriers, and ferruginous hawks.

#### *Riparian*

The Burgess allotment does not have riparian areas or wetlands. Therefore, Standard 2 does not apply.

### **Current Assessment**

#### Pasture 1

#### *Uplands*

- This pasture is managed as a native plant community.
- No wildfires have been documented in this pasture over the last 50 years.
- Potential natural plant community:
  - a. Low sagebrush/ Idaho fescue
- RHFA information recorded a slight to moderate departure from the PNC and that medusahead is dominating the understory.
- Rangeland trend monitoring information indicated that large bunchgrasses are increasing significantly.

#### *Riparian*

- There are no riparian-wetland habitats documented or assessed in this pasture.

#### *Focal Species*

#### Greater Sage-grouse

- One sage-grouse breeding habitat assessment was conducted in 2003.
- Two sage-grouse upland summer habitat assessment were conducted in 2012.
- There are no leks documented within this pasture.
- PPH = 225 acres (74 percent) of the pasture.  
PGH = 0

- Sage-grouse breeding habitat suitability rating: unsuitable (see note)

Rationale: The overall unsuitable habitat rating is driven by the absence of sagebrush and the lack of any effective overstory cover component.

Note: Evaluators noted the significantly reduced occurrence of sagebrush and stated that the site was representative of the pasture. They also recorded suitable perennial bunchgrass occurrence. This is inconsistent with the rangeland trend monitoring information that identifies Wyoming big sagebrush in the pasture. This is also inconsistent with sage-grouse upland summer habitat assessment information that notes marginal (more than 25 percent) canopy cover of sagebrush and substantially reduced occurrence of perennial bunchgrasses.

**Table WDLF-14:** Sage-grouse breeding habitat assessment conducted June 9, 2003, in pasture 1 of the Burgess allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 3S6W26 rating
Sagebrush Canopy Cover	Unsuitable (>5%)
Sagebrush Height	suitable
Sagebrush Growth Shape	unsuitable
Grass and Forb Height	marginal
Perennial Grass Canopy Cover	suitable
Forb Canopy Cover	unsuitable
Preferred Forb Availability	marginal
<b>Overall Site Evaluation</b>	<b>unsuitable</b>

- Sage-grouse upland summer habitat suitability rating: unsuitable

Rationale: The overall unsuitable rating is due to the less-than-desirable sagebrush canopy cover and height in the overstory that tends to expose the understory, and the significant absence of favorable perennial grasses/forbs canopy cover resulting in a non-effective understory to provide adequate security and foraging cover for sage-grouse. (Table WDLF-14)

**Table WDLF-15:** Sage-grouse upland summer habitat assessments conducted August 3 and 6, 2012, in pasture 1 of Burgess allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

Habitat Indicator	Site 3S6W22 rating	Site 3S5W26 rating
Sagebrush Canopy Cover	marginal (>25%)	marginal (>25%)
Sagebrush Height	marginal <sup>1</sup> (>80cm)	marginal <sup>1</sup> (>80cm)
Perennial Grass and Forb Canopy Cover	unsuitable	unsuitable
Preferred Forb Availability	marginal	suitable
<b>Overall Site Evaluation</b>	<b>unsuitable</b>	<b>unsuitable</b>

Columbia Redband Trout

- No Columbia River redband trout streams documented in this pasture.

Columbia Spotted Frog

- No spotted frog habitat documented in this pasture.

### Pasture 3

#### *Uplands*

- This pasture is managed as a native plant community.
- No wildfire has been documented in this pasture in the past 50 years.
- Potential natural plant community:
  - a. Low sagebrush / bluebunch wheatgrass
  - b. Low sagebrush / Idaho Fescue
- The RHFAs recorded the overall biotic integrity as slight to moderate departure from the reference community and moderate for invasive plants.
- Rangeland trend monitoring (photos only) information showed no apparent trend in shrubs and the grasses appeared to be good vigor.

#### *Riparian*

- There is no riparian-wetland habitats documented or have been assessed in this pasture.

#### *Focal Species*

##### Greater Sage-grouse

- One sage-grouse breeding habitat assessment collected in 2003.
- Three sage-grouse upland summer habitat assessment were conducted in 2012.
- There are no leks documented within this pasture.
- PPH = 1,009 acres (100 percent) of the pasture.  
PGH = 0 acres
- Sage-grouse breeding habitat suitability rating: suitable

Rationale: The overall suitable habitat rating is driven by the favorable overstory and understory composition of sagebrush and perennial grasses/forbs creating effective nesting, security, and foraging cover for sage-grouse.

**Table WDLF-16:** Sage-grouse breeding habitat assessment conducted June 5, 2003, in pasture 3 of the Burgess allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 4S6W2 rating</b>
Sagebrush Canopy Cover	suitable
Sagebrush Height	suitable
Sagebrush Growth Shape	suitable
Grass and Forb Height	unsuitable
Perennial Grass Canopy Cover	suitable
Forb Canopy Cover	suitable
Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>

- Sage-grouse upland summer habitat suitability rating: unsuitable

Rationale: The overall unsuitable rating due to the less-than-desirable sagebrush canopy cover and height in the overstory that tends to expose the understory; and the unfavorable perennial grasses/forbs canopy cover resulting in a non-effective understory to provide adequate security and foraging cover for sage-grouse. (Table WDLF-17)

**Table WDLF-17:** Sage-grouse upland summer habitat assessments conducted August 6 and 7, 2012 in pasture 3 of the Burgess allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

Habitat Indicator	Site 3S635c rating	Site 4S6W2a rating	Site 4S6W2b rating
Sagebrush Canopy Cover	marginal (>25%)	suitable	marginal (>25%)
Sagebrush Height	marginal <sup>1</sup> (>80cm)	marginal <sup>1</sup> (>80cm)	marginal <sup>1</sup> (>80cm)
Perennial Grass and Forb Canopy Cover	marginal <sup>2</sup>	unsuitable	marginal
Preferred Forb Availability	unsuitable	suitable	suitable
<b>Overall Site Evaluation</b>	<b>unsuitable</b>	<b>unsuitable</b>	<b>marginal</b>

<sup>2</sup>Perennial grasses 0 percent canopy cover; forbs 6 percent canopy cover.

#### Columbia Redband Trout

- No Columbia River redband trout streams documented in this pasture.

#### Columbia Spotted Frog

- No spotted frog habitat documented in this pasture.

#### **Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

#### **Rationale for Evaluation and Determination**

##### *Uplands*

Both pastures 1 and 3 (no pasture 2 exists) are managed as native plant communities and are meeting Standard 4. Because Standard 4 is being met, it is expected that upland habitat composition and structure are meeting vegetation cover and forage needs of most sagebrush steppe-associated wildlife.

##### *Riparian*

Water quality issues have been identified as not meeting Standard 7. Excessive sediment delivery, siltation, and increasing water temperatures negatively alter aquatic habitats and impact aquatic wildlife communities and therefore do not meet Standard 8 due to poor water quality.

##### *Focal Species*

Eighty-nine percent of this allotment falls within modeled PPH/PGH habitat for sage-grouse. A total of six sage-grouse breeding and upland summer habitat assessments collected from 2003 to 2012 identified:

- Pasture 1 - Providing unsuitable breeding and upland summer habitat conditions;
- Pasture 3 - Providing suitable breeding and unsuitable upland summer habitat conditions.

Unfavorable upland summer habitat conditions occur in both pastures for sage-grouse. The assessments noted that understory perennial grasses (i.e., bluebunch wheatgrass, Idaho fescue) and forbs were poorly represented and not providing effective screening and security cover for summer brood-rearing sage-grouse. Breeding habitat in pasture 1 was found to be unsuitable due to the less-than-desirable canopy cover of sagebrush. This is inconsistent with the findings for Standard 4 that identified that Rangeland Health Standards were being met for this allotment. Because Standard 4 and Standard 8 are measures of upland vegetation composition, they should ideally reflect comparable conditions. However, if the data of

the two assessments is collected at different locations or times of the year, localized variability may occur and create dissimilar findings. Because sage-grouse upland summer habitat assessments showed perennial grasses and forbs are underrepresented, the allotment is failing to provide adequate upland summer habitat conditions and therefore is not meeting Standard 8.

## BURGESS FFR

### **Previous Assessment**

#### *Uplands*

Most of this allotment showed a moderate departure from reference conditions. Abundance and diversity of grasses, forbs, and shrubs are generally not as expected for the site and are likely to be failing to provide habitat that is adequate for the needs of most dependent special status and other wildlife species. Current plant community composition is limiting cover, structure, and forage for sage-grouse, numerous song birds, pygmy rabbits, and others including a diversity of insects, rodents, birds and others that are critical prey for most raptors such as prairie falcons, northern harriers, and ferruginous hawks.

#### *Riparian*

Succor Creek flows for 0.38 miles through public land on the allotment. Cold-water aquatic life has been assessed by Idaho Department of Environmental Quality and it did not meet the water temperature criterion at a point upstream of the allotment. Flow alteration, siltation, and thermal modifications are listed pollutants for the entire Succor Creek assessment unit. Succor Creek was assessed for Proper Functioning Condition in October 2006 using the Standard Checklist (Lotic) (Appendix B). Succor Creek was rated as FAR. The trend was not apparent. Structural diversity, composition, and vigor of hydric vegetation are lacking, resulting in habitat that is not adequately providing for the needs of dependent special status species and other wildlife.

### **Current Assessment**

#### Pasture 1

#### *Uplands*

- This pasture is managed as a native plant community.
- There have been no documented wildfire occurrences over the last 50 years.
- Potential natural community:
  - a. Wyoming big sagebrush/ Idaho fescue-bluebunch wheatgrass
- RHFAs recorded that exotic annuals are dominating the understory showing a slight to moderate departure from the potential natural community.
- Rangeland trend monitoring (taken from the Burgess allotment (572)) showed an upward trend in bluebunch wheatgrass and a downward trend in Sandberg bluegrass. Medusahead is starting to show up within the transects.

#### *Riparian*

- Total stream miles = 0.35
  - Perennial stream miles = 0.35
  - Intermittent stream miles = 0
- Total miles of stream assessed = 0.35
  - Miles in PFC = 0
  - Miles in FAR = 0.35
  - Miles in NF = 0
- The assessment noted bank instability and a lack of bank-binding, deep-rooted riparian vegetation along the stretch.
- Total number of springs = 0

*Focal Species*

Greater Sage-grouse

- One sage-grouse upland summer habitat assessment was conducted in 2012.
- There are no leks documented within this pasture.
- PPH = 233 acres (100 percent) of the pasture.  
PGH = 0
- Sage-grouse upland summer habitat assessment: marginal

Rationale: Marginal habitat indicators for sagebrush height in the overstory and perennial grass and forb occurrence in the understory are reducing the security and foraging cover for sage-grouse.

**Table WDLF-18:** Sage-grouse upland summer habitat assessments conducted August 6, 2012, in pasture 1 of Burgess FFR allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 3S5W13a rating</b>
Sagebrush Canopy Cover	suitable
Sagebrush Height	marginal (>80cm)
Perennial Grass and Forb Canopy Cover	marginal
Preferred Forb Availability	marginal
<b>Overall Site Evaluation</b>	<b>marginal</b>

Columbia Redband Trout

- Succor Creek is identified as a Columbia River redband trout stream.
- Stream segments and spring locations identified as FAR are not meeting healthy and productive habitat conditions for Columbia River redband trout, spotted frogs, or other aquatic species.

Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.
- Stream segments and spring locations identified as FAR are not meeting healthy and productive habitat conditions for Columbia River redband trout, spotted frogs or other aquatic species.

Pasture 2

Uplands

- This pasture is managed as exotic plant community.
- There have not been any documented wildfire occurrences over the last 50 years.
- Potential natural community:
  - a. Low sagebrush/Idaho fescue
- The RHFAs showed a moderate to extreme departure for the functional/structural groups. The site is dominated by medusahead with patches of Sandberg bluegrass.
- No rangeland trend monitoring is available.

Riparian

- Total stream miles = 0.55
  - Perennial stream miles = 0
  - Intermittent stream miles = 0.55
- Total miles of stream assessed = 0
  - Miles in PFC = 0
  - Miles in FAR = 0
  - Miles in NF = 0

- The assessment noted bank instability and a lack of bank binding, deep rooted riparian vegetation along the stretch.
- Total number of springs = 0  
Total number of springs assessed = 0  
Number of springs in PFC = 0  
Number of springs in FAR = 0  
Number of springs in NF = 0

*Focal Species*

Greater Sage-grouse

- One sage-grouse upland summer habitat assessment was conducted in 2012.
- There are no leks within this pasture.
- PPH = 290 acres (100 percent) of the pasture.  
PGH = 0
- Sage-grouse upland summer habitat suitability rating: suitable

Rationale: With the exception of a higher-than-desirable canopy cover of sagebrush, all other habitat indicators showed favorable occurrence of understory elements that would provide effective security and foraging cover for sagebrush.

**Table WDLF-19:** Sage-grouse upland summer habitat assessments conducted August 3, 2012, in pasture 1 of Burgess FFR allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

Habitat Indicator	Site 3SW26a rating
Sagebrush Canopy Cover	marginal (>25%)
Sagebrush Height	suitable
Perennial Grass and Forb Canopy Cover	suitable
Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>

Columbia Redband Trout

- Succor Creek flows within this pasture through private land and is identified as a Columbia River redband trout stream.

Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

**Evaluation**

Evaluation Finding – Allotment/watershed is:

- Meeting the Standard
- Not meeting the Standard, but making significant progress towards meeting
- Not meeting the Standard

**Rationale for Evaluation and Determination**

*Uplands*

Pasture 1 is identified as meeting Standard 4 and therefore should be providing adequate vegetation composition, structure, and function for most upland species for nesting, escape, hiding, and foraging.

Pasture 2 is managed as an exotic pasture and is not meeting Standard 6. Upland habitats managed under Standard 6 do not meet the requirements of Standard 8. Vegetation composition, structure, and function are lacking or absent in these communities, substantially reducing effective nesting, hiding, escape, travel, and foraging cover values for upland wildlife species. These exotic communities further create large open spaces, diminish habitat connectivity, and increase sagebrush community fragmentation.

#### *Riparian*

Evaluation of Standards 2, 3, and 7 identified streams and springs within this allotment that are not properly functioning or meeting water quality parameters due to current livestock management practices. Streams, springs, and wetlands that are NF or are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive environment. Because Standards 2, 3, and 7 are not being met, habitat conditions to support viable aquatic and terrestrial species populations are failing to be provided and therefore this allotment is not meeting Standard 8.

#### *Focal Species*

One hundred percent of this allotment falls within modeled PPH/PGH habitat for sage-grouse. A total of two sage-grouse upland summer habitat assessments collected in 2012 identified:

- Pasture 1 - Providing marginal upland summer habitat conditions;
- Pasture 2 - Providing suitable upland summer habitat conditions (see pasture 2 description below for Rationale why this exotic pasture is unsuitable sage-grouse habitat).

Marginal upland summer habitat conditions in pasture 1 are not meeting desirable habitat conditions for sage-grouse. The cause for not meeting sage-grouse habitat criteria is driven by reduced canopy cover of large deep-rooted perennial grasses (i.e., bluebunch wheatgrass, Idaho fescue) in the understory, indicating that functional nesting, brood-rearing, escape, and hiding cover values are failing to be fully provided in this pasture and therefore are not meeting Standard 8.

Pasture 2 is managed as an exotic pasture and is not meeting Standard 6. Exotic pastures are dominated by invasive species that do not provide nesting, hiding, and foraging cover values for this species. These exotic pastures further create large open spaces that diminish habitat connectivity and fragment sagebrush communities. Although the sage-grouse upland summer habitat assessment concluded that pasture 2 is providing desirable conditions, the assessment was conducted in a remnant sagebrush patch, suggesting that there are areas of shrub steppe within this pasture. However, due to the dominance of the exotic community, this pasture overall is providing unsuitable habitat conditions for sage-grouse and therefore does not meet Standard 8.

Columbia River redband trout are known to occur within the Succor Creek system. Evaluation of Standards 2, 3, and 7 identified streams and springs within this system that are not properly functioning or meeting water quality parameters due to current livestock management practices. Redband trout require intact channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filter sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flow. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and therefore is not meeting Standard 8.

## CHIMNEY POT FFR

### **Previous Assessment**

#### *Uplands*

Limited information is available for 25 acres of BLM in this allotment. No trend information is available and RHA information was collected in 2011.

This allotment is meeting Standard 4.

#### *Riparian*

- No riparian habitat has been identified or assessed. Standard did not apply.

### **Current Assessment**

#### Pasture 1

#### *Uplands*

- This pasture is managed as a native plant community.
- Wildfire burned 1,220 acres (95 percent) in this pasture in the 1960s.
- Potential plant community:
  - a. Low sagebrush/bluebunch wheatgrass
  - b. Low sagebrush/Idaho fescue
  - c. Mountain big sagebrush/bluebunch wheatgrass-Idaho fescue
- Rangeland trend monitoring information is not available for this allotment.
- 2011 RHA data showed a none to slight departure from the ecological site description.

#### *Riparian*

- There are no riparian resources on parcels of BLM.

#### *Focal Species*

#### Greater Sage-grouse

- No sage-grouse habitat information has been collected for this pasture.
- There are no leks within this pasture.
- PPH sagebrush = 1,266 acres (99%)  
PPH perennial grassland = 0  
PPH conifer encroachment = 15 acres (1 percent)  
PGH = 0
- Sage-grouse breeding habitat suitability rating: unknown

Rationale: No information specific to this pasture has been collected.

#### Columbia Redband Trout

- No redband trout streams have been documented in this parcel.

#### Columbia Spotted Frog

- This allotment is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

### **Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

## **Rationale for Evaluation and Determination**

### *Uplands*

This allotment is managed as a native plant community and is meeting Standard 4. Therefore, an assumption is being made that upland habitat conditions appear to be providing at least minimally adequate sagebrush/grass composition and structure to meet upland wildlife needs and therefore the allotment is meeting Standard 8.

### *Riparian*

Riparian habitat is not identified within this allotment.

### *Focal Species*

No sage-grouse assessment information is available for this allotment. Because Standard 4 is being met, an assumption is being made that upland habitat conditions appear to be providing at least minimally adequate sagebrush/grass composition and structure to meet upland sage-grouse needs and therefore the allotment is meeting Standard 8.

## **CHIPMUNK FIELD FFR**

### **Previous Assessment**

#### *Uplands (Standard 4, 2007 Evaluation and Determination)*

The rangeland health field assessment identified that all indicators relating to biotic integrity rated near expected conditions for this ecological site (Loamy 16+”). The shrub component was a mix of mountain big sagebrush, antelope bitterbrush and rabbitbrush, with bluebunch wheatgrass, Idaho fescue, squirreltail and Sandberg bluegrass. Some cheatgrass was present; however the native plant community is vigorous and healthy and able to compete for resources.

This allotment is meeting Standard 4.

### *Riparian*

- Standard 2 did not apply to this allotment.

### **Current Assessment**

#### **Pasture 1**

##### *Uplands*

- This pasture is managed as a native plant community.
- Wildfire burned 1,220 acres (95 percent) in this pasture in the 1960s.
- Potential plant community:
  - a. Low sagebrush/Idaho fescue
  - b. Mountain big sagebrush/bluebunch wheatgrass-Idaho fescue
  - c. Mountain big sagebrush/Idaho fescue
- RHFAs information recorded a none-to-slight departure.
- Rangeland trend monitoring information is not available for this allotment.

##### *Riparian*

- There are no riparian resources on this allotment.

##### *Focal Species*

#### **Greater Sage-grouse**

- No sage-grouse habitat information has been collected for this pasture.
- There are no leks within this pasture.

- PPH sagebrush = 1,266 acres (99 percent)  
PPH perennial grassland = 0  
PPH conifer encroachment = 15 acres (1 percent)  
PGH = 0
- Sage-grouse breeding habitat suitability rating: unknown

Rationale: No information specific to this pasture has been collected.

#### Columbia Redband Trout

- No redband trout streams are document within this allotment.

#### Columbia Spotted Frog

- This allotment is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

#### **Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

#### **Rationale for Evaluation and Determination**

##### *Uplands*

This allotment is managed as a native plant community and is meeting Standard 4. Therefore, an assumption is being made that upland habitat conditions appear to be providing at least minimally adequate sagebrush/grass composition and structure to meet upland wildlife needs and therefore the allotment is meeting Standard 8.

##### *Riparian*

Riparian habitat is not identified within this allotment.

##### *Focal Species*

No sage-grouse assessment information is available for this allotment. Because Standard 4 is being met, an assumption is being made that upland habitat conditions appear to be providing at least minimally adequate sagebrush/grass composition and structure to meet upland sage-grouse needs and therefore the allotment is meeting Standard 8.

#### CORRAL CREEK FFR

##### **Previous Assessment**

##### *Uplands (Standard 4 - 2008 Evaluation and Determination)*

- The rangeland health field assessment noted that Sandberg bluegrass was the dominant herbaceous species, while bluebunch wheatgrass was less than expected. Shrub cover was identified as being slightly higher than expected.
- No rangeland trend information is available.
- Determination: Corral Creek FFR is not meeting Standard 4, and current livestock grazing management practices are not significant factors. Historic livestock grazing management is the identified the casual factor. Operations were identified as conforming to guidelines for livestock grazing management.

*Riparian*

- Standard 2 in the 2008 Evaluation and Determination did not apply.

**Current Assessment**

Pasture 1

*Uplands*

This pasture is managed as a native plant community.

- No current rangeland trend information available.
- Potential plant community:
  - a. Low sagebrush/bluebunch wheatgrass

*Riparian*

No riparian resources are identified within this allotment.

*Focal Species*

Greater Sage-grouse

- Allotment is currently under a 2008 determination and permit.
- New sage-grouse breeding habitat assessment information was collected in 2012.
- PPH = 68 acres (100 percent of this pasture)  
PGH = 0
- There are no leks documented within this pasture.
- Sage-grouse breeding habitat suitability rating: unsuitable

Rationale: The primary driver for the unsuitable habitat rating is due to the substantially low occurrence of large deep-rooted perennial grasses in the understory reducing the effective nesting, security, and foraging cover available (Table WDLF-20).

**Table WDLF-20:** Sage-grouse breeding habitat assessments conducted May 17, 2012, in pasture 2 of the Corral Creek FFR allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 1S5W4 rating</b>
Sagebrush Canopy Cover	suitable
Sagebrush Height	suitable
Sagebrush Growth Shape	marginal
Grass and Forb Height	suitable
Perennial Grass Canopy Cover	unsuitable
Forb Canopy Cover	unsuitable
Preferred Forb Availability	marginal
<b>Overall Site Evaluation</b>	<b>unsuitable</b>

Columbia Redband Trout

- No redband trout streams are documented within this allotment.

Columbia Spotted Frog

- This allotment is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

**Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

X Not meeting the Standard

### Rationale for Evaluation and Determination

#### *Uplands*

This allotment is managed as a native plant community. Standard 4 failed this allotment. The 2008 evaluation and determination failed this allotment due to the transition larger perennial grasses to smaller perennial grasses such as *Poa* spp.

#### *Riparian*

No riparian habitat information is available for this pasture.

#### *Focal Species*

All of the allotment lies within PPH. One sage-grouse breeding habitat assessment was collected in 2012 and indicated:

- Pasture 1 – Providing unsuitable breeding habitat conditions.

The unsuitable breeding habitat assessment information is consistent with Standard 4 and previous evaluations and determinations. Notable within the sage-grouse assessment was the unsuitable canopy cover of large perennial grasses. Because understory composition and structure for nesting and hiding are not being adequately provided, this allotment therefore is not meeting Standard 8.

### COW CREEK

#### Previous Assessment

#### *Uplands*

Most of the uplands of the allotment are near reference conditions, departure was in the “None to Slight” and “Slight to Moderate” categories. The functional and structural groups were generally close to what was expected for the site and are likely to be providing adequate habitat for the needs of most dependent special status and other wildlife species. Historic overgrazing, recent drought and occurrence of annual exotics were factors contributing to the slight to moderate deviations from reference conditions. The localized lack of large bunchgrasses was limiting cover structure and forage for sage grouse numerous song birds, pygmy rabbits and other species, including a diversity of insects, rodents, birds and others which are critical prey for most raptors including prairie falcons, northern harriers and ferruginous hawks. Site stability was being provided by ground cover, litter and microbiotic crusts.

#### *Riparian*

Most of the stream headwaters originate on the allotment as ephemeral or intermittent drainages. Two streams had marginal riparian habitat as a response to low water availability. These streams appear to be lacking in structural diversity, composition and vigor of riparian vegetation. One such segment on Split Rock Canyon was assessed and found to be Functional-At Risk (FAR) with no apparent trend. Thus, it was generally not providing suitable habitat for the dependent special status animal species. This situation is the result of the inherent capability of the habitat and not related to livestock or other uses. IDEQ standards are not particularly applicable to these headwater drainages.

Seven springs occur in Pastures 1 and 2. Two of these seven springs were assessed, with one rated as Nonfunctional (NF) due development for a livestock watering facility, and the other is in Proper Functioning Condition.

Pasture 3 and 4 have one spring each, both rated FAR with no trend information. Pasture 5 has two springs that were Nonfunctional (NF) due to development as a livestock watering facility. The two springs that were FAR only marginally meet some of the needs of dependant special status animals. The

springs that have been modified to serve as livestock watering facilities are not to be expected to improve without removing the facilities and restoring the site and providing alternate water sources. Scotch and Canada thistles occur at three springs, but there is no indication that they are increasing.

## Current Assessment

### Pasture 1

#### *Uplands*

- This pasture is managed as a native plant community although a prescribed fire and follow-up seeding occurred in the 1970s.
- No wildfires have been documented in this pasture in the past 50 years.
- Potential natural community:
  - a. Low sagebrush – Idaho fescue
  - b. Basin big sagebrush – bluebunch wheatgrass
- RHFA on loamy soils recorded that crested wheatgrass is the dominant grass with an occurrence of Idaho fescue and bluebunch wheatgrass. New recruits of these species were present on the site.
- RHFA on shallow claypan soils recorded majority of the plants were robust with seed stalks on the crested wheatgrass and Sandberg bluegrass.
- Rangeland trend monitoring information recorded the community contains scattered green rabbitbrush and spineless horsebrush. The interspatial areas are occupied by mostly crested wheatgrass, Sandberg bluegrass with cheatgrass, medusahead, and Vulpia. Bluebunch is static and Sandberg bluegrass is in a downward trend.

#### *Riparian*

- Total stream miles = 3.62
  - Perennial stream miles = 0
  - Intermittent stream miles = 3.62
- Total miles of stream assessed = 0
- Total number of springs = 1
  - Total number of springs assessed = 1
  - Number of springs in PFC = 1
  - Number of springs in FAR = 0
  - Number of Springs in NF = 0

#### *Focal Species*

##### Greater Sage-grouse

- Two sage grouse breeding habitat assessment were conducted in 2001.
- Two sage grouse upland summer habitat assessments were conducted in 2012.
- There are no documented leks in this pasture.
- PPH = 812 acres (100%) of the pasture.  
PGH = 0
- Sage grouse breeding habitat assessment suitability: suitable

Rational: Overall suitable rating driven largely by favorable perennial grass canopy cover and combined average height of grasses/forbs in the understory supported by an adequate overstory of sagebrush occurrence, height, and physical shape (Table WDLF-21).

**Table WDLF-21:** Sage-grouse breeding habitat assessments conducted May 16, 2001 in pasture 1 of the Cow Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 5S6W23 rating	Site 4S6W26 rating
Sagebrush Canopy Cover	marginal (5 to <15%)	suitable
Sagebrush Height	suitable	marginal (>80cm)
Sagebrush Growth Shape	suitable	suitable
Grass and Forb Height	marginal	suitable
Perennial Grass Canopy Cover	suitable	suitable
Forb Canopy Cover	unsuitable	unsuitable
Preferred Forb Availability	suitable	unsuitable
<b>Overall Site Evaluation</b>	<b>marginal</b>	<b>suitable</b>

- Sage grouse upland summer habitat suitability rating: marginal
- Rational: Overall marginal rating driven largely by favorable perennial grass canopy cover and combined average height of grasses/forbs in the understory supported by an adequate overstory of sagebrush occurrence, height, and physical shape (Table WDLF-22).

**Table WDLF-22:** Sage grouse upland summer habitat assessments conducted July 31, 2012 in pasture 1 of the Cow Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 5S6W24a rating
Sagebrush Canopy Cover	marginal (>25%)
Sagebrush Height	marginal <sup>1</sup> (>80cm)
Perennial Grass and Forb Canopy Cover	suitable
Preferred Forb Availability	marginal
<b>Overall Site Evaluation</b>	<b>marginal</b>

#### Columbia Redband Trout

- No redband trout habitat has been identified within this pasture.

#### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

#### Pasture 2

##### Uplands

- The pasture is a managed as a native plant community.
- In the 1960s, a wildfire burned 2,570 acres (69%) of this pasture. An additional 57 acres burned in the 2012.
- Potential natural plant community:

- a. Wyoming big sagebrush – bluebunch wheatgrass
- b. Low sagebrush – bluebunch wheatgrass
- c. Low sagebrush – Idaho fescue
- RHFAs recorded none to moderate departure from PNC over 3 assessment sights. There appeared to be good reproduction on bluebunch wheatgrass, Sandberg bluegrass and antelope bitterbrush. Cheatgrass, western juniper, bur buttercup and rod tansy found scattered on site.
- Rangeland trend monitoring information showed that the site dominated by squirreltail, Sandberg bluegrass, cheatgrass, and medusahead. Bluebunch wheatgrass occurs on the as a sub-dominant on the site.

*Riparian*

- Total stream miles = 10.24  
     Perennial stream miles = 0  
     Intermittent stream miles = 10.24
- Total miles of stream assessed = 1.2  
     Miles in PFC = 0  
     Miles in FAR = 1.2  
     Miles in NF = 0
- Total number of springs = 2  
     Total number of springs assessed = 1  
     Number of springs in PFC = 0  
     Number of springs in FAR = 0  
     Number of Springs in NF = 1

*Focal Species*

Greater Sage-grouse

- There were two sage grouse breeding habitat assessments conducted in 2004.
- There were three upland summer habitat assessments conducted in 2012.
- There are no documented leks within this pasture.
- PPH = 3,718 acres (100%) of the pasture.  
     PGH = 0
- Sage grouse breeding habitat suitability rating: marginal

Rational: The overall marginal rating for breeding habitat is driven largely by the occurrence, height and growth shape of the sagebrush overstory. The understory herbaceous component appears to be adequate to provide nesting, security, and foraging cover.

**Table WDLF-23:** Sage grouse breeding habitat assessments conducted May 6 and 12, 2004 in pasture 2 of the Cow Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 5S6W11 SESE rating	Site 4S6W11 SESW rating
Sagebrush Canopy Cover	marginal (>25%)	suitable
Sagebrush Height	marginal (>80 cm)	marginal (>80 cm)

Sagebrush Growth Shape	suitable	marginal
Grass and Forb Height	suitable	marginal
Perennial Grass Canopy Cover	suitable	suitable
Forb Canopy Cover	unsuitable	suitable
Preferred Forb Availability	unsuitable	suitable
<b>Overall Site Evaluation</b>	<b>marginal</b>	<b>marginal</b>

- Sage grouse upland summer habitat suitability rating: suitable

Rational: Overall suitable rating driven by favorable canopy cover of perennial grasses and forbs in the understory providing security cover and forage for sage grouse.

**Table WDLF-24:** Sage grouse upland summer habitat assessments conducted July 31, August 6, and 2012 in pasture 2 of the Cow Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 5S6W11b rating	Site 5S6W14b rating	Site 5S6W12c rating
Sagebrush Canopy Cover	marginal (>25%)	marginal (>25%)	marginal (>25%)
Sagebrush Height	marginal <sup>1</sup> (>80cm)	marginal <sup>1</sup> (>80cm)	marginal <sup>1</sup> (>80cm)
Perennial Grass and Forb Canopy Cover	marginal	suitable	suitable
Preferred Forb Availability	unsuitable	suitable	suitable
<b>Overall Site Evaluation</b>	<b>marginal</b>	<b>suitable</b>	<b>suitable</b>

- Sage grouse late brood-rearing habitat suitability rating: suitable
- Rational: Spring riparian area appears to be intact and functioning. Assessment noted wetland plants are dominant, forbs are readily available, sagebrush cover is less than 100 yards and only minor erosion can be observed.

#### Columbia Redband Trout

- No redband trout waters identified within this pasture.

#### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

#### Pasture 3

##### *Uplands*

- This pasture is managed as a native plant community.
- Wildfire burned 694 acres (58%) of this pasture in the 1960s.
- Potential natural community:
  - a. Mountain big sagebrush – Bluebunch wheatgrass-Idaho Fecue

- RHFA recorded this pasture at a none to slight departure for the overall biotic integrity. Sandberg bluegrass was increasing. Decadence and mortality was noted on mature bluebunch wheatgrass and Idaho fescue.
- Rangeland trend monitoring information showed that Sandberg and Bulbous bluegrasses were dominant in the understory. Bluebunch wheatgrass and Idaho fescue both showed a mostly static trend as co-dominants.

*Riparian*

- Total stream miles = 0.58  
     Perennial stream miles = 0.02  
     Intermittent stream miles = 0.56
- Total miles of stream assessed = 0
- Total number of springs = 1  
     Total number of springs assessed = 1  
     Number of springs in PFC = 0  
     Number of springs in FAR = 1  
     Number of Springs in NF = 0

*Focal Species*

Greater Sage-grouse

- One sage grouse breeding habitat assessment was conducted in 2001.
- One sage grouse upland summer habitat assessment was conducted in 2012.
- There are no documented leks within this pasture.
- PPH = 1,201 acres (100%) of the pasture.  
     PGH = 0
- Sage grouse breeding habitat assessment suitability: suitable

Rational: The overall suitable breeding habitat assessment rating is driven by the favorable occurrence of perennial grasses combined with the perennial grass/forb height and spreading shape of the sagebrush. Although sagebrush occurrence is marginal, the above combination provides effective nesting, security, and foraging cover (Table WDLF-25).

**Table WDLF-25:** Sage-grouse breeding habitat assessments conducted May 5, 2001 in pasture 3 of the Cow Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 4S5W31 rating
Sagebrush Canopy Cover	marginal (5 to <15%)
Sagebrush Height	Marginal (>80 cm)
Sagebrush Growth Shape	suitable
Grass and Forb Height	suitable
Perennial Grass Canopy Cover	suitable
Forb Canopy Cover	marginal

Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>

- Sage grouse upland summer habitat assessment suitability: suitable

Rational: The overall suitable rating for upland summer habitat is driven by the favorable occurrence of perennial grasses and forbs in the understory supported by favorable occurrence of sagebrush in the overstory. This combination provides effective security and foraging cover for sage grouse (Table WDLF-26).

**Table WDLF-26:** Sage grouse upland summer habitat assessments conducted July 31, 2012 in pasture 3 of the Cow Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 5S631a rating
Sagebrush Canopy Cover	suitable
Sagebrush Height	marginal <sup>1</sup> (>80cm)
Perennial Grass and Forb Canopy Cover	suitable
Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>

#### Columbia Redband Trout

- No redband trout waters have been identified within this pasture.

#### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.
- Stream segments and spring locations identified as FAR are not meeting healthy and productive habitat conditions for Columbia River redband trout, spotted frogs or other aquatic species.

#### Pasture 4

##### *Uplands*

- This pasture is managed as a native plant community.
- Two wildfires burned 359 acres (43%) of the pasture in the 1960s.
- Potential plant communities:
  - a. Mountain big sagebrush – Bluebunch wheatgrass-Idaho Fecue
- RHFA recorded a none to slight departure for the overall biotic integrity of the site. Western juniper and bulbous bluegrass were noted as invading the area.
- The rangeland trend monitoring information showed the dominant species included bluebunch wheatgrass, Idaho fescue, and Sandberg bluegrass. Bluebunch wheat grass and Idaho fescue are showing a static to upward trend while Sandberg bluegrass is decreasing. Bulbous bluegrass was increasing.

##### *Riparian*

- Total stream miles = 1.4

Perennial stream miles = 0.06  
 Intermittent stream miles = 1.34

- Total miles of stream assessed = 0
- Total number of springs = 0
- Total number of springs assessed = 0

*Focal Species*

Greater Sage-grouse

- One sage grouse breeding habitat assessment was conducted in 2001.
- Two sage grouse upland summer habitat assessment was conducted in 2012.
- There are no documented leks within this pasture.
- PPH = 835 acres (100%) of the pasture.  
PGH = 0
- Sage grouse breeding habitat assessment suitability: marginal

Rational: The overall marginal rating for breeding habitat is driven by the moderate occurrence and height of perennial grasses and forbs in the understory. This scenario reduces effective nesting, security, and foraging cover for sage grouse (Table WDLF-27).

**Table WDLF-27:** Sage-grouse breeding habitat assessments conducted May 17, 2001 in pasture 2 of the Cow Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 5S5W6 rating
Sagebrush Canopy Cover	marginal (5 to <15%)
Sagebrush Height	suitable
Sagebrush Growth Shape	suitable
Grass and Forb Height	marginal
Perennial Grass Canopy Cover	marginal
Forb Canopy Cover	marginal
Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>marginal</b>

- Sage grouse upland summer habitat suitability rating: suitable

Rational: The overall suitable rating for upland summer habitat is driven by the favorable occurrence of perennial grasses and forbs in the understory supported by favorable occurrence of sagebrush in the overstory. This combination provides effective security and foraging cover for sage grouse (Table WDLF-28).

**Table WDLF-28:** Sage grouse upland summer habitat assessments conducted July 31, 2012 in pasture 4 of the Cow Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site	Site
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	<b>4S5W32b rating</b>	<b>5S5W5a rating</b>
Sagebrush Canopy Cover	suitable	marginal (>25%)
Sagebrush Height	suitable	marginal <sup>1</sup> (>80cm)
Perennial Grass and Forb Canopy Cover	suitable	suitable
Preferred Forb Availability	suitable	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>	<b>suitable</b>

#### Columbia Redband Trout

- No redband trout waters have been identified within this pasture.

#### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog.
- Potential habitat exists along stream corridors and springs.

#### Pasture 5

##### *Uplands*

- This pasture is managed as a native plant community.
- Wildfire burned 359 acres (43%) of this pasture in the 1960s.
- Potential natural community:
  - a. Mountain big sagebrush – Bluebunch wheatgrass-Idaho Fescue
- RHFAs recorded none to moderate departure from the reference site between two assessment locations. All the functional/structural groups were present. Juniper and bulbous blugrass were invading the area and some shrub mortality was observed.
- Rangeland trend monitoring information showed a downward trend in Idaho fescue and Sandberg bluegrass. Bluebunch wheatgrass is more than likely holding static as a co-dominant with Idaho fescue and Sandberg Bluegrass. Shrub frequency appears to be in downward trend.

##### *Riparian*

- Total stream miles = 3.27  
 Perennial stream miles = 0  
 Intermittent stream miles = 3.27
- Total miles of stream assessed = 0
- Total number of springs = 0  
 Total number of springs assessed = 0

##### *Focal Species*

##### Greater Sage-grouse

- Two sage grouse breeding habitat assessment was conducted in 2004.
- Two sage grouse upland summer habitat assessment was conducted in 2012.
- There are no documented leks within this pasture.
- PPH = 1,389 acres (100%) of the pasture.  
 PGH = 0
- Sage grouse breeding habitat assessment suitability: suitable

Rational: The overall suitable breeding habitat rating is driven by the favorable combination composition and structure of overstory and understory vegetation that would provide adequate nesting, security, and foraging cover for sage grouse. (Table WDLF-29).

**Table WDLF-29:** Sage-grouse breeding habitat assessments conducted June 1, 2004 in pasture 5 of the Cow Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 5S5W3 SWNW rating	Site 5S5W3 NWNW rating
Sagebrush Canopy Cover	suitable	suitable
Sagebrush Height	suitable	suitable
Sagebrush Growth Shape	suitable	suitable
Grass and Forb Height	suitable	suitable
Perennial Grass Canopy Cover	marginal	marginal
Forb Canopy Cover	suitable	suitable
Preferred Forb Availability	suitable	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>	<b>suitable</b>

- Sage grouse upland summer habitat suitability rating: unsuitable

Rational: The overall unsuitable rating for upland summer habitat is driven by the unfavorable canopy cover of perennial grasses and forbs that would leave the understory open and not provide adequate security and foraging cover for sage grouse (Table WDLF-30).

**Table WDLF-30:** Sage grouse upland summer habitat assessments conducted August 8, 2012 in pasture 5 of the Cow Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 5S5W3a rating	Site 5S5W5a rating
Sagebrush Canopy Cover	marginal (>25%)	suitable
Sagebrush Height	suitable	suitable
Perennial Grass and Forb Canopy Cover	unsuitable	marginal
Preferred Forb Availability	suitable	suitable
<b>Overall Site Evaluation</b>	<b>unsuitable</b>	<b>marginal</b>

Columbia Redband Trout

*No redband waters have been identified within this pasture.*

Columbia Spotted Frog

- No Columbia spotted frog habitat has been identified within this pasture.

**Evaluation**

Evaluation Finding – Allotment/watershed is:

- Meeting the Standard
- Not meeting the Standard, but making significant progress towards meeting
- Not meeting the Standard

## Rationale for Evaluation and Determination

### *Uplands*

All of the pastures in this allotment are managed as native habitat communities. Pasture 2 is the only pasture identified as not meeting Standard 4, due to the dominance of cheatgrass and medusahead in the plant community resulting from historic fire and invasion of exotic species. The plant community is transitioning from a reference site characterized by robust perennial grasses (i.e., bluebunch wheatgrass, Idaho fescue) to a less-desirable community of more grazing-tolerant species such as Sandberg bluegrass, cheatgrass, and medusahead. This transition exposes the understory and reduces effective nesting, escape, hiding, travel, and foraging cover values for all wildlife associated with sagebrush steppe communities. Habitat connectivity and increased sagebrush fragmentation are also associated with increased dominance of invasive plant species. Because upland habitat values are changing to a less-desirable vegetation state, this allotment is failing to provide adequate upland habitat conditions for sagebrush steppe wildlife and therefore is not meeting Standard 8.

### *Riparian*

Standards 2, 3, and 7 identified streams and springs within this allotment that are not properly functioning or meeting water quality parameters due to current grazing practices. Streams, springs, and wetlands that are NF or are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive environment. If Standards 2, 3, and 7 are not being met, habitat conditions within this allotment are inadequate to support viable aquatic and terrestrial species populations, and therefore, the allotment is not meeting Standard

### *Focal Species*

Ninety-nine percent of this allotment falls within modeled PPH/PGH habitat for sage-grouse. A total of 18 sage-grouse breeding, upland summer, and late brood-rearing habitat assessments collected from 2001 to 2012 identified:

- Pasture 1 - Providing suitable breeding and marginal upland summer habitat conditions;
- Pasture 2 - Providing marginal breeding, suitable upland summer habitat conditions and suitable late brood-rearing (mesic habitat);
- Pasture 3 - Providing suitable breeding and suitable upland summer habitat conditions;
- Pasture 4 - Providing marginal breeding and suitable upland habitat conditions; and
- Pasture 5 - Providing suitable breeding and unsuitable upland summer habitat conditions.

Marginal breeding habitat conditions in pastures 2 and 4 and unsuitable upland summer habitat conditions in pasture 5 are not meeting desirable habitat conditions for sage-grouse and therefore are not meeting Standard 8. The primary cause for not meeting sage-grouse habitat criteria is driven by reduced canopy cover of large deep-rooted perennial grasses (i.e., bluebunch wheatgrass, Idaho fescue) in the understory, indicating that functional nesting, brood-rearing, escape, and hiding cover values are not fully being provided in these pastures. The marginal rating for pasture 1 is due to the greater-than-desirable canopy cover and height of the sagebrush overstory, with favorable perennial grasses in the understory. Because pastures 2 and 4 are not meeting desirable sage-grouse habitat conditions, this allotment is failing to provide adequate upland habitat values, and therefore is not meeting Standard 8.

Columbia River redband trout are known to occur within the Succor Creek system. Evaluation of Standards 2, 3, and 7 identified streams and springs within this system that are not properly functioning or meeting water quality parameters due to current grazing practices. They require intact channels with well-

developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filter sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flow. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout, and therefore is not meeting Standard 8.

This allotment is within the range of the Columbia spotted frog. Evaluation of Standards 2, 3, and 7 identified streams and springs that are not properly functioning or meeting water quality parameters due to current grazing practices. Spotted frogs are usually found along vigorous grassy/sedge margins of streams, lakes, ponds, springs, and marshes not far from sources of quiet permanent water. They migrate along these vegetation corridors between habitats used for spring breeding, summer foraging, and winter hibernation. Because these riparian habitat characteristics are not properly functioning, this allotment is not providing adequate aquatic conditions to sustain viable populations of spotted frogs, and therefore is not meeting Standard 8.

## ELEPHANT BUTTE

### **Previous Assessment**

#### *Uplands*

According to the Northwest Owyhee Front Assessment (2001), desirable bunchgrasses and perennial forbs are generally lacking. Reduced community structure and limited cover and production of desirable grasses and forbs has adversely affected the suitability of the desert shrub and sagebrush steppe communities as habitat for a diversity of species, including Brewer's sparrows, sage sparrows, pygmy rabbits and others. The reduced quantity and quality of herbaceous vegetation limits suitable nesting habitat for ground nesting species and reduces the production and availability of forbs, seeds, and insects that are critical food items for Neotropical birds and bats (insects only) and for small mammals that are, in turn, critical prey for most raptors, including prairie falcons, northern harriers, ferruginous hawks, and burrowing owls.

#### *Riparian*

According to the Northwest Owyhee Front Assessment (2001), assessed riparian habitat in this allotment is located within Squaw Creek Canyon. All stream segments were rated as functioning properly and are expected to be providing at least marginally suitable habitat for most species.

### **Current Assessment**

#### Pasture 1

#### *Uplands*

- This pasture is being managed as an exotic plant community.
- There are predominantly 2 ecological plant communities:
  - a. Shadscale/bud sagebrush/Indian ricegrass/Thurber's needlegrass;
  - b. Wyoming big sagebrush/bluebunch wheatgrass.
- The functional/structural groups show a moderate to extreme departure from the reference site community. Overall biotic integrity of this pasture has a moderate to extreme departure from the ecological site potential due to the dominance of cheatgrass, a shift in species composition from the native community, and decrease in species present (Standard 6).
- Trend information provided in Standard 6 identifies a decrease in big sagebrush and a decrease in both larger and smaller perennial grasses. Cheatgrass is the dominant species in the understory.

#### *Riparian*

- Total stream miles = 1.24 miles  
Perennial flow = 0 miles

Intermittent flow = 1.24

- Total miles assessed = 1.37
  - Miles at PFC = 0
  - Miles FAR = 0
  - Miles NF = 0

### *Focal Species*

#### Greater Sage-grouse

- No sage-grouse breeding habitat assessments have been conducted in this pasture and the current plant community has limited habitat value for sage-grouse.
- PPH = 0 acres  
PGH = 0 acres
- Conclusion is that this pasture is non-habitat for sage-grouse and that due to the dominance of cheatgrass and the moderate-extreme departure from the ecological site potential, this pasture has limited value for only a narrow collection of species.

#### Columbia Redband Trout

- No redband trout streams are documented in this pasture.

#### Columbia Spotted Frog

- No spotted frog habitat is documented in this pasture.

### Pasture 2

#### *Uplands*

- This pasture is being managed as an exotic plant community.
- Wildfires in the 1960s (975 acres), the 1970s (360 acres), and 2000s (232 acres) have burned a total of 1,567 (81 percent) acres of this pasture over the last 52 years.
- Two primary ecological sites:
  - a. Shadscale/bud sage, southern portion;
  - b. Wyoming big sagebrush/bluebunch wheatgrass, northern portion
- The RHFAs (on Loamy 10-13" soils) identified that the functional/structural groups showed a moderate departure from the reference site community, that bluebunch wheatgrass and forbs are absent, and that cheatgrass is sub-dominant with Sandberg bluegrass and squirreltail as a minor component. Overall, the biotic integrity of this pasture has a moderate departure from the ecological site potential.
- Rangeland trend information provided in Standard 6 states that the sagebrush and shadscale community trends in the overstory are static. Bluebunch wheatgrass is decreasing in the long-term, Sandberg bluebunch is static to increasing, and cheatgrass is increasing.

#### *Riparian*

- Total stream miles = 0.7 miles
  - Perennial flow = 0.47 miles (Squaw Creek)
  - Intermittent flow = 0.23 miles (unnamed creek)
- Total miles assessed = 1.37
  - Miles at PFC = 1.37
  - Miles FAR = 0
  - Miles NF = 0

*Focal Species*

Greater Sage-grouse

- Four sage-grouse breeding habitat assessments were conducted for this allotment in 2012.
- There are no leks identified within this allotment.
- PPH = 112 acres; (6 percent) of this pasture  
PGH = 1,393 acres (72 percent) of this pasture  
Non-habitat = 419 acres (22 percent) as non-habitat for Sage-grouse.
- Sage-grouse breeding habitat suitability rating:
  1. northern portion = unsuitable to non-habitat
  2. southern portion = suitable

Rationale: Habitat suitability heavily influenced by soils, terrain and elevation. Site 1N4W05 is a calcareous ecological type and non-habitat for sage-grouse. All remaining sites occurred on loamier soils in sagebrush communities. Sites 1N4W7a and 1N4W7b both had favorable overstory and understory composition of sagebrush and larger deep-rooted perennial grasses and were the southernmost assessment locations. The remaining two sagebrush sites (1N4W5 and 1N4W8) occur more northerly in the central portion of the pasture showed favorable sagebrush overstory but lacked cover producing perennial grasses in the understory.

**Table WDLF-31:** Sage-grouse breeding habitat assessments conducted May 2, 2012 in Elephant Butte allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 1N4W5	*Site 1N4W6	Site 1N4W7a	Site 1N4W7d	Site 1N4W8
Sagebrush Canopy Cover	suitable	unsuitable	marginal (>25%)	suitable	suitable
Sagebrush Height	suitable	unsuitable	suitable	suitable	suitable
Sagebrush Growth Shape	suitable		suitable	suitable	suitable
Grass and Forb Height	unsuitable	unsuitable	suitable	suitable	suitable
Perennial Grass Canopy Cover	unsuitable	unsuitable	suitable	suitable	unsuitable
Forb Canopy Cover	unsuitable	unsuitable	unsuitable	unsuitable	unsuitable
Preferred Forb Availability	unsuitable	unsuitable	unsuitable	suitable	unsuitable
<b>Overall Site Evaluation</b>	<b>unsuitable</b>	<b>(non-habitat)</b>	<b>suitable</b>	<b>suitable</b>	<b>unsuitable</b>

\*Calcareous loam 7-10”; Shadscale-bud sage community

Columbia Redband Trout

- Squaw Creek is perennial water adequate for as a Columbia River redband trout stream.
- Squaw Creek in good condition.
- Alkali Spring is developed and protected from livestock.

Columbia Spotted Frog

- No spotted frog habitat document in this pasture.

Pasture 3

*Uplands*

- This pasture is being managed as an exotic plant community.

- 363 acres (15 percent) of this pasture burned in 2002.
- Potential plant community:
  - a. Shadscale-bud sagebrush/Indian ricegrass-Thurber's needlegrass
- The rangeland health assessment identified that the functional/structural groups showed a moderate – extreme departure from the potential plant community. Deep-rooted perennial grasses are scarce to absent. Overall, the biotic integrity of this pasture has a moderate – extreme departure from the ecological site potential.
- Trend information provided in Standard 6 identifies a long-term decrease in the shadscale and budsage overstory. Understory trends did not identify any native deep-rooted grasses on site; however crested wheatgrass (deep-rooted non-native) is beginning to be seen. Sandberg bluegrass and squirrel tail are present but showing a slight downward trend. Cheatgrass is a co-dominant species.

#### *Riparian*

- Total stream miles = 5.08 miles
  - Perennial flow = 0 miles
  - Intermittent flow = 5.08
- Total miles assessed = 1.30
  - Miles at PFC = 0
  - Miles FAR = 1.30
  - Miles NF = 0

#### *Focal Species*

##### Greater Sage-grouse

- One Sage-grouse breeding habitat assessment attempted but not completed in 2009. Evaluators concluded site is non-habitat.
- There are no leks identified within this allotment.
  - PPH = 0 acres
  - PGH = 543 acres (23 percent) of this pasture (Map SG-1).
- Sage-grouse habitat suitability rating = non-habitat

Rationale: This pasture is predominantly a shadscale community on calcareous soils. This pasture is very similar to the soils, terrain, and elevation discussed in pasture 2; with the only exception being that it does not have an upper bench. The conclusion is that a majority of this this pasture is non-habitat for sage-grouse.

##### Columbia Redband Trout

- Squaw Creek is perennial water adequate for as a Columbia River redband trout stream.
- Squaw Creek in good condition.

##### Columbia Spotted Frog

- No spotted frog habitat is documented within this pasture.

#### Pasture 4

##### *Uplands*

- This pasture is being managed as an exotic plant community.
- Potential plant community: Shadscale-bud sagebrush/Indian ricegrass-Thurber's needlegrass
- Rangeland health assessments identified that the functional/structural groups showed a moderate – extreme departure from the plant community potential. Deep-rooted perennial grasses and forbs

are lacking or greatly reduced. Overall, the biotic integrity of this pasture has a moderate – extreme departure from the ecological site potential (Standard 6).

- Nested frequency trend information provided in Standard 6 identifies a long-term decrease in shadscale and budsage overstory. Trend information did not identify the occurrence of native deep-rooted grasses on site. Cheatgrass is co-dominant with Sandberg bluegrass in the understory.

#### *Riparian*

- Total stream miles = 0.56  
    Perennial flow = 0  
    Intermittent flow = 0.56
- Total miles assessed = 0
- There are no assessed riparian habitat communities identified within this pasture.

#### *Focal Species*

##### Greater Sage-grouse

- No Sage-grouse breeding habitat assessments have been conducted in this pasture and the current plant community has limited habitat value for Sage-grouse.
- PPH = 0 acres  
    PGH = 0 acres
- This pasture is very similar to the discussion for pasture 2 with the exception being that it does not increase in elevation to an upper bench.
- The conclusion is that this pasture is non-habitat for sage-grouse and that due to the dominant shadscale community type, cheatgrass and the moderate-extreme departure from the ecological site potential, this pasture has limited value for only a narrow collection of species.

##### Columbia Redband Trout

- No redband trout streams documented in this pasture.

##### Columbia Spotted Frog

- No spotted frog habitat documented in this pasture.

#### Pasture 5

##### *Uplands*

- This pasture is being managed as an exotic plant community.
- Eighty-eight percent of this pasture has been burned by wildfire in the 1960s (7 acres), in the 1970s (134 acres), in the 1980s (606 acres), and in the 2000s (98 acres).
- Two primary ecological sites:
  - a. Shadscale/Indian ricegrass-Thurber's needle grass
  - b. Wyoming big sagebrush/ Indian ricegrass
- The rangeland health assessment was conducted in Wyoming sagebrush/Indian ricegrass potential plant community on a Sandy Loam 8-12" site. Currently, there are only few shrubs in the overstory. Thurber's needlegrass is co-dominant with squirreltail; Sandberg bluegrass and cheatgrass are the primary ground cover. The functional/structural groups show a moderate departure from the reference site potential. Overall, the biotic integrity of this pasture has a moderate departure from the ecological site potential due to compromised functional/structural groups and strong presence of invasive species (i.e., cheatgrass, Russian thistle, and halogeton).
- The rangeland nested frequency trend site is located on Calcareous Loam 7-10" ecological site. Shadscale-bud sagebrush/Indian ricegrass-Thurber's needlegrass is the potential plant community. Trend information provided in Standard 6 identifies a long-term increase in Sandberg

bluegrass, Thurber's needlegrass, shadscale and squirreltail. Cheatgrass occurrence is increasing. The shrub component is absent (Standard 6).

#### *Riparian*

- Total stream miles = 1.74  
    Perennial stream miles = 0  
    Intermittent stream = 0
- Total miles of stream assessed = 0
- No riparian habitat communities have been assessed within this pasture.

#### *Focal Species*

##### Greater Sage-grouse

- No sage-grouse breeding habitat assessments have been conducted in this pasture and the current plant community has limited habitat value for sage-grouse.
- PPH = 0 acres  
    PGH = 0 acres
- This pasture is very similar to the discussion for pasture 2 with the exception being that it does not increase in elevation to an upper bench.
- The conclusion is that this pasture is "non-habitat" for Sage-grouse and that due to the dominant shadscale community type, cheatgrass and the moderate-extreme departure from the ecological site potential, this pasture has limited value for only a narrow collection of species.

##### Columbia Redband Trout

- No redband trout streams documented within this pasture.

##### Columbia Spotted Frog

- No spotted frog habitat documented within this pasture.

#### **Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

#### **Rationale for Evaluation and Determination**

##### *Uplands*

Pastures 1, 2, 3, 4 and 5 are managed as exotic pastures. Upland habitats managed under Standard 6 do not meet the requirements of Standard 8. Due to current livestock grazing and the dominance of exotic species in this allotment, vegetation composition, structure, and function are lacking or absent in these communities and have substantially reduce effective nesting, hiding, escape, travel, and foraging cover values for all upland wildlife species. These exotic communities further create large open spaces, diminish habitat connectivity, and increase sagebrush community fragmentation.

##### *Riparian*

Riparian resources are functioning properly and are providing adequate riparian habitat conditions and therefore are meeting Standard 8 for terrestrial and aquatic species.

##### *Focal Species*

Twenty-two percent of this allotment falls within modeled PPH/PGH habitat for sage-grouse. A total of five sage-grouse breeding habitat assessments collected from 2009 to 2012 indicated:

- Pasture 1 - Non-habitat for sage-grouse
- Pasture 2 - Northern portion: non-habitat for sage-grouse; southern portion: providing suitable breeding habitat conditions
- Pasture 3 - Non-habitat for sage-grouse
- Pasture 4 - Non-habitat for sage-grouse
- Pasture 5 - Non-habitat for sage-grouse

All of the pastures in this allotment are non-habitat for sage-grouse because of the shadscale/cheatgrass plant community that does not provide adequate habitat composition, structure and function. This is also consistent with PPH/PGH modeling map that identifies that 78 percent of this allotment is outside the range of sage-grouse habitat. However, in the remaining 22 percent of the allotment, the southern portion of pasture 2 increases in elevation and the sagebrush community becomes more favorable with a desirable canopy cover of bluebunch wheatgrass in the understory. Sage-grouse breeding habitat assessments recorded that this southern portion of the pasture is providing favorable overstory/understory composition of sagebrush and bluebunch wheatgrass for effective nesting, escape, security, and foraging cover for sage-grouse.

## FERRIS FFR

### **Previous Assessment**

*Uplands (Rangeland Health Assessment 2006)*

RHFA site RLH1 (T.4S, R.5W, Sec 9) is a Shallow Claypan 12-16” ecological site. The indicator for invasive plants rated in the moderate- to-extreme range; it was noted that ventenata, cheatgrass, and bulbous bluegrass were commonly encountered in large patches with islands of low sagebrush. It was noted that native plant communities in pasture 1 have not recovered from a 1962 wildfire, with few shrubs and few large bunchgrasses (Idaho fescue).

RHFA site RLH2 (T.4S, R.6W, Sect 12) is a Loamy 11-13” ecological site. Shrub and grasses are well distributed and the infiltration appeared good at this site. Plants were noted as being vigorous and healthy. Invasive species were rated as moderate with cheatgrass, ventenata, and bulbous bluegrass common.

RHFA site (T.4S, R.5W, Sec 19) is a Loamy 13-16” ecological site. Indicators with a moderate-to-extreme rating were associated with functional structural groups and invasive plants (similar observations as found in the two previous sites). Green rabbitbrush was noted as increasing, with bluebunch wheatgrass and Idaho fescue being absent and bulbous bluegrass being dominant.

### *Riparian*

No known seeps or springs on public land. Less than 0.3 miles of Cow Creek in pasture 1 cross the corner of a 40-acre tract on public lands. Both up- and downstream access require crossing private lands. This portion of creek is intermittent and appears to have adequate cover of willows and herbaceous riparian vegetation for recovery and maintenance.

### **Current Assessment**

#### Pasture 1

*Uplands*

- This pasture is managed as a native plant community.
- Wildlife burned 810 acres (70 percent) of this pasture in the 1960s.
- Potential nature plant community:
  - a. Low sagebrush/bluebunch wheatgrass

- b. Low sagebrush/Idaho fescue
- RHFAs were recorded a moderate departure from reference conditions due to occurrence of cheatgrass, ventenata, and bulbous bluegrass
- No rangeland trend information is available.

*Riparian*

- Total stream miles = 2.05  
Perennial stream miles = 0  
Intermittent stream miles = 2.05
- Total miles of stream assessed = 0
- Total number of springs = 0

*Focal Species*

Greater Sage-grouse

- One sage-grouse upland summer habitat assessment was conducted in 2012.
- There are no documented leks within this pasture.
- PPH = 1,152 acres (100 percent) of the pasture; BLM = 393 acres  
PGH = 0
- Sage-grouse upland summer habitat suitability: non-habitat

Rationale: Sage-grouse require a functioning overstory/understory of sagebrush and robust perennial grasses and forbs to provide effective nesting, security, and forage cover. This pasture lacks a sagebrush component in the overstory and is dominated by annual grasses in the understory.

**Table WDLF-32:** Sage-grouse upland summer habitat assessments conducted August 7, 2012, in pasture 1 of the Ferris FFR allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

Habitat Indicator	Site 4S5W8 rating
Sagebrush Canopy Cover	unsuitable
Sagebrush Height	
Perennial Grass and Forb Canopy Cover	
Preferred Forb Availability	
<b>Overall Site Evaluation</b>	<b>non-habitat</b>

Columbia Redband Trout

- No redband trout streams are documented in this pasture.
- No PFC assessments have been conducted in this pasture.

Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog.
- Potential habitat exists along stream corridors and springs.

Pasture 2

*Uplands*

- This pasture is managed as a native plant community.
- Wildlife burned 13 acres (5 percent) of this pasture in the 1960s.
- Potential natural plant community:
  - a. Mountain big sagebrush/bluebunch wheatgrass-Idaho fescue
- RHFA recorded a non-to slight departure from the reference condition.

- No rangeland trend information is available for this pasture.

*Riparian*

- Total stream miles = 1.81  
     Perennial stream miles = 0  
     Intermittent stream miles = 1.81
- Total miles of stream assessed = 0
- Total number of springs = 0

*Focal Species*

Greater Sage-grouse

- One sage-grouse upland summer habitat assessment was conducted in 2012.
- There are no documented leks within this pasture.
- PPH = 275 acres (100 percent) of the pasture; BLM = 121 acres (44 percent)  
     PGH = 0
- Sage-grouse breeding habitat assessment suitability: suitable

Rationale: The overall suitable habitat rating is driven by the favorable occurrence of perennial grasses and forbs in the understory providing effective security and foraging cover for sage-grouse.

**Table WDLF-33:** Sage-grouse upland summer habitat assessments conducted August 7, 2012, in pasture 1 of the Ferris FFR allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 4S6W12 rating</b>
Sagebrush Canopy Cover	marginal (>25%)
Sagebrush Height	marginal (>80cm)
Perennial Grass and Forb Canopy Cover	suitable
Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>

Columbia Redband Trout

- No redband trout streams documented in this pasture.

Columbia Spotted Frog

- No PFC assessments have been conducted in this pasture.
- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

Pasture 3

*Uplands*

- This pasture is managed as a native plant community.
- Wildlife burned 1070 acres (62 percent) of this pasture in the 1960s.
- Potential natural plant community:
  - a. Mountain sagebrush/bluebunch wheatgrass-Idaho fescue
- RHFA recorded a moderate departure from the reference condition due to an increase in shrubs and a decrease in bunchgrasses.
- No rangeland trend information is available for this pasture.

*Riparian*

- Total stream miles = 9.09  
     Perennial stream miles = 0.25  
     Intermittent stream miles = 6.95
- Total miles of stream assessed = 0
- Total number of springs = 0

*Focal Species*

Greater Sage-grouse

- One sage-grouse upland summer habitat assessment was conducted in 2012.
- There are no documented leks within this pasture.
- PPH = 1,716 acres (100 percent) of the pasture  
     PGH = 0
- BLM = 537 acres (31 percent)
- Sage-grouse breeding habitat assessment suitability: suitable

Rationale: The overall suitable habitat rating is driven by the favorable occurrence of perennial grasses and forbs in the understory providing effective security and foraging cover for sage-grouse.

**Table WDLF-34:** Sage-grouse upland summer habitat assessments conducted August 7, 2012, in pasture 3 of the Ferris FFR allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

Habitat Indicator	Site 4S5W17 rating
Sagebrush Canopy Cover	Marginal (>25%)
Sagebrush Height	Marginal (>80cm)
Perennial Grass and Forb Canopy Cover	suitable
Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>

Columbia Redband Trout

- No redband trout streams have been documented in this pasture.

Columbia Spotted Frog

- No PFC assessments have been conducted in this pasture.
- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

**Evaluation**

Evaluation Finding – Allotment/watershed is:

- Meeting the Standard
- Not meeting the Standard, but making significant progress towards meeting
- Not meeting the Standard

**Rationale for Evaluation and Determination**

*Uplands*

All of the pastures in this allotment are managed as native habitat communities. Pastures 1 and 3 are identified as not meeting Standard 4 due to the dominance of exotic species such as cheatgrass and

medusahead in the plant community resulting from historic fire and invasion of exotic species. The plant community is transitioning from a reference site characterized by robust perennial grasses (i.e., bluebunch wheatgrass, Idaho fescue) to a less-desirable community of more grazing-tolerant species such as Sandberg bluegrass, cheatgrass, and medusahead. This transition exposes the understory and reduces effective nesting, escape, hiding, travel, and foraging cover values for all wildlife associated with sagebrush steppe communities. Reduced habitat connectivity and increased sagebrush community fragmentation are also associated with increased dominance of invasive plant species. Because upland community composition is changing to a less-desirable vegetation state, this allotment is failing to provide adequate upland habitat values for sagebrush steppe wildlife and therefore is not meeting Standard 8.

### *Riparian*

Evaluation of Standards 2, 3, and 7 identified streams and springs within this allotment that are not properly functioning or meeting water quality parameters due to current grazing practices. Springs, and wetlands that are FAR and/or water developments in disrepair are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive riparian environment. Because Standards 2 and 7 are not meeting, this allotment is failing to provide adequate conditions for aquatic and terrestrial wildlife, and therefore is not meeting Standard 8.

### *Focal Species*

The entirety of this allotment falls within modeled PPH/PGH habitat for sage-grouse. A total of three sage-grouse upland summer habitat assessments collected in 2012 identified:

- Pasture 1 - Providing non-habitat due to absence of sagebrush and dominance of exotic grasses.
- Pasture 2 - Providing suitable upland summer habitat conditions;
- Pasture 3 - Providing suitable upland summer habitat conditions.

Pasture 1 is identified to be non-sage-grouse habitat due to the absence of sagebrush and the dominance of exotic annuals. This is the result of a 1960s wildfire that burned approximately 70 percent of the pasture. Pastures 2 and 3 are shown to be providing suitable sage-grouse summer habitat largely due to the favorable canopy cover of perennial grasses and forbs in the understory, although the sagebrush overstory exceeded desirable densities and height criteria. Because this allotment is well within modeled PPH/PGH for sage-grouse and pasture 1 is managed as a native community (but dominated by annuals) under Standard 4, this allotment is failing to provide adequate habitat conditions and connectivity for sage-grouse, and therefore does not meet Standard 8.

This allotment is within the range of the Columbia spotted frog. Standards 2, 3, and 7 identified streams and springs that are not properly functioning or meeting water quality parameters due to current grazing practices. Spotted frogs are usually found along vigorous grassy/sedge margins of streams, lakes, ponds, springs, and marshes not far from sources of quiet permanent water. They migrate along these vegetation corridors between habitats used for spring breeding, summer foraging, and winter hibernation. Because streams and springs are not functioning properly, this allotment is not providing adequate aquatic conditions to sustain viable populations of spotted frogs, and therefore is not meeting Standard 8.

## FRANCONI

### **Previous Assessment**

*Uplands (2007 Evaluation and Determination)*

#### Standard 4

The Chubby Spain fire burned approximately 90 percent of the plant cover in the southern portions of these pastures. The reduction in vegetation cover, coupled with wildlife concerns, warranted aerial seeding of perennial grasses, forbs, and mountain sagebrush to promote revegetation of the watershed.

This pasture is not meeting Standard 4, current livestock management practices are not significant factors; rather, wildfire has led to conditions that are not meeting the Standard.

#### Standard 8

Due to the Chubby Spain fire, cover, structure, and forage are all lacking for a diversity of wildlife species in burned areas of the allotment. Burned areas were reseeded with a mixture of shrub, grass, and forb species prior to the 2007 growing season. Wildlife and special status species habitat is expected to improve as revegetation occurs in burned areas of the allotment.

This pasture is not meeting Standard 8, current livestock management practices are not significant factors rather, wildfire has led to conditions that are not meeting the Standard.

#### *Riparian (2007 Evaluation and Determination)*

The 0.25-mile stretch of Wildcat Canyon Creek in pasture 3 supports cover of riparian vegetation. The riparian area appears to be stable and is in appropriate condition relative to its potential. The spring (5583A) located in pasture 3 in PFC and is supporting adequate cover of riparian vegetation. These riparian areas were not affected by the Chubby Spain wildfire.

This pasture is not meeting Standards 2 and 3.

### **Current Assessment**

#### Pasture 1

##### *Uplands*

- This pasture is managed as a native plant community.
- The last wildfire documented in this pasture burned 244 acres (100 percent) of this pasture in the 1960s.
- Potential plant community:
  - a. Low sagebrush/Idaho fescue
- No new information is available beyond that provided in the 2007 Evaluation and Determination.

##### *Riparian*

- No new information is available beyond that provided in the 2006 Evaluation and Determination.

##### *Focal Species*

#### Greater Sage-grouse

- One sage-grouse breeding habitat assessment was conducted in 2009.
- There are no leks within this pasture.
- PPH = 244 acres (100 percent) of the pasture  
PGH = 0
- BLM = 244 acres (100 percent)
- Sage-grouse breeding habitat suitability rating: suitable

Rationale: The overall suitable rating is driven largely by favorable sagebrush overstory conditions supported by an adequate canopy cover of perennial grasses in the understory. Although the height of perennial grasses/forbs less than desirable in the understory, the sagebrush growth shape in the overstory contributes to providing effective nesting, security, and foraging cover for Sage-grouse (Table WDLF-35).

**Table WDLF-35:** Sage-grouse breeding habitat assessment conducted June 9, 2009, in pasture 1 in the Franconi allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 5S5W10 rating</b>
Sagebrush Canopy Cover	suitable
Sagebrush Height	suitable
Sagebrush Growth Shape	suitable
Grass and Forb Height	marginal
Perennial Grass Canopy Cover	suitable
Forb Canopy Cover	suitable
Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>

#### Columbia Redband Trout

- Wildcat Creek flows through this pasture and is located on private land. Wildcat Creek is identified as a Columbia River redband trout stream. No PFC assessments have been conducted.

#### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

#### Pasture 2

##### *Uplands*

- This pasture is managed as a native plant community.
- Wildfire burned 852 acres (100 percent) in this pasture in the 1960s and another 315 acres (37 percent) in the 2000s.
- Potential plant community:
  - a. Low sagebrush/Idaho fescue
  - b. Mountain big sagebrush/bluebunch wheatgrass-Idaho fescue
- No new information is available beyond that provided in the 2007 Evaluation and Determination.

##### *Riparian*

- No new information is available beyond that provided in the 2006 Evaluation and Determination.

##### *Focal Species*

##### Greater Sage-grouse

- No sage-grouse habitat information has been collected for this pasture.
- There are no leks within this pasture.
- PPH = 537 acres (100 percent) is sagebrush and 315 acres (37 percent) is perennial grasslands.  
PGH = 0
- Sage-grouse breeding habitat suitability rating: unknown

Rationale: No information specific to this pasture is available.

#### Columbia Redband Trout

- Wildcat Creek flows through this pasture and is located on private land. Wildcat Creek is identified as a Columbia River redband trout stream. No PFC assessments have been conducted.

#### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

### Pasture 3

#### *Uplands*

- This pasture is managed as a native plant community.
- Wildfire burned 964 acres (100 percent) in this pasture in the 1960s and another 287 acres (30 percent) in the 2000s.
- Potential plant community:
  - a. Mountain sagebrush/bluebunch wheatgrass-Idaho Fescue
  - b. Mountain big sagebrush/Idaho fescue
- No new information is available beyond that provided in the 2007 Evaluation and Determination.

#### *Riparian*

- No new information is available beyond that provided in the 2006 Evaluation and Determination.

#### *Focal Species*

##### Greater Sage-grouse

- No sage-grouse habitat information has been collected for this pasture.
- There are no leks within this pasture.
- PPH = 677 acres (70 percent) is sagebrush and 287 acres (30 percent) is perennial grasslands.  
PGH = 0
- Sage-grouse breeding habitat suitability rating: unknown

Rationale: No information specific to this pasture has been collected.

##### Columbia Redband Trout

- Wildcat Creek flows through this pasture and a majority of the creek is on private land. Only 0.25 miles of stream are on BLM land. Wildcat Creek is identified as a Columbia River redband trout stream. No PFC assessments have been conducted.

##### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

### **Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

### **Rationale for Evaluation and Determination**

#### *Uplands*

Limited information is available for this allotment. However, evaluation of Standard 4 has identified this allotment as not meeting. With consideration of the previous assessment and evaluation and because Standard 4 is not being met, an assumption is being made that the uplands are not providing adequate plant community composition and structure for upland wildlife and therefore the allotment is not meeting Standard 8.

#### *Riparian*

Evaluation of Standards 2 and 3 identified streams and springs within this allotment that are not properly functioning or meeting water quality parameters due to current grazing practices and therefore do not meet Standard 8. Streams, springs, and wetlands that are FAR are lacking adequate riparian vegetation

composition and distribution to provide the structure and function to support a productive riparian environment. Because Standards 2 and 3 are not being met, this allotment is failing to provide adequate riparian conditions to support viable aquatic and terrestrial species populations and therefore is not meeting Standard 8.

#### *Focal Species*

The entire allotment falls within modeled PPH/PGH habitat for sage-grouse. A total of one sage-grouse breeding habitat assessment was collected in 2009 and identified:

- Pasture 1 - Providing suitable habitat conditions;

The 2009 sage-grouse breeding habitat assessment rated pasture 1 as suitable. However this conflicts with the evaluation that Standard 4 is not being met and previous assessment and evaluation. Although there may be areas of suitable habitat, because the allotment overall is rated as not meeting Standard 4, and given the limited amount of information, it appears that upland habitat conditions are not adequate across the allotment and therefore are not meeting Standard 8 for sage-grouse.

Columbia River redband trout are known to occur within the Wildcat Creek system. Evaluation of Standards 2 and 3 identified streams and springs within these systems that are not properly functioning due to current grazing practices. Redband trout require intact channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filter sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flow. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and therefore is not meeting Standard 8.

This allotment is within the range of the Columbia spotted frog. Evaluation of Standards 2 and 3 identified streams that are not properly functioning or meeting water quality parameters due to current grazing practices. Spotted frogs are usually found along vigorous grassy/sedge margins of streams, lakes, ponds, springs, and marshes not far from sources of quiet permanent water. They migrate along these vegetation corridors between habitats used for spring breeding, summer foraging, and winter hibernation. Because streams and springs are not functioning properly, this allotment is not providing adequate aquatic conditions to sustain viable populations of spotted frogs and therefore is not meeting Standard 8. Evaluation of Standards 2 and 3 found spring habitat to be in PFC.

### JACKSON CREEK

#### **Previous Assessment**

##### *Uplands*

Most of the uplands of the allotment are near reference conditions, the deviation being the site in the slight to moderate departure category. The functional and structural groups are generally close to what is expected for the site and are likely to be providing habitat that is adequate for the needs of most dependent special status and other wildlife species. The localized lack of large bunchgrasses is limiting cover structure and forage for sage-grouse, numerous song birds, pygmy rabbits and others, including a diversity of insects, rodents, birds, and others that are critical prey for most raptors such as prairie falcons, northern harriers and ferruginous hawks. Site stability was being provided by ground cover, litter, and microbotic crusts.

##### *Riparian*

An assessment was completed on Wildcat Canyon Creek and rated mid- FAR. Jackson Creek had a rapid riparian habitat evaluation defining a 60 percent canopy cover and 4.7-inch stubble height, along with light use on shrubs. The tributaries to the Cow Creek assessment unit are listed as impaired flow,

temperature and sediment. The BLM has collected data on Succor Creek that indicate that this creek is exceeding temperature standards but meeting criteria for E. coli, pH, and dissolved oxygen. BLM data on Jackson Creek find that the water meets criteria for pH, dissolved oxygen, temperature but does not meet criteria for E. coli. Ten springs occur within the allotment; two of these springs were assessed for proper functioning condition. Texas Basin Spring was determined to be FAR, and a spring in pasture 4 was properly functioning. Texas Basin spring has been developed for livestock grazing management, and no longer supports riparian habitat that is adequate to provide for the needs of dependent special status animals at the spring head.

**Current Assessment**

Pasture 1

*Uplands*

- This pasture is managed as an exotic plant community
- No wildfires have been documented in this pasture.
- Potential natural community:
  - a. Low sagebrush/ bluebunch wheatgrass
  - b. Low sagebrush/Idaho fescue
- RHFAs recorded that all functional/structural groups were present and dominated by Sandberg bluegrass, along with cheatgrass, medusahead, and bulbous bluegrass. The allotment is rated as a substantial departure from the potential natural community.
- Rangeland trend monitoring showed Sandberg bluegrass as the dominant grass species, along with a decreased frequency in low sagebrush. Bluebunch wheatgrass remained at low levels.

*Riparian*

- Total stream miles = 2.49 miles  
     Perennial stream miles = 0  
     Intermittent stream miles = 2.49
- Total miles of stream assessed = 0
- Total number of springs = 2  
     Total number of springs assessed = 0

*Focal Species*

Greater Sage-grouse

- One sage-grouse breeding habitat assessment was conducted in 2008.
- Two upland summer habitat assessments were conducted in 2012.
- One riparian summer habitat assessment was conducted in 2012.
- There are five documented leks within this pasture; three are known to be active.
- PPH = 1,405 acres (100 percent) of this pasture.  
     PGH = 0
- Sage-grouse breeding habitat suitability rating: suitable

Rationale: With the exception of sagebrush form/shape, all habitat indicator ratings showed favorable overstory/understory conditions for nesting, security, and foraging cover and availability (Table WDLF-36).

**Table WDLF-36:** Sage-grouse breeding habitat assessments conducted June 17, 2008, in Jackson Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 3S5W25 rating
Sagebrush Canopy Cover	suitable
Sagebrush Height	suitable

Sagebrush Growth Shape	marginal
Grass and Forb Height	suitable
Perennial Grass Canopy Cover	suitable
Forb Canopy Cover	suitable
Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>

- Sage-grouse upland summer habitat suitability rating: marginal

Rationale: Marginal conclusion is driven largely by unfavorable understory perennial grass and forb canopy cover and preferred forb availability resulting in less than desirable effective security cover and forage (Table WDLF-37).

- Field evaluators observed sage-grouse at both assessment locations.

**Table WDLF-37:** Sage-grouse upland summer habitat assessments conducted August 8, 2012 in Jackson Creek allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

Habitat Indicator	Site 3S5W29 rating	Site 3S5W30 rating
Sagebrush Canopy Cover	marginal (>25%)	marginal (>25%)
Sagebrush Height	marginal <sup>1</sup> (>80cm)	marginal <sup>1</sup> (>80cm)
Perennial Grass and Forb Canopy Cover	suitable	marginal
Preferred Forb Availability	marginal	suitable
<b>Overall Site Evaluation</b>	<b>marginal</b>	<b>marginal</b>

- Sage-grouse riparian summer habitat suitability: unsuitable

Rationale: Site is a developed perennial spring with a derelict riparian enclosure fence and non-operational troughs. Site is assessed FAR only because water and remnant vegetation is present. Troughs and enclosure fence have not been maintained and spring has been heavily impacted by cattle. Spring is in downward trend (Table WDLF-38).

**Table WDLF-38:** Sage-grouse riparian summer habitat assessments conducted August 3, 2012, in pasture 1 in Jackson Creek allotment (Refer to Table WDLF-5 for habitat indicator value ranges)

Habitat Indicator	Site 3S5W30 rating	Site 3S5W29b rating
Riparian and Wet Meadow Stability	marginal (FAR, Trend Downward)	marginal (FAR, Trend Downward)
Preferred Forb Availability	suitable	marginal
Proximity of Sagebrush Cover	suitable	suitable
<b>Overall Site Evaluation</b>	<b>unsuitable</b>	<b>unsuitable</b>

#### Columbia Redband Trout

- There are no Columbia River redband trout streams identified within this pasture.

#### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

- Stream segments and spring locations identified as FAR are not meeting healthy and productive habitat conditions for Columbia spotted frogs or other aquatic species.

Pasture 2

*Uplands*

- This pasture is managed as native plant community.
- No wildfires have been documented in this pasture.
- The potential natural plant community is:
  - a. Low sagebrush/ bluebunch wheatgrass
  - b. Low sagebrush/Idaho fescue
- The RHFA recorded that all functional/structural groups were present suggesting that perennial bunchgrasses dominate the site. Cheatgrass was scattered on the site and six-weeks fescue is common.
- No trend information for this pasture.

*Riparian*

- Total stream miles = 0.69  
     Perennial stream miles = 0  
     Intermittent stream miles = 0.69
- Total miles of stream assessed = 0
- Total number of springs = 1  
     Total number of springs assessed = 0

*Focal Species*

Greater Sage-grouse

- No sage-grouse breeding habitat assessments have been conducted for this pasture.
- Two upland summer habitat assessments were conducted in 2012.
- One riparian summer habitat assessment was conducted in 2012.
- There are no leks documented in this pasture.
- PPH = 601 acres (100 percent) of this pasture.  
     PGH = 0
- Sage-grouse upland summer habitat suitability rating: suitable

Rationale: The *suitable* rating is driven by the occurrence of perennial grasses and forbs in the understory that would provide adequate security cover for sage-grouse. However, preferred forbs in the area of site 3S5W20a are unfavorable and would improve forage conditions if were more available.

**Table WDLF-39:** Sage-grouse upland summer habitat assessments conducted August 2, 2012, in pasture 2 in Jackson Creek allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

Habitat Indicator	Site 3S5W20a rating	Site 3S5W21b rating
Sagebrush Canopy Cover	marginal (>25%)	marginal (>25%)
Sagebrush Height	suitable	marginal <sup>1</sup> (>80cm)
Perennial Grass and Forb Canopy Cover	suitable	suitable
Preferred Forb Availability	unsuitable	suitable
<b>Overall Site Evaluation</b>	<b>marginal</b>	<b>suitable</b>

- Sage-grouse riparian summer habitat suitability rating: unsuitable

Rationale: The *unsuitable* rating is driven by the unfavorable occurrence and forage availability of forbs and the downward trend of a FAR system. Evaluators noted connected patches of bare soil within the riparian area and encroachment of upland woody and herbaceous plant species.

**Table WDLF-40:** Sage-grouse riparian summer habitat assessments conducted August 3, 2012, in pasture 1 in Jackson Creek allotment (Refer to Table WDLF-5 for habitat indicator value ranges)

Habitat Indicator	Site 3S5W20 rating
Riparian and Wet Meadow Stability	marginal (FAR, Trend Downward)
Preferred Forb Availability	unsuitable
Proximity of Sagebrush Cover	suitable
<b>Overall Site Evaluation</b>	<b>unsuitable</b>

#### Columbia Redband Trout

- There are no Columbia River redband trout streams identified within this pasture.

#### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.
- Stream segments and spring locations identified as FAR are not meeting healthy and productive habitat conditions for Columbia spotted frogs or other aquatic species.

#### Pasture 3

##### *Uplands*

- This pasture is managed as a native plant community.
- There have not been any documented wildfires within this pasture.
- The potential plant community:
  - a. Low sagebrush/ bluebunch wheatgrass
  - b. Low sagebrush/Idaho fescue
- The RHFAs noted that all the functional/structural groups were represented but there appeared to be a slight shift from decreaser (bluebunch wheatgrass and Idaho fescue) to increaser (Sandberg bluegrass, squirreltail) perennial grasses with scattered cheatgrass.
- The rangeland trend monitoring information showed the frequency of low sagebrush to be static, with a decline in bluebunch wheatgrass, squirreltail, and Sandberg bluegrass but a slight increase in Idaho fescue.

##### *Riparian*

- Total stream miles = 3.01
  - Perennial stream miles = 0.96
  - Intermittent stream miles = 2.05
- Total miles of stream assessed = 0.96
  - Miles at PFC = 0
  - Miles at FAR = 0.96
  - Miles at NF = 0
- Total number of springs = 2
  - Total number of springs assessed = 2
  - Number of springs at PFC = 0

Number of springs at FAR = 2  
 Number of springs at NF = 0

*Focal Species*

Greater Sage-grouse

- c. Three sage-grouse breeding habitat assessment have been conducted in 2012.
- d. One late brood-rearing habitat assessment occurred in 2003.
- e. There are no leks documented in this pasture.
- f. PPH = 1,391 acres (100 percent) of this pasture.  
PGH = 0
- g. Sage-grouse upland breeding habitat suitability rating: marginal

Rationale: The three assessment sites rated from unsuitable to suitable and show how variable habitat types and conditions can differ within a pasture. Consistent through all three sites was the marginal habitat indicator for perennial grass/forb height and suitable preferred forb availability, suggesting a more open understory and reduced nesting, security, and foraging cover with favorable occurrence of forage.

**Table WDLF-41:** Sage-grouse breeding habitat assessments conducted May 25, 2012, in pasture 3 of the Jackson Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 2S5W29 rating	Site 2S5W32b rating	Site 2S5W32a rating
Sagebrush Canopy Cover	marginal (>25%)	suitable	suitable
Sagebrush Height	marginal (>80 cm)	marginal (20 to <40 cm)	marginal (>80 cm)
Sagebrush Growth Shape	unsuitable	suitable	marginal
Grass and Forb Height	marginal	marginal	marginal
Perennial Grass Canopy Cover	unsuitable	suitable	suitable
Forb Canopy Cover	suitable	unsuitable	marginal
Preferred Forb Availability	suitable	suitable	suitable
<b>Overall Site Evaluation</b>	<b>unsuitable</b>	<b>suitable</b>	<b>marginal</b>

<sup>1</sup>US unit conversion: 80 cm = 32 in.

- h. Sage-grouse late brood rearing habitat suitability rating: unsuitable

Rationale: The late brood-rearing habitat assessment (precursor to the combined 2010 upland summer and riparian summer habitat assessments) was conducted in a wet meadow in the central portion of the pasture. The assessment rated the site marginal due to evidence of minor erosion, and spotty distribution of forbs. Upon review of the photos it is clearly apparent that the erosion is excessive and that the wet meadow is not properly functioning. This conclusion deviates from the 2003 late brood-rearing habitat assessment that under-assessed the wet meadow conditions as marginal.

Columbia Redband Trout

- Succor Creek is identified as a Columbia River redband trout stream.
- Stream segments and spring locations identified as FAR of NF are not meeting healthy and productive habitat conditions for Columbia River redband trout.

### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.
- Stream segments and spring locations identified as FAR of NF are not meeting healthy and productive habitat conditions for Columbia spotted frogs or other aquatic species.

### Pasture 4

#### *Uplands*

- This pasture is managed as a native plant community.
- Wildfire burned 1,244 acres (32%) of this pasture in the 1960s.
- The potential natural plant community are:
  - a. Mountain big sagebrush – Idaho fescue
  - b. Mountain big sagebrush/bluebunch wheatgrass-Idaho fescue
- The RHFAs in the low sagebrush – bluebunch wheatgrass community recorded that the functional/structural groups were present but that increaser grasses were occurring as co-dominants.
- The RHFA in mountain big sagebrush – Idaho fescue community noted that large perennial grasses dominated the site but were lower in abundance than expected.
- Rangeland trend monitoring noted a long-term decrease in bluebunch wheatgrass and Idaho fescue combined with a significant increase in Sandberg bluegrass.

#### *Riparian*

- Total stream miles = 4.53
  - Perennial stream miles = 2.97
  - Intermittent stream miles = 1.56
- Total miles of stream assessed = 2.2
  - Miles at PFC = 2.2
  - Miles at FAR = 0
  - Miles at NF = 0
- Total number of springs = 7
  - Total number of springs assessed = 2
  - Number of springs at PFC = 0
  - Number of springs at FAR = 2
  - Number of springs at NF = 0

#### *Focal Species*

##### Greater Sage-grouse

- c. No sage-grouse breeding habitat assessments have been conducted for this pasture.
- d. Five upland summer habitat assessments have been conducted in 2012.
- e. One riparian summer habitat assessment was collected in 2012.
- f. There are no leks documented in this pasture.
- g. PPH = 3,513 acres (100 percent) of this pasture.  
PGH = 0
- h. Sage-grouse upland summer habitat suitability rating: suitable, with the exception of site 3S5W34b and associated riparian area.

Rationale: Favorable upland summer habitat conditions appear to exist over a majority of the pasture, with the exception site 3S5W34b, which is near a water source and shows heavy utilization. Common to all assessment locations was a marginal canopy cover (>25 percent) of sagebrush supported by suitable

sagebrush height (Table WDLF-42). Although difficult to distinguish between the two photos during this time year, close examination will show an improved occurrence of forbs and perennial grasses and overall enhanced health of site 4S4W12e compared to site 3S5W34b.

**Table WDLF-42:** Sage-grouse upland summer habitat assessments conducted August 2, 2012, in pasture 2 in Jackson Creek allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

Habitat Indicator	Site 3S5W26a	Site 3S5W34b	Site 3S5W25c	Site 3S5W35d	Site 4S4W12e
Sagebrush Canopy Cover	marginal (>25%)	marginal (>25%)	marginal (>25%)	marginal (>25%)	marginal (>25%)
Sagebrush Height	suitable	suitable	suitable	suitable	suitable
Perennial Grass and Forb Canopy Cover	suitable	unsuitable	suitable	suitable	suitable
Preferred Forb Availability	suitable	suitable	marginal	suitable	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>	<b>unsuitable</b>	<b>marginal</b>	<b>suitable</b>	<b>suitable</b>

- i. Sage-grouse riparian summer habitat suitability rating: unsuitable

Rationale: Site 3S5W20 in the west-central portion of the pasture is within an upper tributary to Jackson Creek. The site is maybe a developed shallow earthen stock tank/reservoir. Evaluators concluded that the pond was a FAR lentic system. Although the site was rated at risk and there was no apparent trend identified, the pond/spring was rated as unsuitable due to distance from sagebrush habitat, erosion, and no hydric vegetation.

**Table WDLF-43:** Sage-grouse riparian summer habitat assessments conducted August 3, 2012, in pasture 1 in Jackson Creek allotment (Refer to Table WDLF-5 for habitat indicator value ranges)

Habitat Indicator	Site 3S5W20 rating
Riparian and Wet Meadow Stability	marginal (FAR, Trend not Apparent)
Preferred Forb Availability	suitable
Proximity of Sagebrush Cover	marginal
<b>Overall Site Evaluation</b>	<b>unsuitable</b>

Columbia Redband Trout

- Jackson Creek is identified as a Columbia River redband trout stream.
- Stream segments, tributaries, and spring locations identified as FAR or NF are not meeting or contributing to healthy and productive habitat conditions for Columbia River redband trout.

Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

Stream segments, tributaries, and spring locations identified as FAR or NF are not meeting or contributing to healthy and productive habitat conditions for Columbia River redband trout, Columbia spotted frogs or other aquatic species

Pasture 5 Uplands

- This pasture is managed as a native plant community.

- Two wildfires, one in the 1960s and the other in the 1970s, have burned 803 acres (23 percent) along the western edge of this pasture. The wildfire in the 1960s burned 190 acres and the fire in the 1970s burned 613 acres.
- The potential natural community:
  - a. Mountain big sagebrush /Idaho fescue
- RHFAs recorded that all the functional/structural groups were present. Shrubs were slightly higher than expected and perennial grasses were slightly lower.
- No rangeland trend information is available.

*Riparian*

- Total stream miles = 0.55  
     Perennial stream miles = 0.55  
     Intermittent stream miles = 0
- Total miles of stream assessed = 0
- Total number of springs = 0  
     Total number of springs assessed = 0

*Focal Species*

Greater Sage-grouse

- b. No sage-grouse breeding habitat assessments have been conducted for this pasture.
- c. Two upland summer habitat assessments have been conducted in 2012.
- d. There are no leks documented in this pasture.
- e. PPH = 3,513 acres (100 percent) of this pasture.  
     Sagebrush habitat acres = 430 acres (12 percent)  
     Conifer encroachment acres = 2,372 acres (68 percent)  
     PGH = 0
- f. Sage-grouse upland summer habitat suitability rating: marginal - suitable

Rationale: The assessment sites are at opposite ends of the pasture and BLM lands are a relatively small portion compared to the state acreages. Site 4S5W7 is in the southern pasture and was recorded marginal largely due to the decreased occurrence of preferred forbs available as forage. Site 3S5W25 rated suitable and showed favorable conditions in all four habitat indicators for upland summer habitat.

**Table WDLF-44:** Sage-grouse upland summer habitat assessments conducted August 1, 2012, in pasture 5 in Jackson Creek allotment (Refer to Table WDLF-5 for habitat indicator value ranges).

<b>Habitat Indicator</b>	<b>Site 4S5W7 rating</b>	<b>Site 3S5W25 rating</b>
Sagebrush Canopy Cover	marginal (>25%)	suitable
Sagebrush Height	marginal (>80cm)	suitable
Perennial Grass and Forb Canopy Cover	suitable	suitable
Preferred Forb Availability	marginal	suitable
<b>Overall Site Evaluation</b>	<b>marginal</b>	<b>suitable</b>

Columbia Redband Trout

- g. Little Cow Creek (0.55 miles of perennial flow within this pasture) is a tributary within the Cow Creek drainage and is identified as a Columbia River redband trout stream.
- h. No riparian assessments have been conducted on this stream.
- i. The headwaters of Jackson Creek occur within of this pasture and originate of Idaho State land.

### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.
- No riparian assessments have been conducted in this pasture.

### **Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

### **Rationale for Evaluation and Determination**

#### *Uplands*

Pasture 1 is managed as an exotic pasture and is not meeting Standard 6 as a result of historic and current grazing practices. Exotic pastures are dominated by invasive species that do not provide nesting, hiding, and foraging cover values for this species and therefore do not meet Standard 8. These communities further create large open spaces that diminish habitat connectivity and fragment sagebrush communities. Therefore, due to the dominance of the exotic species and the fragmentation of the sagebrush community, this allotment failing to provide viable vegetation composition and structure for sagebrush steppe wildlife, and therefore is not meeting Standard 8.

#### *Riparian*

Evaluation of Standards 2, 3, and 7 identified streams and springs within this allotment that are not properly functioning or meeting water quality parameters due to current grazing practices and therefore do not meet Standard 8. Streams, springs, and wetlands that are FAR or development in disrepair are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive riparian environment. Because Standards 2, 3, and 7 are not being met, this allotment is failing to provide adequate riparian conditions to support viable aquatic and terrestrial species populations and therefore is not meeting Standard 8.

#### *Focal Species*

The entire allotment falls within modeled PPH/PGH habitat for sage-grouse. There are five documented leks (three known to be still active; all are within pasture 1) in this allotment. A total of 19 sage-grouse breeding, upland summer, riparian summer, and late brood-rearing habitat assessments collected from 2003 to 2012 identified:

- Pasture 1 - Providing suitable breeding; marginal upland summer, and unsuitable riparian summer habitat conditions (see pasture 1 discussion below for rationale why this exotic pasture is unsuitable sage-grouse habitat).
- Pasture 2 - Providing suitable upland summer and unsuitable riparian summer habitat conditions (mesic habitat assessment);
- Pasture 3 - Providing marginal breeding and unsuitable late brood-rearing habitat conditions (mesic habitat assessment);
- Pasture 4 - Providing suitable upland habitat conditions and unsuitable riparian habitat conditions; and
- Pasture 5 – Providing suitable upland summer habitat conditions.

Upland habitat measures (i.e., breeding and summer upland habitat assessments) in all the pastures, except pasture 3, which was rated marginal, showed favorable overstory/understory conditions for

providing effective nesting, hiding, and foraging cover for sage-grouse. However, the primary issue in these five pastures is the condition of riparian areas associated with streams, springs, wetlands, and mesic areas. All of the riparian habitat measures (i.e., late brood-rearing, riparian summer habitat assessments) showed unsuitable sage-grouse habitat conditions. These habitat features are important for late brood-rearing and maturing sage-grouse for the availability of forbs and insects. Current grazing practices and absence of development maintenance (i.e., troughs and riparian exclosures) have resulted in increased erosion, exotic species, and drier soil conditions, and therefore are not meeting Standard 8 for brood-rearing and maturing sage-grouse.

There may be some confusion regarding pasture 1, where there are three known active leks and the sage-grouse breeding habitat assessments showed the pasture to be providing suitable breeding habitat. However, the pasture is managed as an exotic community and is identified in the above upland habitat discussion as not meeting Standard 8 for wildlife. Leks are traditional locations and breeding sage-grouse have been known to display in areas (i.e., ridgetops, burned areas, croplands) that may not provide the security/screening cover sought for nesting. After lekking/breeding, nesting female sage-grouse seek suitable overstory/understory composition and structure of sagebrush and perennial grasses typically within 1.1 to 6.2 km (approximately 0.5 to 4.0 miles) of the lek (Connelly, Schroeder, Sands, & Braun, 2000). Although the breeding habitat assessments showed suitable conditions for nesting within pasture 1, the success of any nesting within pasture 1 is unknown; however, the distance criteria for nesting individuals includes adjacent pastures and allotments that may provide better quality habitat than pasture 1. In addition, the habitat assessments were conducted in sagebrush stands that may not be representative of the entire pasture. (See Upland Habitat discussion about pasture 1 and Standard 6.) Because this is an exotic pasture and habitat conditions are not favorable for sage-grouse nesting, hiding, and foraging, this allotment is failing to provide adequate conditions for sage-grouse, and therefore is not meeting Standard 8.

Columbia River redband trout are known to occur within the Succor, Jackson, and Little Cow Creek systems. Evaluation of Standards 2, 3, and 7 identified streams and springs within these systems that are not properly functioning or meeting water quality parameters due to current grazing practices. Redband trout require intact channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filter sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flow. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and therefore is not meeting Standard 8.

This allotment is within the range of the Columbia spotted frog. Evaluation of Standards 2, 3, and 7 identified streams and springs that are not properly functioning or meeting water quality parameters due to current grazing practices. Spotted frogs are usually found along vigorous grassy/sedge margins of streams, lakes, ponds, springs, and marshes not far from sources of quiet permanent water. They migrate along these vegetation corridors between habitats used for spring breeding, summer foraging, and winter hibernation. Because streams and springs are not functioning properly, this allotment is not providing adequate aquatic conditions to sustain viable populations of spotted frogs and therefore is not meeting Standard 8.

## JOINT

### **Previous Assessment**

#### *Uplands (Standard 8, 2006 Assessment)*

A wildfire in 1962 burned through most of this allotment, with the exception of pasture 1 and the western portion of pasture 2. Big sagebrush, antelope bitterbrush, and other shrubs have since re-established throughout the area and are currently providing woody cover and structure for dependent sagebrush

species. In 2006, a wildfire burned nearly all of pasture 4. At the time of the health assessments, the native plant communities have become re-established throughout the allotment. Many of the areas in pastures 1 and 3 were dominated by medusahead rye, cheatgrass, and ventenata. The localized increase of these grasses reduces food and cover for wildlife. The plant communities in the remaining portions of the allotment are diverse, both in structure and function.

*Riparian (see Standard 8, 2006 Assessment)*

Approximately 40 percent (1.0 miles) of the 2.5 miles of stream riparian habitat in this allotment are located along Long Draw and rated in PFC. This stream reach is expected to be providing at least marginally suitable habitat for dependent wildlife and special status species. The remaining 60 percent (1.5 miles) occurs along Soda and Posey Creeks and is rated FAR. One of the key habitat indicators that include structural diversity, composition, and vigor of hydric vegetation are at least partially lacking along these reaches and providing habitat that is not adequately providing for the needs of dependent special status species and other wildlife. Hydric vegetation along stream banks is also inadequate to protect streambanks and dissipate energy, which increases the risk of losing habitat to erosion during periods of high flow.

## Current Assessment

### Pasture 1

- Pasture 1 does not exist.

### Pasture 2

#### *Uplands*

- This pasture is managed as a native plant community.
- Wildfires burned 666 acres (41 percent) in the 1960s.
- Potential natural community:
  - a. Low sagebrush/bluebunch wheatgrass
  - b. Mountain big sagebrush/bluebunch wheatgrass-Idaho fescue
- RHFA information is not available.
- Rangeland trend monitoring information recorded that the vegetation community comprised of sagebrush and bitterbrush with Idaho fescue and bluebunch wheatgrass in the interspaces with scattered squirreltail and bulbous bluegrass.

#### *Riparian*

- Total stream miles = 4.74
  - Perennial stream miles = 0
  - Intermittent stream miles = 4.74
- Total miles of stream assessed = 0
- Total number of springs = 6
  - Total number of springs assessed = 2
  - Number of springs in PFC = 0
  - Number of springs in FAR = 2 (assessment information not available)
  - Number of springs in NF = 0

#### *Focal Species*

### Greater Sage-grouse

- One sage-grouse breeding habitat assessment was conducted in 2009.
- Four sage-grouse late brood rearing habitat assessments were conducted in 2003.
- There are no leks within this pasture.
- PPH = 1,620 acres (100 percent)
- PGH = 0

- Sage-grouse breeding habitat suitability rating: suitable

Rationale: Overall suitable habitat rating driven by favorable perennial grass and forb canopy cover and height in the understory providing adequate nesting, security, and foraging cover (Table WDLF-45).

**Table WDLF-45:** Sage-grouse breeding habitat assessments conducted May 12, 2009, in pasture 2 of the Joint allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 4S6W13 rating
Sagebrush Canopy Cover	marginal (>25%)
Sagebrush Height	marginal (>80 cm)
Sagebrush Growth Shape	marginal
Grass and Forb Height	suitable
Perennial Grass Canopy Cover	suitable
Forb Canopy Cover	suitable
Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>

- Sage-grouse late brood-rearing habitat suitability rating: marginal

Rationale: Three out of the four late brood-rearing assessments recorded marginal spring habitat conditions driven by the invasion of xeric plants, minor bank erosion, spotty distribution of forbs, and reduced plant structure.

#### Columbia Redband Trout

- No redband trout streams have been documented in this pasture.

#### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

#### Pasture 3

##### *Uplands*

- This pasture is managed as a seeded community.
- Wildfire in the 1960s burned 1,069 acres (93 percent) of this pasture.
- Potential natural community:
  - Low sagebrush/Idaho fescue
  - Low sagebrush/bluebunch wheatgrass
- RHFA information is not available.
- Rangeland trend monitoring recorded no shrubs at this site. The dominant herbaceous species include intermediate wheatgrass, Sandberg bluegrass, and traces of medusahead. No apparent trend was identified.

##### *Riparian*

- Total stream miles = 2.68  
     Perennial stream miles = 0.18  
     Intermittent stream miles = 2.50
- Total miles of stream assessed = 0
- Total number of springs = 1

Total number of springs assessed = 1  
 Number of springs in PFC = 0  
 Number of springs in FAR = 1 (assessment information not available)  
 Number of springs in NF = 0

*Focal Species*

Greater Sage-grouse

- One sage-grouse breeding habitat assessment was conducted in 2003.
- There are no leks documented within this pasture.
- PPH = 1,152 acres (100 percent)  
 PGH = 0
- Sage-grouse breeding habitat suitability rating: suitable

Rationale: The overall *suitable* habitat rating is driven by favorable perennial grass canopy cover and height in the understory providing adequate nesting, security, and foraging cover (Table WDLF-46).

**Table WDLF-46:** Sage-grouse breeding habitat assessments conducted June 10, 2003, in pasture 3 of the Joint allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 4S6W12 rating
Sagebrush Canopy Cover	suitable
Sagebrush Height	marginal (>80 cm)
Sagebrush Growth Shape	marginal
Grass and Forb Height	suitable
Perennial Grass Canopy Cover	suitable
Forb Canopy Cover	unsuitable
Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>

Columbia Redband Trout

- No redband trout streams are documented within this pasture.

Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

Pasture 4

*Uplands*

- This pasture is managed as a native plant community.
- Wildfire in the 1960s burned 1,446 acres (100 percent) and another 774 acres (54 percent) in the 2000s.
- Potential natural community:
  - a. Low sagebrush/bluebunch wheatgrass
  - b. Mountain big sagebrush/bluebunch wheatgrass-Idaho fescue
- RHFA information is not available.
- Rangeland trend monitoring recorded mountain big sagebrush, bitterbrush, and encroaching juniper with bluebunch wheatgrass, and squirreltail in the interspaces with scattered rabbitbrush. No trend was identified.

*Riparian*

- Total stream miles = 1.11  
    Perennial stream miles = 0  
    Intermittent stream miles = 1.11
- Total miles of stream assessed = 0
- Total number of springs = 1  
    Total number of springs assessed = 0

*Focal Species*

Greater Sage-grouse

- No sage-grouse habitat information has been collected for this pasture.
- One large sage-grouse lek is documented within this pasture and is located on Idaho state land.
- PPH = 671 acres (46 percent) is sagebrush habitat and 774 acres (54 percent ) is perennial grassland.  
    PGH = 0
- BLM = 474 acres (33 percent) of this pasture.
- Sage-grouse breeding habitat suitability rating: suitable

Rationale: The overall *suitable* habitat rating driven by favorable overstory/understory conditions of sagebrush and perennial grasses and forbs providing effective nesting, security, and foraging cover (Table WDLF-47).

**Table WDLF-47:** Sage-grouse breeding habitat assessments conducted June 5, 2009, in pasture 4 of the Joint allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 4S5W21 rating</b>
Sagebrush Canopy Cover	marginal (>25%)
Sagebrush Height	suitable
Sagebrush Growth Shape	suitable
Grass and Forb Height	suitable
Perennial Grass Canopy Cover	suitable
Forb Canopy Cover	suitable
Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>

Columbia Redband Trout

- Soda Creek is identified as redband trout waters.

Columbia Spotted Frog

- This pasture is within the range of Columbia spotted frog.
- Habitat may occur along stream corridors and springs.

Pasture 5

*Uplands*

- This is a small pasture.
- No livestock use is documented within this pasture.

*Riparian*

- Total stream miles = 0.1

Perennial stream miles = 0  
Intermittent stream miles = 0.1

- Total miles of stream assessed = 0
- Total number of springs = 0
- Total number of springs assessed = 0

#### *Focal Species*

##### Greater Sage-grouse

- No sage-grouse habitat information has been collected for this pasture.

##### Columbia Redband Trout

- No redband streams have been documented in this pasture.

##### Columbia Spotted Frog

- This pasture is within the range of Columbia spotted frog.

#### **Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

#### **Rationale for Evaluation and Determination**

##### *Uplands*

Pastures 2, 4, and 5 are managed as native plant communities and are shown to be meeting Standard 4. Because Standard 4 is being met and there is no other information available, the plant community is expected to be providing adequate nesting, escape, travel, and hiding cover and accessible forage for wildlife in general.

Pasture 3 is managed as a seeding pasture and is concluded to be failing to meet Standard 5. The community is dominated by intermediate wheatgrass and lacks an overstory shrub component. Due to the lack and/or absence of plant community diversity, composition, and structure, pasture 3 is failing to provide adequate nesting, hiding, and foraging cover for sagebrush steppe associated species and therefore is not meeting Standard 8. However, it is anticipated that in time, shrubs will begin to reestablish themselves under improved management.

##### *Riparian*

Evaluation of Standards 2, 3, and 7 identified streams and springs within this allotment that are not properly functioning or meeting water quality parameters due to current grazing practices. Streams, springs, and wetlands that are FAR and the water developments that are in disrepair are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive riparian environment. Because Standards 2, 3, and 7 are not being met, this allotment is failing to provide adequate riparian habitat conditions aquatic and terrestrial species and is therefore not meeting Standard 8.

##### *Focal Species*

The entire allotment falls within modeled PPH/PGH habitat for sage-grouse. A total of five sage-grouse breeding, upland summer and late brood-rearing habitat assessments collected from 2003 to 2009 identified:

- Pasture 2 - Providing suitable breeding and marginal late brood-rearing habitat conditions (mesic habitat assessment);
- Pasture 3 - Providing suitable breeding habitat conditions;
- Pasture 4 - Providing suitable breeding habitat conditions;
- Pasture 5 - No sage assessment information available.

Sage-grouse breeding habitat assessments for pastures 2, 3, and 4 showed favorable overstory/understory conditions for providing effective nesting, hiding, and foraging cover for sage-grouse. However, the primary issues in this allotment are the conditions of the riparian areas in pasture 2 associated with streams, springs, wetlands, and mesic areas. The assessments identified late brood-rearing habitat as marginal due to invasion of xeric plants, minor bank erosion, reduced forb availability, and reduced plant structure caused by current grazing practices. These late/summer habitat features are important for brood-rearing and mature sage-grouse because of the availability of forbs and insects. Because of the unfavorable riparian conditions, this allotment is failing to provide adequate habitat for late brood-rearing sage-grouse and therefore is not meeting Standard 8. This is consistent with riparian issues identified in the evaluation of Standards 2, 3, and 7 discussed above.

This allotment is within the range of the Columbia spotted frog. Evaluation of Standards 2, 3, and 7 identified streams and springs that are not properly functioning or meeting water quality parameters due to current grazing practices. Spotted frogs are usually found along vigorous grassy/sedge margins of streams, lakes, ponds, springs, and marshes not far from sources of quiet permanent water. They migrate along these vegetation corridors between habitats used for spring breeding, summer foraging, and winter hibernation. Because streams and springs are not functioning properly, this allotment is not providing adequate aquatic conditions to sustain viable populations of spotted frogs and therefore is not meeting Standard 8.

## LOWRY

### **Previous Assessment**

#### *Uplands (2007 Evaluation and Determination)*

Bluebunch wheatgrass is less common than expected, while Sandberg bluegrass dominates the site. Shrub cover is higher than expected. Vigor of bluebunch wheatgrass plants is poor and recruitment and productive capability are inadequate. Conditions currently are not promoting diverse, productive native plant populations.

#### *Standard 8*

Functional and structural groups are not as expected for this site, and therefore are not providing adequate upland habitat for special status species and other wildlife. Heavy shrub cover and lack of large perennial grasses are the primary factors negatively affecting wildlife habitat quality on this allotment. The pasture is not meeting Standard 8; the cause has not been determined.

#### *Riparian*

The portion of Trout Creek that is located on public lands within this allotment is ephemeral and does not support riparian vegetation. This reach does not provide riparian or fisheries habitat and is not identified in the 199 Owyhee RMP as having these habitats for management. The standard does not apply.

### **Current Assessment**

#### Pasture 1

##### *Uplands*

- This pasture is managed as exotic plant community.
- No wildfires have been documented in this pasture.

- Potential plant community:
  - a. Low sagebrush/bluebunch wheatgrass
  - b. Low sagebrush/Idaho fescue
- RHFA recorded a slight to moderate departure from the reference community. The shrub component was higher than expected. Low sagebrush and Sandberg bluegrass dominated the site.
- Rangeland trend monitoring information is not available.

#### *Riparian*

- Total stream miles = 0.2
  - Perennial stream miles = 0
  - Intermittent stream miles = 0.2
- Total miles of stream assessed = 0
- Total number of springs = 0

#### *Focal Species*

##### Greater Sage-grouse

- No sage-grouse habitat information has been collected for this pasture.
- No sage-grouse leks are documented within this pasture.
- PPH = 266 acres (100 percent) of this pasture.  
PGH = 0
- BLM = 37 acres (14 percent) of this pasture.
- Sage-grouse breeding habitat suitability rating: unknown

Rationale: No habitat assessment information has been collected for this pasture.

##### Columbia Redband Trout

- Trout Creek flows through this pasture and a majority of the creek is on private land. Only 0.2 miles of stream are on BLM land.
- Trout Creek is identified as a Columbia River redband trout stream.
- No PFC assessments have been conducted.

##### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog.
- Potential habitat exists along stream corridors and springs.
- PFC information is not available.

#### **Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

#### **Rationale for Evaluation and Determination**

##### *Uplands*

Upland habitats managed under Standard 6 (exotics) do not meet the requirements of Standard 8 for wildlife. Vegetation composition, structure, and function are lacking or absent in these communities, substantially reducing effective nesting, hiding, escape, travel, and foraging cover for upland sagebrush steppe wildlife overall. These communities further create large open spaces that diminish upland habitat connectivity and fragment sagebrush communities. Therefore, due to the dominance of exotic species and the absence of sagebrush community composition, structure and function, connectivity, and increased

fragmentation, this allotment is failing to provide favorable upland habitat conditions for sagebrush steppe wildlife.

#### *Riparian*

No riparian information is available for this allotment.

#### *Focal Species*

The entire allotment falls within modeled PPH/PGH habitat for sage-grouse. No sage-grouse habitat assessments have been collected in this allotment. Due to the dominance of exotic vegetation in the uplands, this allotment is failing to provide desirable habitat composition and structure required for sage-grouse nesting, escape, travel, or foraging and therefore does not meet Standard 8 for this species.

### MADRIAGA

#### **Previous Assessment**

##### *Uplands (2006 Final Assessment)*

In general, if the landscape-scale needs of sage-grouse are met, then other sagebrush-obligates are likely to have at least marginally suitable cover, food, and habitat distribution. This assumption applies for sagebrush songbirds such as Brewer's sparrows and sage thrasher, and, to a lesser extent for pygmy rabbits. Sage sparrows generally occupy the lower, drier end of the range of sagebrush habitats, where conditions are unsuitable or marginal for sage-grouse. All of the afore-mentioned species are known or likely to occur in this allotment, and appear to have adequate habitat.

##### *Riparian (2006 Final Assessment)*

Riparian habitat is limited to an intermittent stream (Posey Creek) and several springs. All 1.6 miles of Posey Creek within the Madriaga allotment are rated as FAR. While there is no direct correlation between functioning condition and special status species habitat, many of the indicators of riparian functionality are also crucial components of habitat for many special status and other wildlife species, especially Neotropical migratory birds. The indicators that assess structure, composition, and vigor of hydric vegetation are especially important, since this vegetation provides nesting, foraging, and escape cover. These indicators are all at least partially lacking along Posey Creek, resulting in habitat that is inadequate to provide for the needs of most dependent wildlife. This reach is also lacking adequate hydric vegetation cover (such as various sedges, rushes, willows and other woody riparian species) to protect banks and dissipate energy which may leave these habitats vulnerable to erosion during high flow events. One of the springs is in NF condition, one is in PFC, and one is FAR. All of the NF and FAR springs are lacking one or more key components that are important to providing or maintaining suitable wildlife habitat.

#### **Current Assessment**

##### Pasture 1

##### *Uplands*

- This pasture is managed as a native plant community.
- Wildfire burned 800 acres (30 percent) of the pasture in the 1960s.
- Potential natural plant community:
  - a. Wyoming big sagebrush/bluebunch wheatgrass;
  - b. Low sagebrush/bluebunch wheatgrass;
  - c. Low sagebrush/Idaho fescue;
- RHFA's
  - a. Loamy 12-16", Wyoming big sagebrush - bluebunch wheatgrass:

Relative abundance of both bluebunch wheatgrass and Idaho fescue is well below potential; these species only represent a minor component in the plant community. Structurally smaller bunchgrasses such as *Poa* sp. and invasive annuals dominate the understory.

- Shallow Claypan 11-13", Low sagebrush - bluebunch wheatgrass:

The field forms identify a shift in the composition of the native plant community involving a reduction or replacement of decreaser grasses by increaser and annual grasses. Bluebunch wheatgrass occurrence is lower than reference site conditions. Where bluebunch wheatgrass is present, it is primarily found under the protective canopy cover of shrubs. Sandberg bluegrass and invasive species (ventenata, cheatgrass and bulbous bluegrass) are common in shrub interspaces at these sites.

- Shallow Claypan 12-16", Low sagebrush - Idaho fescue:

Low sagebrush is the dominant shrub species; the understory is dominated by Idaho fescue and bluebunch wheatgrass. At this site, all functional and structural groups are present in proportions that resemble reference site conditions.

- Rangeland trend monitoring information interpreted from photo plots recorded the plant community is dominated by low sagebrush with an understory consisting of Sandberg bluegrass, bottlebrush squirreltail, and Nevada bluegrass. No trend identified.

*Riparian*

- Total stream miles = 4.33  
Perennial stream miles = 0.17  
Intermittent stream miles = 4.16
- Total miles of stream assessed = 0
- Total number of springs = 5  
Total number of springs assessed = 4  
Number of springs in PFC = 1  
Number of springs in FAR = 1  
Number of springs in NF = 2

*Focal Species*

Greater Sage-grouse

- One sage-grouse breeding habitat assessment was collected in 2009.
- No Sage-grouse leks are documented within this pasture.
- PPH = 2,529 acres (46 percent) of this pasture.  
PGH = 5 acres  
Conifer encroachment = 159 acres
- BLM = 2,576 acres (96 percent) of this pasture.
- Sage-grouse breeding habitat suitability rating: suitable

Rationale: Overall suitable habitat rating driven by favorable overstory/understory conditions of sagebrush and perennial grasses and forbs providing effective nesting, security, and foraging cover (Table WDLF-48).

**Table WDLF-48:** Sage-grouse breeding habitat assessments conducted June 9, 2009, in pasture 1 of the Madriaga allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 4S5W6 rating
Avg. Sagebrush Canopy Cover	suitable
Avg. Sagebrush Height	marginal
Sagebrush Growth Shape	suitable
Avg. Grass and Forb Height	marginal
Avg. Perennial Grass Canopy	suitable

Cover	
Avg. Forb Canopy Cover	suitable
# of Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>

### Columbia Redband Trout

No redband trout streams documented within this pasture

### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

### Pasture 2

#### *Uplands*

- This pasture is managed as a native plant community.
- Wildfire has not been documented in this pasture in the past 50 years.
- Potential natural plant community:
  - a. Wyoming big sagebrush - bluebunch wheatgrass;
  - b. Low sagebrush - bluebunch wheatgrass;
  - c. Low sagebrush - Idaho fescue;
- RHFAs
  - a. Loamy 12-16", Wyoming big sagebrush - bluebunch wheatgrass:

The rangeland health evaluation conducted in this ecological site shows a slight shift from site potential for native plant composition. Shrubs, including sagebrush and antelope bitterbrush, are dominant. The understory consists of Idaho fescue, bluebunch wheatgrass, and Sandberg bluegrass. Sandberg bluegrass occurrence is slightly higher than expected. Idaho fescue and bluebunch wheatgrass occurrence is somewhat lower than expected, but these grasses appear to be re-establishing in the shrub interspaces.

- b. Low sagebrush - bluebunch wheatgrass:

Bluebunch wheatgrass is below potential, representing a minor component of the plant community. Where present, bluebunch wheatgrass plants are primarily found under the protective canopy cover of shrubs. Sandberg bluegrass, bottlebrush squirreltail, bulbous bluegrass, and invasive species are more common than expected in interspaces. Sandberg bluegrass has become the dominant grass species. Some recruitment and establishment of Idaho fescue and bluebunch wheatgrass in interspaces were noted.

- c. Shallow Claypan 12-16", Low sagebrush - Idaho fescue:

Low sagebrush is the dominant overstory species, with an understory consisting of Idaho fescue, bluebunch wheatgrass, and Sandberg bluegrass. Overall, plant community composition nearly reflects site potential in terms of relative abundance of the dominant plant species. Bluebunch wheatgrass and Idaho fescue are the dominant understory species, but their occurrence is slightly below site potential. Sandberg bluegrass occurrence is higher than expected for the site.

- Rangeland trend monitoring information recorded that the site is dominated by low sagebrush and the understory is comprised of Idaho fescue, bluebunch wheatgrass, and Sandberg bluegrass. Sandberg bluegrass and North African grass are dominant grasses. Idaho fescue is decreasing. Medusahead are increasing.

### *Riparian*

- Total stream miles = 5.37  
Perennial stream miles = 0  
Intermittent stream miles = 5.37
- Total miles of stream assessed = 1.8  
Miles in PFC = 0  
Miles in FAR = 1.2  
Miles in NF = 0
- Total number of springs = 3  
Total number of springs assessed = 3  
Number of springs in PFC = 0  
Number of springs in FAR = 1  
Number of springs in NF = 2

### *Focal Species*

#### Greater Sage-grouse

- One sage-grouse breeding habitat assessment was collected in 2009.
- There are three documented leks within this pasture. One is active as of 2010 and the other two are now inactive.
- PPH = 1,414 acres (100 percent) of this pasture.  
PGH = 0
- BLM = 1,414 acres (100 percent) of this pasture.
- Sage-grouse breeding habitat suitability rating: marginal

Rationale: The overall *marginal* pasture rating is due to the less-than-desirable overstory conditions for sagebrush combined with the unfavorable canopy cover of large deep-rooted perennial grasses that reduce the amount of effective nesting, security, and canopy cover in the understory (Table WDLF-49).

**Table WDLF-49:** Sage-grouse breeding habitat assessments conducted June 9, 2009, in pasture 2 of the Madriaga allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 4S6W2 rating</b>
Sagebrush Canopy Cover	marginal
Sagebrush Height	marginal
Sagebrush Growth Shape	marginal
Grass and Forb Height	suitable
Perennial Grass Canopy Cover	marginal
Forb Canopy Cover	suitable
Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>marginal</b>

#### Columbia Redband Trout

No redband trout streams have been documented in this pasture

#### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

### **Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting  
X Not meeting the Standard

## **Rationale for Evaluation and Determination**

### *Uplands*

Pastures 1 and 2 are managed as native plant communities and are not meeting Standard 4 due to historic livestock grazing practices, and wildfire, and invasive species. It was determined during the evaluation of Standard 4 that the vegetation community is transitioning from a reference site community of robust perennial grasses (i.e., bluebunch wheatgrass, Idaho fescue) to a less-desirable community of more grazing-tolerant species such as Sandberg bluegrass, with an increase of invasive species such as medusahead and North Africa grass. This transition exposes the understory and reduces effective nesting, escape, hiding, travel, and foraging cover values for all wildlife associated with sagebrush steppe communities. Because upland habitat values are changing to a less-desirable vegetation state, this allotment is failing to provide adequate upland habitat conditions for sagebrush steppe wildlife and therefore is not meeting Standard 8.

### *Riparian*

Evaluation of Standards 2, 3, and 7 concluded that streams and springs within this allotment are not properly functioning or meeting water quality parameters due to current grazing practices. Streams, springs, and wetlands that are NF or are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive environment. Because Standards 2, 3, and 7 are not being met, riparian habitat conditions within this allotment are failing to support viable aquatic and terrestrial species populations and therefore is not meeting Standard 8.

### *Focal Species*

Ninety-six percent of this allotment falls within modeled PPH/PGH habitat for sage-grouse. A total of two sage-grouse breeding habitat assessment collected in 2009 identified:

- Pasture 1 - Providing suitable breeding habitat conditions;
- Pasture 2 - Providing marginal breeding habitat conditions;

Pasture 2 is failing to provide adequate breeding habitat conditions for sage-grouse. The breeding habitat assessments recorded marginal sagebrush canopy cover and height and marginal canopy cover of large perennial grasses (i.e., bluebunch wheatgrass). Although marginal, this situation does not provide favorable overstory/understory composition and structure to provide effective nesting, hiding, security, and foraging cover for sage-grouse. Because this allotment is failing to fully provide sage-grouse habitat conditions, it is therefore not meeting Standard 8.

This allotment is within the range of the Columbia spotted frog. Evaluation of Standards 2, 3, and 7 identified streams and springs that are not properly functioning or meeting water quality parameters due to current grazing practices. Spotted frogs are usually found along vigorous grassy/sedge margins of streams, lakes, ponds, springs, and marshes not far from sources of quiet permanent water. They migrate along these vegetation corridors between habitats used for spring breeding, summer foraging, and winter hibernation. Because streams and springs are not functioning properly, this allotment is not providing adequate aquatic conditions to sustain viable populations of spotted frogs and therefore is not meeting Standard 8.

## POISON CREEK

### **Previous Assessment**

#### *Uplands*

According to the Northwest Owyhee Front Assessment (2001), Wyoming big sagebrush is the dominant species in this allotment and provides good woody cover and structure and/or forage for a diversity of sagebrush steppe species including sage sparrow, Brewer's sparrow, loggerhead shrike, pygmy rabbit, possible sage-grouse and others. Much of this allotment can be characterized as having a limited component of decreaser grasses and perennial forbs. Much of the herbaceous vegetation component consists of Sandberg bluegrass and cheatgrass. This is not providing habitat adequate to support healthy populations of most special status animals. However, occurrence and vigor of desirable bunchgrasses improves a mile or more away from water and on steeper slopes.

#### *Riparian*

According to the Northwest Owyhee Front Assessment (2001), all 1.63 miles of assessed stream riparian habitat along Jump Creek (common boundary between Alkali-Wildcat and Poison Creek allotments) was rated in PFC and is likely providing at least marginally suitable habitat for dependent special status species and other wildlife species. Trampling of the riparian/floodplain vegetation caused by recreationists was negatively impacting the riparian habitat.

### **Current Assessment**

#### Pasture 1

#### *Uplands*

- A fire burned 3,960 acres (75 percent) through the central portion of this allotment in 2002.
- Potential plant community:
  - a. Wyoming sagebrush/bluebunch wheatgrass
- As result of the 2002 wildfire, this allotment is now managed as a seeding of bluebunch wheatgrass cultivars (Antone, Secar, and Critana), Sherman bluegrass (*Poa secunda*, formerly, *Poa ampla*) and crested wheatgrass (*Agropyron cristatum*). The overall biotic integrity of the allotment is rated as none to slight departure from the potential plant community due to the functional/structural group similarities in the potential plant community and the seeded community.
- Nested frequency trend monitoring indicates that crested wheatgrass and Sandberg bluegrass are co-dominates and that cheatgrass is increasing. The shrub component is absent due to the 2002 wildfire.

#### *Riparian*

- Total stream miles = 24.37
  - Perennial stream miles = 0.89
  - Intermittent stream miles = 23.48
- Total miles of stream assessed = 1.57
  - Miles at PFC = 0
  - Miles at FAR = 1.57
  - Miles at NF = 0
- Total number of springs = 0

#### *Focal Species*

#### Greater Sage-grouse

- Seven sage-grouse breeding habitat assessments were conducted for this allotment in 2012.
- There are no leks identified within this allotment. A small lek is documented approximately 4.0 miles to the west in Oregon.

- PPH = 3 acres (<1%)  
PGH = 3,374 (64 percent) of this pasture
- Sage-grouse breeding habitat suitability rating: unsuitable

Rationale: Six out of the seven assessment locations rated the sites as marginal (2) to unsuitable (4) (Table WDLF-50). At least two habitat scenarios are the primary drivers for the unsuitable rating. First, assessment sites that showed a favorable grass component in the understory lacked the occurrence of sagebrush in the overstory, which was removed by the 2002 wildfire and then reseeded with crested wheatgrass, essentially creating perennial grassland. The other sites that with a sagebrush component left from the fire showed an above-favorable occurrence of sagebrush in the overstory, with marginal-unsuitable habitat indicator ratings for large deep-rooted perennial grasses in the understory. Both scenarios were deficient in either an overstory or an understory component that needs to occur simultaneously to create effective nesting, security, and foraging cover for sage-grouse.

**Table WDLF-50:** Sage grouse breeding habitat assessments conducted May 9, 2012 in Poison Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 2N5W31	Site 2N5W32a	Site 2N5W32b	Site 1N5W5a	Site 1N5W5d	Site 1N5W7	Site 2N5W30
Sagebrush Canopy Cover	marginal (>25%)	marginal (>25%)	unsuitable	marginal (>25%)	unsuitable	marginal (>25%)	marginal (>25%)
Sagebrush Height	suitable	suitable	unsuitable	suitable	unsuitable	suitable	marginal (80 cm)
Sagebrush Growth Shape <sup>1</sup>				suitable			
Grass and Forb Height	suitable	suitable	suitable	marginal	suitable	suitable	suitable
Perennial Grass Canopy Cover	suitable	marginal	suitable	unsuitable	suitable	marginal	unsuitable
Forb Canopy Cover	unsuitable	unsuitable	suitable	unsuitable	suitable	unsuitable	unsuitable
Preferred Forb Availability	suitable	unsuitable	suitable	unsuitable	marginal	marginal	marginal
<b>Overall Site Evaluation</b>	<b>suitable</b>	<b>marginal</b>	<b>unsuitable</b>	<b>unsuitable</b>	<b>unsuitable</b>	<b>marginal</b>	<b>unsuitable</b>

<sup>1</sup>Sagebrush Growth was not identified during the assessment.

#### Columbia Redband Trout

- Poison Creek and Jump Creek are both identified as Columbia River redband trout streams.
- The assessed portion of Poison Creek is NF due to a lack of riparian vegetation.
- Riparian vegetation is essential to stabilize banks; provide shade to the stream; and delivery of large woody debris to the channel. Without a functioning riparian community and stream channel structure, stream and riparian conditions are not adequate to support and promote viable populations of redband trout.

#### Columbia Spotted Frog

- This allotment is not within documented range of Columbia spotted frog.

### California Bighorn Sheep

- Domestic sheep grazing/trailing occurs through the western portion of this allotment from March 27 to May 31 in the spring and then again for one day in November.
- This allotment lies with the greater Owyhee Mountain Bighorn Sheep Population Management Unit identified by the IDFG.
- Bighorn sheep have not been documented in this allotment, but suitable habitat does exist across this allotment within the canyons of Poison and Jump Creeks as the most likely locations.
- Due to the overlap of suitable bighorn sheep habitat, the potential for bighorn sheep visitation and the grazing/tailing of domestic sheep through this area, the risk of contact between the two species does exist.
- Currently there are two signed Separation Response Agreements between the IDFG and the permittee (2009) and the BLM and the permittee (2010). The Agreements stress communication, provide contact information, and best management practices.
- To date, no contact between wild or domestic sheep has been known to occur and no sheep (domestic or wild) have had to be removed due to inter-species contact (Jake Powell, personal communication, 2012).

### **Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

### **Rationale for Evaluation and Determination**

#### *Uplands*

The Poison Creek allotment is managed as a seeded community and is concluded to be meeting Standard 5. However, a majority of this allotment (approximately 75 percent) does not presently support a viable sagebrush component as the result of the 2002 Trimble wildfire and reseeding activities. The rangeland health field assessment and nested frequency trend (Standard 5) discuss a healthy and productive seeding dominated by crested wheatgrass, other seeded hybrid wheatgrasses, and Sandberg bluegrass. However, this seeding lacks an overstory component (substantially devoid of sagebrush) in a majority of the allotment, which fragments the sagebrush community to the east and west. Overtime, it can be anticipated that sagebrush will eventually re-colonize within the seeded area and diversify the composition, structure, and function of the plant community. However, until upland habitat conditions improve, the uplands of the Poison Creek allotment are failing to provide adequate distribution and connectivity of sagebrush steppe habitat for wildlife, and therefore the allotment is not meeting Standard 8.

#### *Riparian*

Evaluation of Standards 2, 3, and 7 identified streams and springs within this allotment that are not properly functioning or meeting water quality parameters due to current grazing practices. Streams, springs, and wetlands that are NF or are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive environment. Because Standards 2, 3, and 7 are not being met, this allotment is failing to provide adequate riparian habitat conditions to support viable aquatic and terrestrial species populations, and therefore is not meeting Standard 8.

#### *Focal Species*

Sixty-four percent of this allotment falls within modeled PGH habitat for sage-grouse. A total of seven sage-grouse breeding assessments collected in 2012 identified:

- Pasture 1 - Providing unsuitable breeding habitat conditions for sage-grouse;

The Trimby wildfire in 2002 removed a substantial amount of sagebrush, and the remaining residual stands are less than effective for providing nesting, security, and foraging cover in the understory. Assuming that the residual patches are reminiscent of conditions before the fire, it is possible that in time, sagebrush will become established within seeded wheatgrass stands and become a functioning overstory component. However, until that occurs, habitat connectivity is largely fragmented and any habitat value to sage-grouse is limited. Until conditions improve, this allotment is failing to provide adequate habitat conditions for sage-grouse and therefore is not meeting Standard 8.

Columbia River redband trout are known to occur within the Poison Creek and Jump Creek system. Evaluation of Standards 2, 3, and 7 identified streams and springs within these systems that are not properly functioning or meeting water quality parameters due to current grazing practices. Redband trout require intact stream channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filters sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flow. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and therefore is not meeting Standard 8.

This allotment lies within the State of Idaho Fish and Game Owyhee Mountain Bighorn Sheep Population Management Unit and is within bighorn sheep foray distance maximums of 35 km (approximately 22 miles) from population sources in Idaho and Oregon. Suitable habitat exists across the landscape and within the canyons of Poison and Jump Creeks; however, bighorn sheep have not been reported in this allotment, although incidental sightings have been documented within 3.5 miles from the boundary. A risk-of-contact modeling tool was used to estimate the probability of a bighorn sheep intersecting the Poison Creek allotment. A probability of 4.11 percent was calculated from the Reynolds Creek herd in Idaho and a probability of 17.14 percent was calculated from the Leslie Gulch herd in Oregon. Due to the overlap of suitable bighorn sheep habitat within the Poison Creek allotment and the probability of a bighorn sheep intersecting this allotment, the risk of contact between the two species exists. A Separation Agreement is in place between the permittee and the BLM to provide best management practices (BMPs) to reduce the potential of interspecies contact and a communication plan for the permittee if bighorn sheep are observed. At this time, the effectiveness of this Separation Agreement is unknown.

#### R Collins FFR

##### **Previous Assessment**

*Uplands (see Standard 8, 2006 Evaluation and Determination)*

Healthy, productive, and diverse populations of native plants are present as appropriate for the ecological sites represented on this allotment. This is providing adequate forage, cover, and structure for dependent special status animals and other wildlife. Standard 8 is being met for this allotment.

*Riparian (see Standard 2, 2006 Evaluation and Determination)*

- Standard 2 did not apply to this allotment.

##### **Current Assessment**

###### Pasture 1

*Uplands*

- This pasture is managed as a native plant community.
- No wildfires have been documented in this pasture over the last 50 years.
- Potential natural community:
  - a. Low sagebrush/Idaho fescue
- RHFAs are not available for this allotment.

- Rangeland trend monitoring information is not available for this allotment.

*Riparian*

- Trout Creek flows through this allotment adjacent to BLM land.
- No riparian information is available for this allotment.

*Focal Species*

Greater Sage-grouse

- One sage-grouse upland summer habitat assessment was collected in 2012.
- There are no documented leks within this pasture.
- PPH Sagebrush = 244 acres (56 percent).  
PPH Perennial Grassland = 0  
PPH Conifer Encroachment = 191 acres (44 percent)  
PGH = 0
- BLM = 102 acres (23 percent) of this pasture.
- Sage-grouse upland summer habitat suitability rating: marginal

Rationale: The overall *marginal* habitat rating is driven primarily due to the occurrence and height of the sagebrush overstory and the less-than-desirable availability of forbs; however, perennial grasses are in adequate abundance in the understory to contribute to needed security and foraging cover.

**Table WDLF-51:** Sage-grouse upland summer habitat assessments conducted August 1, 2012, in the R Collins FFR allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

Habitat Indicator	Site 5S5W3a rating
Sagebrush Canopy Cover	marginal (>25%)
Sagebrush Height	marginal (>80cm)
Perennial Grass and Forb Canopy Cover	suitable
Preferred Forb Availability	marginal
<b>Overall Site Evaluation</b>	<b>marginal</b>

Columbia Redband Trout

- No redband trout streams are identified within this allotment.

Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

**Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

**Rationale for Evaluation and Determination**

*Uplands*

This allotment is managed as a native plant community and is meeting Standard 4. Therefore, an assumption is being made that upland habitat conditions appear to be providing at least minimally

adequate sagebrush/grass composition and structure to meet upland wildlife needs and therefore the allotment is meeting Standard 8.

#### *Riparian*

Riparian habitat is not identified within this allotment.

#### *Focal Species*

No sage-grouse assessment information is available for this allotment. Because Standard 4 is being met, an assumption is being made that upland habitat conditions appear to be providing at least minimally adequate sagebrush/grass composition and structure to meet upland sage-grouse needs and therefore the allotment is meeting Standard 8.

### RATS NEST

#### **Previous Assessment**

##### *Uplands*

According to the Northwest Owyhee Front Assessment (2001), desirable decreaser bunchgrasses and forbs are limited throughout the allotment, while Sandberg bluegrass and cheatgrass dominate the herbaceous component. With the exception of the large burned area in the central portion of the allotment, woody cover and structure provided by Wyoming big sagebrush are good. However, the lack of a healthy understory of tall bunchgrasses and perennial forbs has resulted in habitat that is of poor quality with limited ability to support good populations of most dependent special status species, including sage-grouse, Neotropical birds, as well as several species of raptors that require habitat of sufficient quality to support a healthy prey base of various small mammals, birds, reptiles, and insects. Mid-elevation plant communities are providing at least marginally suitable habitat, while most other communities are providing less-than-suitable habitat. The burned portion is almost completely lacking in any desirable native vegetation, especially sagebrush and tall bunchgrasses required to support populations of most special status animals.

##### *Riparian*

According to the Northwest Owyhee Front Assessment (2001), assessed stream riparian habitat segments in this allotment are located within Squaw Creek Canyon. All segments were rated as function properly and expected to be providing at least marginally suitable habitat for most species.

#### **Current Assessment**

##### Pasture 1

##### *Uplands*

- A wildfire in the 1970s burned 3,188 acres (58 percent) of this allotment.
- Potential plant community:
  - a. Wyoming sagebrush/bluebunch wheatgrass
- Rangeland health assessments rated the overall biotic integrity for this allotment at a none-to-slight departure for this ecological site due to the presence of healthy, productive, and diverse populations of native plants.
- Nested frequency trends indicated a plant community of Wyoming sagebrush/Sandberg bluegrass with moderate amounts of cheatgrass. This plant community suggests a shift in understory deep-rooted grasses (i.e., bluebunch wheatgrass) to a less-desirable dominance of shallow-rooted grasses.

##### *Riparian*

- Total stream miles = 18.25  
Perennial stream miles = 0.70

Intermittent stream miles = 17.55

- Total miles of stream assessed = 4.20  
Miles at PFC = 0.70  
Miles at FAR = 3.50  
Miles at NF = 0
- Total number of springs = 5  
Total number of springs assessed = 4
- Condition of assessed streams ranged from NF to FAR
- Standard 2 concluded riparian not meeting standard

Rationale: Through PFC assessments, it was concluded that 0.7 perennial miles of Squaw Creek was at PFC due to inaccessibility to cattle. There was also 3.5 miles of cattle-accessible intermittent stream assessed (over three distinct reaches) as FAR within Rat’s Nest Gulch due to lack of deep-rooted streambank vegetation, active lateral cutting of the stream channel, and presence of noxious weeds.

Three of five springs have been assessed. Coyote Springs was found to be FAR and in a downward trend due to excessive soil erosion, hoof action altering of the subsurface flow patterns, and inadequate riparian vegetation to stabilize the soils. Bathtub Springs was found to be a trough that is being supplied from a spring source that is not excluded from cattle. Upper Rats Nest Spring had been turned into a dry pond with no riparian vegetation.

*Focal Species*

Greater Sage-grouse

- Eight sage-grouse breeding habitat assessments were conducted for this allotment in 2012.
- There are no leks identified within this allotment.
- PPH = 1,901 acres (34 percent) of the allotment  
PGH = 1,386 acres (25 percent) of the allotment  
Non-habitat = 2,247 acres (41 percent) identified as annual grassland
- Sage-grouse breeding habitat suitability rating: unsuitable

Rationale: Seven out of eight site assessments are rated breeding habitat conditions unsuitable (6) to marginal (1). Only one site rated habitat conditions suitable. Although the sagebrush overstory showed favorable conditions, the understory occurrence of large deep-rooted perennial grasses are substantially reduced resulting in non-effective concealment and screening for nesting, security, and foraging cover for breeding and brood-rearing sage-grouse.

**Table WDLF-52:** Sage-grouse breeding habitat assessments conducted May 1 and 2, 2012, in Rats Nest allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 1N4W17	Site 1N4W20	Site 1N4W22	Site 1N4W23	Site 1N4W28a	Site 1N4W28d	Site 1N4W29	Site 1N4W33
Sagebrush Canopy Cover	marginal (>25%)	marginal (>25%)	marginal (>25%)	suitable	suitable	suitable	marginal (>25%)	marginal (>25%)
Sagebrush Height	suitable	suitable	suitable	suitable	suitable	suitable	suitable	suitable
Sagebrush Growth Shape	suitable	suitable	suitable	suitable	suitable	suitable	suitable	suitable
Grass and Forb Height	suitable	unsuitable	suitable	unsuitable	unsuitable	suitable	unsuitable	marginal
Perennial	suitable	unsuitable	marginal	unsuitable	unsuitable	unsuitable	unsuitable	unsuitable

Habitat Indicator	Site 1N4W17	Site 1N4W20	Site 1N4W22	Site 1N4W23	Site 1N4W28a	Site 1N4W28d	Site 1N4W29	Site 1N4W33
Grass Canopy Cover								
Forb Canopy Cover	unsuitable	unsuitable	marginal	unsuitable	marginal	marginal	suitable	unsuitable
Preferred Forb Availability	marginal	suitable	suitable	unsuitable	marginal	suitable	suitable	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>	<b>unsuitable</b>	<b>marginal</b>	<b>unsuitable</b>	<b>unsuitable</b>	<b>unsuitable</b>	<b>unsuitable</b>	<b>unsuitable</b>

### Columbia Redband Trout

- The 1999 ORMP (USDI BLM, 1999) did not record any redband trout in Squaw Creek during stream assessments conducted in 1997.
- However, assessments were limited and only conducted at two sites.
- Given the distribution of redband trout in the Columbia River Basin, the similarities of Squaw Creek and other redband trout-producing streams within adjacent drainages (i.e., Jump Creek), and the perennial flow of Squaw Creek, the probability of redband trout in the system is highly likely to occur.

### Columbia Spotted Frog

- Allotment is not within documented range of the Columbia spotted frog.

### **Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

### **Rationale for Evaluation and Determination**

#### *Uplands*

The Rats Nest allotment is managed as a native plant community and is shown to be not meeting Standard 4 due to wild horses and current livestock grazing practices. Under the evaluation of Standard 4, it was determined that the vegetation community is transitioning from a reference site community of robust perennial grasses (i.e., bluebunch wheatgrass) to a less-desirable community of more grazing-tolerant species such as Sandberg bluegrass and cheatgrass. This transition exposes the understory and reduces effective nesting, escape, hiding, travel, and foraging cover values for all wildlife associated with sagebrush steppe communities. Because the upland community is changing to a less-desirable vegetation state, this allotment is failing to provide adequate upland habitat conditions for sagebrush steppe wildlife species and therefore is not meeting Standard 8. In addition, the interior 12 percent of this pasture is dominated by annual grasses (i.e., cheatgrass), reducing habitat connectivity and fragmenting sagebrush steppe community.

#### *Riparian*

Evaluation of Standards 2 and 3 identified streams and springs within this allotment that are not properly functioning or meeting water quality parameters due to wild horses and current livestock grazing practices. Streams, springs, and wetlands that are NF or are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive environment.

Because Standards 2, 3, and 7 are not being met, this allotment is failing to provide adequate habitat conditions to support viable aquatic and terrestrial species populations and therefore is not meeting Standard 8.

#### *Focal Species*

Fifty-nine percent of this allotment falls within modeled PPH/PGH habitat for sage-grouse. A total of eight sage-grouse breeding assessments collected in 2012 identified:

- Pasture 1 - Providing unsuitable breeding habitat conditions for sage-grouse;

The primary cause for not meeting sage-grouse habitat criteria is driven by reduced canopy cover and height of large deep-rooted perennial grasses (i.e., bluebunch wheatgrass, Idaho fescue) in the understory. Indicating that functional nesting, brood-rearing, escape, and hiding cover values are not fully being provided in these pastures. In addition, the plant community transition from the reference community to more grazing-tolerant species such as Sandberg bluegrass and cheatgrass further reduces understory cover values for sage-grouse. The annual grassland in the interior of the pasture further reduces habitat values by fragmenting the sagebrush community and reducing any patch connectivity. Overall, this allotment is failing to provide adequate sage-grouse habitat conditions and therefore is not meeting Standard 8.

Columbia River redband trout are known to occur within the Squaw Creek system. Evaluation of Standards 2 and 3 identified streams and springs within this system that are not properly functioning or meeting water quality parameters due to wild horses and current livestock grazing practices. Redband trout require intact channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filters sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flow. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and therefore is not meeting Standard 8.

### SANDS BASIN

#### **Previous Assessment**

##### *Uplands*

According to the Northwest Owyhee Front Assessment (2001), within the loamy Wyoming big sagebrush community (within pasture 1 and western portion of pasture 2), decreaser bunchgrasses (including introduced crested wheatgrass and native bluebunch wheatgrass) are common to dominant. Perennial forbs are also present throughout this area. The density and abundance of Wyoming sagebrush provides adequate woody structure, cover and/or forage. This portion of the allotment appears to be providing habitat that is largely suitable for most, if not all, dependent sagebrush steppe species, including sage-grouse, sage and Brewer's sparrows, and pygmy rabbit, as well as rodents, insects, and other prey for special status raptor species such as northern harrier, ferruginous hawk, prairie falcon and burrowing owl.

Within pasture 4 and the western portion of pasture 3, decreaser grasses are mostly absent with occasional plants occurring beneath shrubs. Forbs are lacking. Invasive plants, including cheatgrass and medusahead, are common and the herbaceous component is not adequate to provide for the needs of most special status or other sagebrush steppe obligates. Big sagebrush is providing good woody cover and structure, except within much of the burned and seeded portions of the allotment where sagebrush cover has not yet recovered.

Within the shallow claypan community, primarily in pasture 4, low sagebrush is providing good woody cover and structure, but desirable decreaser bunchgrasses are lacking, with most sites dominated by Sandberg bluegrass and/or cheatgrass. Desirable perennial forbs are sparse and the herbaceous component

is generally less than adequate to provide for the needs of most dependent special status animals including sage-grouse and some Neotropical birds.

*Riparian*

According to the Northwest Owyhee Front Assessment (2001), assessed stream riparian habitat in this allotment is located within the Squaw Creek Canyon. All stream segments were rated as functioning properly and expected to providing at least marginally suitable habitat for most species.

**Current Assessment**

Pasture 1

*Uplands*

- This pasture is managed as a seeding.
- A wildfire in 1960 burned 1,400 acres (77 percent) of this pasture. In 1961, it was aerial seeded.
- Potential plant community:
  - a. Wyoming big sagebrush/bluebunch wheatgrass
  - b. Basin big sagebrush/bluebunch wheatgrass
- The functional/structural group is a slight to moderate departure from the potential plant community due to a marginal diversity of species and the occurrence of crested wheatgrass that is replacing the native bunch grasses. The overall biotic integrity of the pasture is a slight to light departure from the ecological plant community.
- Nested frequency trend monitoring showed an overall increase in Wyoming big sagebrush. Trend in bluebunch wheatgrass is static and crested wheatgrass is decreasing. Sandberg bluegrass and squirreltail appear to be static.

*Riparian*

- Total stream miles = 5.65
  - Perennial stream miles = 0
  - Intermittent stream miles = 5.65
- Total miles of stream assessed = 0

*Focal Species*

Greater Sage-grouse

- Four sage-grouse breeding habitat assessments were conducted in this pasture in 2012.
- There are no leks identified within this pasture.
- PPH = 1,828 acres (100 percent) of the pasture  
PGH = 0
- Sage-grouse breeding habitat suitability rating: unsuitable

Rationale: Three out of 4 assessment sites are rated from unsuitable (2) to marginal (1) for sage-grouse breeding habitat. Only one is rated as suitable. Common to all assessment sites was an unsuitable to marginal rating for perennial grass and forb heights. Those sites that were rated unsuitable also had a mixture of columnar/spreading physical shape of sagebrush. The combination of short grasses in the understory and columnar/spreading sagebrush in the overstory results in reduced effective cover for nesting, security, and foraging cover.

**Table WDLF-53:** Sage-grouse breeding habitat assessments conducted May 26, 2000, and June 7, 2007, in pasture 1 of Sands Basin Allotment (Refer to Table WDLF-3 for habitat indicator value ranges).

Habitat Indicator	Site 1N5W21	Site 1N5W22a	Site 1N5W22d	Site 1N5W15
Sagebrush Canopy Cover	suitable	marginal (>25%)	suitable	marginal (5 to <15%)

Habitat Indicator	Site 1N5W21	Site 1N5W22a	Site 1N5W22d	Site 1N5W15
Sagebrush Height	suitable	suitable	marginal (>80%)	suitable
Sagebrush Growth Shape	suitable	suitable	marginal	marginal
Grass and Forb Height	marginal	unsuitable	unsuitable	unsuitable
Perennial Grass Canopy Cover	suitable	marginal	suitable	marginal
Forb Canopy Cover	suitable	unsuitable	unsuitable	unsuitable
Preferred Forb Availability	suitable	unsuitable	suitable	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>	<b>marginal</b>	<b>unsuitable</b>	<b>unsuitable</b>

#### Columbia Redband Trout

- No redband trout streams documented in this pasture.

#### Columbia Spotted Frog

This pasture is not within documented range of the Columbia spotted frog.

#### Pasture 2

##### *Uplands*

- Pasture 2 is managed as seedings pasture.
- Wildfire burned 290 acres (8 percent) of this pasture in 1960 and another fire burned 387 acres (10 percent) in the 2000s, totaling approximately 677 acres (18 percent) of the pasture since the 1960s. The 1960 fire was seeded to crested wheatgrass and another drill seeding occurred in a large basin in 1970.
- Two potential plant communities are present:
  - a. Wyoming big sagebrush/bluebunch wheatgrass;
  - b. Low sagebrush/Idaho fescue
  - c. Basin big sagebrush/bluebunch wheatgrass
- Rangeland health field assessments noted a diversity of perennial plants composed of a mix of shrubs, crested wheatgrass, native perennial grasses and forbs. The overall rating for biotic integrity was none to slight departure from the ecological site potential.
- Nested frequency trend monitoring noted an increase in shrub (Wyoming big sagebrush, low sagebrush, rabbitbrush) frequency. Decreases in bluebunch wheatgrass and crested wheatgrass were observed and the high frequency of Sandberg bluegrass was static.

##### *Riparian*

- Total stream miles = 12.09  
 Perennial stream miles = 0  
 Intermittent stream miles = 12.09
- Total miles of stream assessed = 1.75  
 Miles at PFC = 0.75  
 Miles at FAR = 1.0  
 Miles at NF = 0
- Total number of springs = 0  
 Total number of springs assessed = 0

##### *Focal Species*

#### Greater Sage-grouse

- Seven sage-grouse breeding habitat assessments were conducted in 2012.

- Two late brood-rearing habitat assessments were conducted in 2000.
- There are no leks identified within this pasture.
- PPH = 1,828 acres (100 percent) of the pasture  
PGH = 0
- Sage-grouse breeding habitat suitability rating:
  - a. Lower basin = marginal
  - b. Upper slopes = suitable

Rationale: This pasture can be discussed as the lower basin and the upper slopes. The overall rating for the lower basin ranged from unsuitable to suitable, depending on the location of the assessment site. It is difficult to target one or two habitat indicators that were the primary driver for a marginal habitat suitability rating because each of the locations were deficient in some respect from sagebrush canopy cover with mixed columnar/spreading shape in the overstory to unsuitable perennial grass canopy cover in the understory. The primary conclusion is that the overstory and understory composition and structure did not function together to provide effective nesting, security, and foraging cover.

Although similar conditions exist on the upper slopes, after review of the photographs and the consistent perennial grass canopy cover in the understory, there are more favorable conditions in habitat composition and structure that would equate to more effective habitat function for sage-grouse.

- Two brood-rearing habitat assessments were conducted in wet meadows along Jump Creek in the south (site 1N5W08) and north central (site 1N5W19) portions of the pasture.
- Evaluators in 2000 mentioned that they flushed a single sage-grouse chick during the assessment at site 1N5W19 in the southern portion of the pasture.
- Both sites rated as suitable sage-grouse late brood-rearing habitat in this pasture (see Table WDLF-3 for description of sage-grouse late brood-rearing habitat indicators); however, the unfavorable canopy cover, columnar growth form of sagebrush in the overstory, and the absence of perennial grass canopy cover and height in the understory of the upland community adjacent to the wet meadow were noted. For sage-grouse to access/egress the wet meadow safely, security cover in the adjacent uplands has limited effectiveness.
- Sage-grouse late brood-rearing habitat suitability rating: suitable

Rationale: The 2000 assessment reported intact conditions with no evidence of erosion, no encroachment of xeric upland plant species, and favorable availability of forbs.

**Table WDLF-54:** Sage-grouse breeding habitat assessments conducted April 11 and May 10, 2012, in lower basin of Sands Basin allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 1N5W17d rating	Site 1N5W17c rating	Site 1N5W18a rating	Site 1N5W18b rating
Sagebrush Canopy Cover	suitable	marginal (>25%)	marginal (5 to 5%)	marginal (>25%)
Sagebrush Height	suitable	suitable	suitable	suitable
Sagebrush Growth Shape	suitable	suitable	marginal	marginal
Grass and Forb Height	suitable	suitable	suitable	unsuitable
Perennial Grass Canopy Cover	unsuitable	suitable	suitable	unsuitable
Forb Canopy Cover	suitable	unsuitable	marginal	marginal
Preferred Forb Availability	marginal	unsuitable	suitable	marginal
<b>Overall Site Evaluation</b>	<b>marginal</b>	<b>suitable</b>	<b>marginal</b>	<b>unsuitable</b>

<sup>1</sup>US unit conversion: 80 cm = 32 in.

**Table WDLF-55:** Sage-grouse breeding habitat assessments conducted April 11 and May 10, 2012, in upper slopes of Sands Basin allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

Habitat Indicator	Site 1N5W20a rating	Site 1N5W20b rating	Site 1N5W9b rating
Sagebrush Canopy Cover	suitable	marginal (>25%)	marginal (5 - <15%)
Sagebrush Height	marginal (>80 cm)	marginal (>80 cm)	suitable
Sagebrush Growth Shape	marginal	marginal	suitable
Grass and Forb Height	suitable	suitable	suitable
Perennial Grass Canopy Cover	suitable	suitable	suitable
Forb Canopy Cover	suitable	unsuitable	unsuitable
Preferred Forb Availability	suitable	suitable	unsuitable
<b>Overall Site Evaluation</b>	<b>suitable</b>	<b>suitable</b>	<b>suitable</b>

<sup>1</sup>US unit conversion: 80 cm = 32 in.

#### Columbia Redband Trout

- Jump Creek through pasture 2 of this allotment is identified as a Columbia River redband trout stream.
- Three reaches (totaling 1.0 miles) of stream identified in 1999 as FAR due to lack of riparian vegetation, poor plant vigor, and low species recruitment to stabilize streambanks, provide shade, and deliver woody debris to the stream.
- Two of the reaches were re-assessed in 2007; and riparian conditions have improved and are PFC due to rock and woody debris armoring of the stream. MIM assessments showed that streambanks were covered and stable with a stubble height of 7 to 10 inches.
- Redband trout habitat conditions: undetermined

Rationale: The 2007 assessments information showed improved riparian habitat conditions from 1999, although there is no mention of riparian habitat composition or structure other than the banks are armored by rock and woody debris. Redband trout require a developed riparian community that shades the stream, delivers detritus, and delivers woody debris to cool water temperatures, provide forage, and create stream structure. No conclusion can be drawn from the riparian assessment.

#### Columbia Spotted Frog

- This pasture is not located within documented range of Columbia spotted frog

#### Pasture 3

##### Uplands

- This pasture is managed as an exotic plant community.
- A wildfire in 2002 burned 1,958 acres (99 percent) of this pasture.
- Potential plant community:
  - Basin big sagebrush/bluebunch wheatgrass
  - Low sagebrush/Idaho fescue
- The rangeland health assessment recorded the overall biotic integrity of the pasture was rated an extreme departure from the ecological site conditions due to the lack of species diversity, dominance of invasive grasses (medusahead and cheatgrass), and excess litter.

- Nested frequency trend monitoring showed an increase in Wyoming big sagebrush and a decrease in low sagebrush. Bluebunch wheatgrass and Sandberg bluegrass both showed a downward trend whereas crested wheatgrass, cheatgrass, and medusahead all showed an increase in frequency.

*Riparian*

- Total stream miles = 7.0  
     Perennial stream miles = 0  
     Intermittent stream miles = 7.0
- Total miles of stream assessed = 0
- Total number of springs = 1  
     Total number of springs assessed = 0
- There are 7.0 miles of interment stream in this pasture: 0.7 miles are in the upper headwaters of Bridge Creek and the remaining 6.3 miles are in an unnamed stream. There are not any assessed riparian habitat communities identified for this pasture.

*Focal Species*

Greater Sage-grouse

- Four sage-grouse breeding habitat assessment was conducted in this pasture in 2012.
- There are no leks identified within this pasture.
- PPH = 0  
     PGH = 1,980 acres (100 percent) of this pasture  
     Sage-grouse breeding habitat suitability rating: unsuitable to suitable

Rationale: The entirety of this pasture was burned by wildfire in 2002, although there are stands of favorable sagebrush present within the burned area perimeter. Two assessment locations rated the pasture as unsuitable, and the other two were rated as suitable, which illustrates the variability that can occur. Unsuitable ratings were driven by the reduced canopy cover of large deep-rooted perennial grasses in the understory at sites 1S6W14 and 1S6W24a. The variability of the habitat suitability ratings may be due to topography, fire intensity, grazing pressure, and invasive species (medusahead and cheatgrass).

**Table WDLF-56:** Sage-grouse breeding habitat assessments conducted April 11, and May 16 and 21, 2012 in pasture 3 in Sands Basin allotment (Refer to Table WDLF-3) for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 1N6W12 rating</b>	<b>Site 1N6W14 rating</b>	<b>Site 1N6W24a rating</b>	<b>Site 1N6W24b rating</b>
Sagebrush Canopy Cover	suitable	marginal (5 to <15%)	marginal (5 to <15%)	marginal (>25%)
Avg. Sagebrush Height	suitable	suitable	suitable	suitable
Sagebrush Growth Shape	suitable	suitable	suitable	suitable
Grass and Forb Height	suitable	suitable	unsuitable	suitable
Perennial Grass Canopy Cover	suitable	unsuitable	unsuitable	suitable
Forb Canopy Cover	suitable	suitable	unsuitable	unsuitable
Preferred Forb Availability	suitable	suitable	marginal	unsuitable
<b>Overall Site Evaluation</b>	<b>suitable</b>	<b>unsuitable</b>	<b>unsuitable</b>	<b>suitable</b>

Columbia Redband Trout

No redband trout streams are documented within this pasture.

Columbia Spotted Frog

- This pasture is not within documented range of the Columbia spotted frog.

## Pasture 4

### *Uplands*

- This pasture is managed as a native plant community.
- Sixty-five percent (3,845 acres) of this pasture was been burned by wildfire since 1960. The last fire occurred in 2002 and burned 796 acres (14 percent) of this pasture. Post-fire, 732 acres were aerially and drill seeded.
- Two potential natural plant comments occur:
  - a. Wyoming big sagebrush/bluebunch wheatgrass;
  - b. Low sagebrush/Idaho fescue
  - c. Basin big sagebrush/bluebunch wheatgrass
- Rangeland health field assessments identified that the functional/structural groups show a moderate departure from the potential plant community. All the assessments noted a lack of large bunchgrasses and an herbaceous plant community shift towards a dominance of Sandberg bluegrass. The overall biotic integrity of the pasture is a moderate departure from the potential plant community. Invasive species (cheatgrass and medusahead) are rated moderate to extreme.
- Nested frequency trend monitoring showed a decrease in big sagebrush and an increase in rabbitbrush. Bluebunch wheatgrass is being replaced by Sandberg bluegrass and crested wheatgrass with an increased frequency of cheatgrass and medusahead.

### *Riparian*

- Total stream miles = 14.76
  - Perennial stream miles = 1.23
  - Intermittent stream miles = 13.53
- Total miles of stream assessed = 1.09
  - Miles at PFC = 0
  - Miles at FAR = 1.09
  - Miles at NF = 0
- Total number of springs = 3 (Sands Basin Spring Complex)
  - Total number of springs assessed = 3
  - Number of springs at PFC = 0
  - Number of springs at FAR = 3
  - Number of springs at NF = 0

### *Focal Species*

#### Greater Sage-grouse

- Six sage-grouse breeding habitat assessment was conducted in this pasture in 2012.
- There are no leks identified within this pasture.
- PPH = 2,548 acres (43 percent) of this pasture.  
PGH = 3,325 acres (57 percent) of this pasture.
- Sage-grouse breeding habitat suitability rating: unsuitable

Rationale: Five out of six sage-grouse assessment sites were rated as unsuitable. A deficiency common to all the assessment sites include the reduced occurrence of large deep-rooted perennial grasses that translates into minimal to no nesting, foraging, and security cover values in the understory. Even though marginal-suitable sagebrush conditions are identified for the overstory on all the sites, the herbaceous component in the understories are dominated by Sandberg bluegrass that does not provide an effective cover value as bluebunch wheatgrass.

**Table WDLF-57:** Sage-grouse breeding habitat assessments conducted June 7, 2007, in Sands Basin allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 1N6W24 rating</b>	<b>Site 1N6W26 rating</b>	<b>Site 1N6W25 rating</b>	<b>Site 1N6W35 rating</b>	<b>Site 1S5W6 rating</b>	<b>Site 1N5W31 rating</b>
Sagebrush Canopy Cover	marginal (>25%)	suitable	suitable	suitable	marginal (>25%)	marginal (>25%)
Sagebrush Height	marginal (>80 cm)	suitable	marginal	suitable	marginal (>80 cm)	suitable
Sagebrush Growth Shape	marginal	suitable	marginal	suitable	marginal	suitable
Grass and Forb Height	suitable	unsuitable	unsuitable	suitable	unsuitable	unsuitable
Perennial Grass Canopy Cover	unsuitable	unsuitable	unsuitable	suitable	unsuitable	unsuitable
Forb Canopy Cover	suitable	suitable	marginal	suitable	unsuitable	unsuitable
Preferred Forb Availability	marginal	suitable	unsuitable	suitable	suitable	marginal
<b>Overall Site Evaluation</b>	<b>unsuitable</b>	<b>unsuitable</b>	<b>unsuitable</b>	<b>suitable</b>	<b>unsuitable</b>	<b>unsuitable</b>

Columbia Redband Trout

- Jump Creek through pasture 4 of this allotment is identified as a Columbia River redband trout stream.
- Two reaches of Jump Creek were re-assessed in 2007 and found to be in PFC due to rock and woody debris armoring of the stream.
- MIM assessments showed that streambanks were covered and stable with a stubble height of 7 to 10 inches.
- Although this implies an approved trend in streamside conditions, there is no mention of a riparian shrub community present. Even though streambanks are stable, redband trout require a developed riparian community that shades the stream, delivers detritus, and delivers woody debris to cool water temperatures, provide forage, and create stream structure.
- Redband trout habitat conditions: undetermined

Rationale: The 2007 assessments information showed improved riparian habitat conditions from 1999. There is no mention of riparian habitat composition or structure, other than the note that the banks are armored by rock and woody debris. Redband trout require a developed riparian community that shades the stream, delivers detritus, and delivers woody debris to cool water temperatures, provide forage, and create stream structure. Given the information available, riparian habitat community structure and function for redband trout is undetermined.

Columbia Spotted Frog

- This pasture is not within the documented range of Columbia spotted frog.

**Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

## Rationale for Evaluation and Determination

### *Uplands*

Pastures 1 and 2 are managed as seedings and meeting Standard 5. However, for sagebrush steppe species, pastures 1 and 2 have inadequate sagebrush occurrence in the overstory and reduced occurrence, structure, and function of perennial grasses and forbs in the understory. It can be anticipated that habitat conditions may improve as sagebrush recolonizes the seedings and diversifies the plant community. However, at this time, pastures 1 and 2 are failing to provide a full complement of upland habitat overstory/understory conditions for most sagebrush steppe wildlife and therefore are not meeting Standard 8.

Pasture 3 is managed as an exotic plant community due to the dominance of cheatgrass and medusahead. Upland habitats managed under Standard 6 do not meet the requirements of Standard 8. Vegetation composition, structure, and function are lacking or absent in these communities substantially reducing effective nesting, hiding, escape, travel, and foraging cover values for all upland wildlife species. These exotic communities further create large open spaces, diminish habitat connectivity, and increase sagebrush community fragmentation.

Pasture 4 is managed as a native plant community but has been determined to be not meeting Standard 4 due to wild horses and current livestock grazing practices. Currently there is a shift in the potential plant community from a Wyoming sagebrush/bluebunch reference community to a Wyoming sagebrush/Sandberg bluegrass-cheatgrass community. The downward trend in plant community composition is favoring shallow-rooted grass species that do not provide a robust growth form or structure to provide an effective interface of overstory and understory plant composition, structure, and function for sagebrush steppe-dependent species. Due to the downward trend and shift in the plant community, it can be anticipated that upland habitat conditions will overtime depreciate further; therefore, this allotment is failing to provide adequate upland habitat conditions for sagebrush steppe species and therefore is not meeting Standard 8.

### *Riparian*

Standards 2, 3, and 7 identified that streams and springs that are not properly functioning or meeting water quality parameters resulting from wild horses and current grazing practices. Streams, springs, and wetlands that are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive environment. Because Standards 2, 3, and 7 are not being met, this allotment is failing to provide adequate riparian conditions to support viable aquatic and terrestrial species populations and therefore is not meeting Standard 8.

### *Focal Species*

The entire allotment falls within modeled PPH/PGH habitat for sage-grouse. A total of 23 sage-grouse breeding and late brood-rearing habitat assessments collected from 2000 to 2012 identified:

- Pasture 1 - Providing unsuitable breeding habitat conditions;
- Pasture 2 - Providing marginal breeding and suitable late brood-rearing habitat conditions (mesic habitat assessment);
- Pasture 3 - Providing unsuitable breeding habitat conditions;
- Pasture 4 - Providing unsuitable breeding habitat conditions.

All of the pastures within this allotment are failing to provide favorable breeding habitat conditions for sage-grouse. Pastures 1 and 2 were rated as unsuitable and marginal due to less than desirable height (pasture 1) and canopy cover (pasture 2) of large perennial grasses and forbs. However, in pasture 2, the

unsuitable rating was driven by habitat conditions in the lower basin that were more deficient than suitable conditions on the upper slopes. Because these pastures are failing to provide adequate sage-grouse habitat conditions, they therefore are not meeting Standard 8.

Pasture 3 was concluded to be providing unsuitable breeding habitat conditions due to less-than-desirable canopy cover of large perennial grasses (i.e., bluebunch wheatgrass). In addition, pasture 3 is managed as an exotic plant community that further reduces habitat quality, reduces connectivity, and increases sagebrush community fragmentation. As well, pasture 4 was concluded to be providing less-than-desirable canopy cover and height of large perennial grasses. Although sagebrush overstory conditions were variable, undesirable nesting, hiding, and foraging cover values in the understory are occurring in these pastures. Therefore, this allotment is failing to provide adequate habitat condition for sage-grouse and is not meeting Standard 8.

Columbia River redband trout are known to occur within the Jump Creek and McBride Creek systems. Evaluation of Standards 2, 3, and 7 identified streams and springs within these systems that are not properly functioning or meeting water quality parameters due to current grazing practices. Redband trout require intact channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filters sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flow. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and therefore is not meeting Standard 8.

## SODA CREEK

### Previous Assessment

*Uplands (see Standard 4, 2004 Assessment)*

#### Pasture 1

In Shallow Claypan 11-13" ecological sites, bluebunch wheatgrass occurrence is less than expected relative to site potential. The decrease of the larger, more productive bunchgrasses has allowed the smaller, less productive but more disturbance-tolerant grasses such as a Sandberg bluegrass and bulbous bluegrass to expand into vacant niches. This shift is observed where Sandberg bluegrass is the dominant species and bulbous bluegrass is common in the community. On Loamy 13-16" and 16+" sites, decreaser grasses are the dominant species in the plant community.

#### Pasture 2

Bluebunch wheatgrass occurrence is below potential relative to reference condition. A shift in community composition from bluebunch wheatgrass to Sandberg bluegrass is occurring.

#### Pasture 3

Decreaser grasses (e.g., bluebunch wheatgrass) are common, although below potential relative to reference conditions. Increaser grasses (e.g., Sandberg bluegrass, squirreltail, bulbous bluegrass) are the dominant species present.

*Riparian (see Standard 2 and 3, 2004 Assessment)*

- Soda Creek = FAR
- Cow Creek = FAR
- Little Cow Creek = FAR
- Jacks Creek = PFC
- Twelve individual springs or complexes were assessed. Livestock use in this allotment is light and most springs support a diversity of riparian vegetation with good vigor. Low flows or lack of

surface water are limiting factors for vegetation at these spring sites. In addition, several have been altered and flow regimes are not adequate.

## **Current Assessment**

### Pasture 1

#### *Uplands*

- This pasture is managed as a native plant community.
- Wildfires have burned 178 acres (16 percent) of this pasture in the 1960s and another 855 acres (78 percent) in 1996.
- Potential natural community:
  - a. Mountain big sagebrush/bluebunch wheatgrass-Idahofescue
- RHFA recorded the site is meeting Standard 4. The site has good vigor, age class and recruitment.
- Rangeland trend information is not available.

#### *Riparian*

- Total stream miles = 0.78
  - Perennial stream miles = 0.29
  - Intermittent stream miles = 0.49
- Total miles of stream assessed = 0
- Total number of springs = 0

#### *Focal Species*

##### Greater Sage-grouse

- No sage-grouse habitat assessment information has been collected for this pasture.
- There are no documented leks within this pasture.
- PPH sagebrush = 247 acres (22 percent)  
PPH Grassland = 855 acres (78 percent)  
PPH Juniper Encroachment = 1 acre (<1 percent)  
PGH = 0
- BLM = 217 acres (20 percent) of this pasture.
- Sage-grouse breeding habitat suitability rating: unknown

Rationale: Sage-grouse habitat suitability is unknown due to absence of assessment information.

##### Columbia Redband Trout

- Soda Creek flows through this pasture and a majority of the creek is on private land.
- Small portions of Soda Creek flow through BLM land.
- Soda Creek is identified as a Columbia River redband trout stream.
- No PFC assessments have been conducted.

##### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog.
- Potential habitat exists along stream corridors and springs.

### Pasture 2

#### *Uplands*

- This pasture is managed as a native plant community.
- A wildfire in the 1960s burned 422 acres (67 percent) in this pasture.
- Potential natural plant community:
  - a. Wyoming big sagebrush/bluebunch wheatgrass-Idaho fescue

- b. Mountain sagebrush/Idaho fescue
- RHFAs recorded that the functional structural groups are higher than expected where Sandberg bluegrass and bluebunch wheatgrass dominate the interspaces with a scattering of Idaho fescue and juniper scattered. Bulbous bluegrass is common.
- Rangeland trend monitoring information is not available.

*Riparian*

- Total stream miles = 2.07  
     Perennial stream miles = 2.07  
     Intermittent stream miles = 0
- Total miles of stream assessed = 2.72  
     Miles in PFC = 1.77  
     Miles in FAR = 0.95  
     Miles in NF = 0
- Total number of springs = 0

*Focal Species*

Greater Sage-grouse

- One sage-grouse breeding habitat assessment was collected for this pasture in 2003 and was on private land.
- One sage-grouse late brood-rearing habitat assessment was collected in 2003 and was conducted on private land.
- There are no documented leks within this pasture.
- PPH = 192 acres (30 percent)  
     PPH juniper encroachment = 331 acres (53 percent)  
     PGH = 107 acres (17 percent)
- BLM = 296 acres (20 percent) of this pasture.
- Sage-grouse breeding habitat suitability rating: suitable

Rationale: The overall *suitable* habitat rating is due to favorable sagebrush overstory conditions, perennial grass/forb height in the understory, and the availability forbs for forage. Perennial grass canopy is less than desirable, but under a spreading growth form of sagebrush, it should provide adequate nesting, security, and foraging cover.

The juniper encroachment, not identified in the breeding habitat assessment, enhances predation efforts and emphasizes the need for increased perennial grass canopy cover to improved understory security and escape cover for Sage-grouse.

**Table WDLF-58:** Sage-grouse breeding habitat assessment conducted June 6, 2003, in pasture 2 of the Soda Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 4S5W12 rating</b>
Sagebrush Canopy Cover	suitable
Sagebrush Height	suitable
Sagebrush Growth Shape	suitable
Grass and Forb Height	suitable
Perennial Grass Canopy Cover	marginal
Forb Canopy Cover	suitable
Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>

- Sage-grouse late brood-rearing habitat suitability rating: suitable

Rationale: Late brood-rearing habitat conditions rated suitable due to intact wet meadow habitat conditions along a stream channel that is composed of mesic plant species, readily available forbs, and adjacent sagebrush habitat with 100 yards. Minor erosion was noted.

#### Columbia Redband Trout

- Cow Creek and Little Cow Creek flow through a total of 2.7 miles of BLM land.
- Both creeks are identified as Columbia River redband trout streams.

#### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog.
- Potential habitat exists along stream corridors and springs.

#### Pasture 3

##### *Uplands*

- This pasture is managed as a native plant community.
- Wildfires burned 1,778 (33 percent) acres of this pasture in the 1960s and 2,857 acres (53 percent) in the 2000s.
- Potential natural community:
  - Wyoming big sagebrush/bluebunch wheatgrass-Idaho fescue
  - Mountain sagebrush/Idaho fescue
- RHFA information noted that the functional structural group had a slight departure due to Wyethia dominance in the understory.
- Rangeland trend monitoring recorded the site is dominated by bluebunch wheatgrass and Sandberg bluegrass with bulbous bluegrass, cheatgrass with scattered squirreltail and California brome in the interspaces. Bluebunch wheatgrass, Idaho fescue, and squirreltail have shown a long-term decrease in frequency. Sandberg bluegrass, cheatgrass, and bulbous bluegrass show an increase in frequency and medusahead is starting to show up on the site.

##### *Riparian*

- Total stream miles = 5.29
  - Perennial stream miles = 0.38
  - Intermittent stream miles = 4.91
- Total miles of stream assessed = 0
- Total number of springs = 20
  - Total number of springs assessed = 20
  - Number of springs in PFC = 18
  - Number of springs in FAR = 0
  - Number of springs in NF = 2

##### *Focal Species*

#### Greater Sage-grouse

- One sage-grouse breeding habitat assessment was collected for this pasture in 2003.
- There are no documented leks within this pasture.
- PPH sagebrush = 81 acres (1 percent)
  - PPH perennial grassland = 2,746 acres (51 percent)
  - PPH juniper encroachment = 1,827 acre (33 percent)
  - PGH = 754 acres (14 percent)
- BLM = 2,361 acres (44 percent) of this pasture.
- Sage-grouse breeding habitat suitability rating: suitable

Rationale: Overall suitable habitat rating due to favorable overstory and understory conditions. The juniper encroachment, not identified in the breeding habitat assessment, enhances predation efforts and emphasizes the need to maintain habitat conditions for security and escape cover for sage-grouse (note – this particular transect was ran near an old burn and was not fully completed by the field team in 2009 due to small sagebrush patch size and only recorded 33 points instead of the standard 50 according to protocols. I choose to use the site because it was near the 2003 assessment location that also rated that site as suitable).

**Table WDLF-59:** Sage-grouse breeding habitat assessment conducted July 10, 2003, and June 8, 2009, in pasture 3 of the Soda Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 4S5W13/14 rating
Sagebrush Canopy Cover	suitable
Sagebrush Height	suitable
Sagebrush Growth Shape	suitable
Grass and Forb Height	suitable
Perennial Grass Canopy Cover	suitable
Forb Canopy Cover	suitable
Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>

#### Columbia Redband Trout

- Cow Creek flows through BLM land on this allotment.
- Cow Creek are identified as Columbia River redband trout stream.

#### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog.
- Potential habitat exists along stream corridors and springs.

#### Pasture 4

##### *Uplands*

- Pasture is 412 acres and is 100 percent private property.

#### Pasture 5

##### *Uplands*

- This pasture is managed as a native plant community.
- Wildfires burned 1,143 acres (91 percent) of this pasture in the 1960s and 435 acres (35 percent) in the 2000s.
- Potential natural community:
  - Mountain big sagebrush/bluebunch wheatgrass-Idaho fescue
  - Low sagebrush/bluebunch wheatgrass
- RHFA information is not available.
- Rangeland trend monitoring information is not available.

##### *Riparian*

- Total stream miles = 0
- Total number of springs = 0

#### *Focal Species*

##### Greater Sage-grouse

- Sage-grouse breeding habitat assessments recorded in 2003 and 2009 on the BLM in this pasture were mis-located and were actually collected in the Joint allotment (0531) pasture 4 to the north.

- There are no documented leks within this pasture.
- PPH sagebrush = 808 acres (65 percent)  
PPH perennial grassland = 435 acres (35 percent)  
PPH juniper encroachment = 0  
PGH = 0
- BLM = 106 acres (8 percent) of this pasture.
- Sage-grouse breeding habitat suitability rating: unknown

Rationale: No sage-grouse habitat assessment information is available for this pasture. Assessments collected in 2003 and 2009 for this pasture were mis-located and actually occurred in the southern portion of the Joint allotment (0531) pasture 4.

#### Columbia Redband Trout

- No redband trout streams documented in this pasture.

#### Columbia Spotted Frog

- No Columbia spotted frog habitat documented in this pasture.

#### **Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

#### **Rationale for Evaluation and Determination**

##### *Uplands*

Pastures 1, 2, 3 are managed as native plant communities and are shown to be meeting Standard 4.

Because Standard 4 is being met, the plant community is assumed to be providing nesting, escape, travel, and hiding cover and accessible forage for wildlife in general.

##### *Riparian*

Evaluation of Standards 2, 3, and 7 identified streams and springs within this allotment that are not fully functioning and that water quality parameters were not being met, but are making significant progress towards meeting riparian standards. Streams, springs, and wetlands that are not fully functioning are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive environment for wildlife. Because Standards 2, 3, and 7 are not fully being met, the allotment does not have adequate riparian habitat conditions to support viable aquatic and terrestrial species populations and is not meeting Standard 8.

##### *Focal Species*

This entire allotment falls within modeled PPH/PGH habitat for sage-grouse. A total of three sage-grouse breeding assessments collected in 2003 identified:

- Pasture 1 - No sage-grouse assessment collected;
- Pasture 2 - Providing suitable breeding and suitable late brood-rearing habitat conditions (mesic habitat assessment);
- Pasture 3 - Providing suitable breeding habitat conditions;
- Pasture 4 - Private property. No sage-grouse habitat assessments collected.
- Pasture 5 - No sage-grouse habitat assessments collected.

Pastures where sage-grouse habitat assessments were collected are providing favorable overstory/understory sagebrush and large perennial grass composition and structure to support functional sage-grouse breeding habitat conditions.

Columbia River redband trout are known to occur within the Soda Creek and Cow Creek systems. Evaluation of Standards 2, 3, and 7 identified these systems as not fully functional but are making significant progress toward meeting standards. Redband trout require intact channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filters sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flow. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and is therefore not meeting Standard 8.

This allotment is within the range of the Columbia spotted frog. Evaluation of Standards 2, 3, and 7 identified riparian areas that were not fully functional, but are making significant progress toward meeting standards. Spotted frogs are usually found along vigorous grassy/sedge margins of streams, lakes, ponds, springs, and marshes not far from sources of quiet permanent water. They migrate along these vegetation corridors between habitats used for spring breeding, summer foraging, and winter hibernation. Riparian conditions not fully functioning have altered or lost soil conditions, water availability, water quality, and hydric communities that are not adequate to sustain viable Columbia spotted frog populations. Although riparian habitat conditions are progressing toward meeting Standards 2, 3, and 7, riparian conditions are currently not fully functioning and therefore are not meeting Standard 8 for spotted frogs.

#### STANFORD FFR

##### **Previous Assessment**

*Uplands (See Standard 8, 2006 Evaluation and Determination)*

Standard 8 is not being met for this allotment. The functional and structural groups are not close to what is expected for this site and are not providing habitat that is adequate for the needs of most of the dependent special status and other wildlife species. The lack of large bunchgrasses is limiting the structure of available cover and forage quality for sage-grouse, numerous song birds, pygmy rabbits, and a diversity of insects. Sage-grouse surveys from 1994 to 2003 have identified active leks within and in close proximity of this allotment. Current livestock grazing management practices are a contributing factor to the failure to meet Standard 8.

##### *Riparian*

- Standard 2 did not apply to this allotment.

##### **Current Assessment**

##### Pasture 1

##### *Uplands*

- This pasture is managed as a native plant community.
- No wildfires have been documented in this pasture over the last 50 years.
- Potential natural community:
  - a. Low sagebrush/bluebunch wheatgrass
  - b. Low sagebrush/bluebunch wheatgrass-Idaho fescue
  - c. Mountain sagebrush/bluebunch wheatgrass-Idaho fescue
- RHFAs are not available for this allotment.
- Rangeland trend monitoring information is not available for this allotment.

*Riparian*

- Trout Creek flows through this allotment adjacent to BLM land.
- No riparian information is available for this allotment.

*Focal Species*

Greater Sage-grouse

- Two sage-grouse upland summer habitat assessments were collected in 2012.
- One sage-grouse riparian summer habitat assessment was collected in 2012.
- Leks are documented very near or possibly within this allotment.
- PPH sagebrush = 1,892 acres (100 percent)  
PPH perennial grassland = 0  
PPH conifer encroachment = 0  
PGH = 0
- BLM = 544 acres (29 percent) of this pasture.
- Sage-grouse upland summer habitat suitability rating: marginal

Rationale: The overall *marginal* habitat rating is primarily due to the occurrence and height of the sagebrush overstory common to both assessment locations. Understory conditions between the two sites show differences between composition and structure to provide security and foraging cover.

**Table WDLF-60:** Sage-grouse upland summer habitat assessments conducted August 1, 2012, in the Stanford FFR allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

Habitat Indicator	Site 3S5W29 rating	Site 3S5W32 rating
Sagebrush Canopy Cover	marginal (>25%)	marginal (>25%)
Sagebrush Height	marginal (>80cm)	marginal (>80cm)
Perennial Grass and Forb Canopy Cover	marginal	suitable
Preferred Forb Availability	suitable	marginal
<b>Overall Site Evaluation</b>	<b>marginal</b>	<b>marginal</b>

- c. Sage-grouse riparian summer habitat suitability rating: marginal

Rationale: The *marginal* rating is driven by the FAR assessment and the downward trend of spring/meadow riparian conditions. The favorable availability of forbs and proximity to sagebrush habitat were rated as suitable habitat indicators.

Columbia Redband Trout

- Jackson Creek flows through this allotment on private land.
- The Creek is adjacent to BLM land.
- Trout Creek is identified as Columbia River redband trout stream.

Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog.
- Potential habitat exists along stream corridors and springs.

**Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

X Not meeting the Standard

### **Rationale for Evaluation and Determination**

#### *Uplands*

Limited information is available for this allotment. However, evaluation of Standard 4 has identified this pasture as not meeting. With consideration of the previous assessment and evaluation and because Standard 4 is not being met, an assumption is being made that the uplands are not providing adequate plant community composition and structure for upland wildlife and therefore the allotment is not meeting Standard 8.

#### *Riparian*

No riparian habitat information is available for this allotment.

#### *Focal Species*

The entire allotment falls within modeled PPH/PGH habitat for sage-grouse. A total of two sage-grouse upland summer habitat and riparian summer habitat assessments were collected in 2012 and identified:

- Pasture 1 - Providing marginal upland summer and riparian summer habitat conditions;

Both the 2012 upland summer and riparian summer habitat conditions rated this allotment as marginal. Marginal ratings suggest that not habitat indicators are being adequately represented. Therefore, this allotment is not meeting Standard 8 for sage-grouse.

Columbia River redband trout are known to occur within the Jackson Creek system. No stream riparian information is available to assess or evaluate stream habitat conditions.

This allotment is within the range of the Columbia spotted frog. Based on limited spring riparian information provided by the riparian summer habitat assessment for sage-grouse, it appears that riparian conditions maybe at a minimum FAR.

### TEXAS BASIN FFR

#### **Previous Assessment**

##### *Uplands*

No previous upland assessment/evaluation information is available.

##### *Riparian*

No previous riparian assessment/evaluation information is available.

#### **Current Assessment**

##### Pasture 1

##### *Uplands*

- The rangeland health assessment within Standard 4 of the 2008 Determination and Evaluation noted that cheatgrass is common and overall shrub cover observed appeared greater than expected. Smaller increaser grasses (Sandberg bluegrass and squirreltail) were more abundant than larger bunchgrasses (bluebunch wheatgrass and Idaho fescue). Bluebunch wheatgrass vigor appeared to be reduced and seedhead production of Sandberg bluegrass was observed. Little recruitment of interspatial bluebunch wheatgrass plants was observed.
- Potential plant community:
  - a. Low sagebrush/bluebunch wheatgrass
  - b. Low sagebrush/Idaho fescue
- No rangeland trend information is available.
- Determination: Texas Basin FFR is meeting Standard 4 and Standard 8.

*Riparian*

- Standard 2 in the 2008 Evaluation and Determination did not apply.

*Focal Species*

Greater Sage-grouse

- Allotment is currently under a 2008 determination and permit.
- New sage-grouse breeding habitat assessment information was collected in 2012.
- PPH = 655 acres (100 percent of this pasture)  
PPH perennial grassland acres = 30  
PPH sagebrush acres = 625  
PGH = 0
- There are no leks documented within this pasture.
- Sage-grouse breeding habitat suitability rating: unsuitable

Rationale: The primary driver for the unsuitable habitat rating is due to the substantially low occurrence of large deep-rooted perennial grasses in the understory reducing the effective nesting, security, and foraging cover available (Table WDFL-61).

**Table WDLF-61:** Sage-grouse breeding habitat assessments conducted May 22, 2012, in pasture 1 of the Texas Basin FFR allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 2S6W13 rating
Sagebrush Canopy Cover	marginal (>25%)
Sagebrush Height	suitable
Sagebrush Growth Shape	marginal
Grass and Forb Height	marginal
Perennial Grass Canopy Cover	unsuitable
Forb Canopy Cover	unsuitable
Preferred Forb Availability	marginal
<b>Overall Site Evaluation</b>	<b>unsuitable</b>

Columbia Redband Trout

- No redband trout streams are identified in this pasture.

Columbia Spotted Frog

No Columbia spotted frog habitat is documented within this pasture.

Pasture 2

*Uplands*

- No upland assessment information is available for this pasture.
- Potential plant community:
  - a. Low sagebrush/bluebunch wheatgrass
  - b. Low sagebrush/Idaho fescue

*Riparian*

- c. No riparian habitat is identified in this pasture.

*Focal Species*

Greater Sage-grouse

- Allotment is currently under a 2008 determination and permit.
- New sage-grouse breeding habitat assessment information was collected in 2012.
- PPH = 1,342 acres (100 percent of this pasture)  
PPH perennial grassland acres = 602  
PPH sagebrush acres = 740  
PGH = 0
- There are no leks documented within this pasture.
- Sage-grouse breeding habitat suitability rating: unsuitable

Rationale: The primary driver for the unsuitable habitat rating is due to the substantially low occurrence of large deep-rooted perennial grasses in the understory reducing the effective nesting, security, and foraging cover available.

The one sage-grouse breeding habitat assessment rated this site as unsuitable due to multiple marginal and unsuitable habitat indicator ratings (Table WDLF-62). The combination of marginal and unsuitable sagebrush occurrence and growth shape overstory, along with substantially reduced occurrence and height of perennial grasses and forbs in the understory, reduces the value of nesting and security cover for sage-grouse.

**Table WDLF-62:** Sage-grouse breeding habitat assessments conducted May 22, 2012, in pasture 2 of the Texas Basin FFR allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 2S5W29 rating</b>
Sagebrush Canopy Cover	marginal (>25%)
Sagebrush Height	marginal (>80 cm)
Sagebrush Growth Shape	unsuitable
Grass and Forb Height	marginal
Perennial Grass Canopy Cover	unsuitable
Forb Canopy Cover	unsuitable
Preferred Forb Availability	suitable
<b>Overall Site Evaluation</b>	<b>unsuitable</b>

Columbia Redband Trout

- No redband trout streams are identified within this pasture.

Columbia Spotted Frog

- No Columbia spotted frog habitat is documented within this pasture.

**Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

## Rationale for Evaluation and Determination

### *Uplands*

This allotment is managed as a native plant community and is meeting Standard 4. Because Standard 4 is being met, an assumption is being made that at least minimally adequate upland habitat values occur and are meeting the needs of upland sagebrush/grass species and therefore is meeting Standard 8.

### *Riparian*

No riparian habitat identified within this allotment.

### *Focal Species*

This entire allotment falls within PPH. Two sage-grouse breeding habitat assessments collected in 2012 indicated:

- Pasture 1 – Providing unsuitable sage-grouse breeding habitat conditions;
- Pasture 2 – Providing unsuitable sage-grouse breeding habitat conditions.

In 2012, sage-grouse breeding habitat assessments were conducted and provided new information on spring habitat conditions. The assessments concluded that breeding habitat conditions in pastures 1 and 2 are unsuitable, therefore not meeting Standard 8 to provide habitats suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species. This conclusion is inconsistent with the Standard 4 evaluation for upland habitat.

## TROUT CREEK

### **Previous Assessment**

#### *Uplands (see Standard 8, 2006 Evaluation and Determination)*

Sage-grouse breeding habitat is unsatisfactory to marginal due to a lack of desirable grasses and forbs coupled with invasive annuals and western juniper. Sage-grouse late brood-rearing habitat is marginal to satisfactory, with reduced forbs and soil trampling impacting habitat quality. Reduced vigor and abundance of large bunch grasses and forbs is also resulting in reduced forage and/or cover for other special status animals including pygmy rabbit, sage sparrows, and Brewer's sparrows, as well as a diversity of other wildlife. This is especially true of species that nest or forage on or near the ground. Standard 8 is not being but the allotment is making significant progress toward meeting the Standard.

#### *Riparian (see Standard 8, 2006 Evaluation and Determination)*

All of the riparian reaches in this allotment are rated as either PFC or FAR with an upward trend. Several of the indicators of riparian functionality are also important components of habitat for many special status species, as well as other wildlife species such as sage-grouse, Neotropical birds, and amphibians. The indicators that assess structure, composition, and vigor of hydric vegetation are especially important since they determine the quality, quantity, and diversity of nesting, foraging, and escape cover. Although indicators are partially lacking along the 3.5 miles of streams that are rated as FAR, current livestock grazing practices are resulting in steady improvement. Standard 8 is not being met but the allotment is making significant progress toward meeting the Standard.

### **Current Assessment**

#### Pasture 1

##### *Uplands*

- This pasture is managed as a native plant community.
- Wildfires burned 132 acres (6 percent) of this pasture in the 1960s.
- Potential plant community:
  - a. Low sagebrush/Idaho fescue
  - b. Mountain sagebrush/bluebunch wheatgrass-Idaho fescue

- c. Basin big sagebrush/Idaho fescue-bluebunch wheatgrass
- RHFAs are not available for this pasture.
- Rangeland trend monitoring:
  - Site 05S05W18A: The site is dominated by Poa species and squirreltail. Squirreltail is showing a decline from 1990 to 2003. Bluebunch wheatgrass is showing a static trend and is minor component in the community.
  - Site 05S05W18B: The site is dominated by bromus species, Poa species, medusahead, North Africa grass, and squirreltail. Bluebunch wheatgrass is a minor component to the community.
  - 2012 rangeland trend monitoring data showed conditions remain in decline. Species supporting the decline include field brome, medusahead, and ventenata.

*Riparian*

- Trout Creek = FAR
- Five Springs = FAR

*Focal Species*

Greater Sage-grouse

- Two sage-grouse breeding habitat assessments were collected in 2003.
- Two sage-grouse habitat assessments were collected in 2012.
- One sage-grouse late brood-rearing habitat assessment was collected in 2003.
- There are no leks documented within this pasture.
- PPH sagebrush = 1,129 acres.  
PPH perennial grassland = 0 acres  
PPH conifer encroachment = 961 acres  
PGH = 25 acres
- Sage-grouse breeding habitat suitability rating: suitable

Rationale: Overall suitable rating due to the favorable overstory/understory composition of sagebrush, perennial grasses, and forbs creating effective nesting, security, and foraging cover for sage-grouse.

**Table WDLF-63:** Sage-grouse breeding habitat assessments conducted June 17, 2003, in pasture 1 of the Trout Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 5S5W18 rating</b>	<b>Site 5S5W20 rating</b>
Sagebrush Canopy Cover	suitable	suitable
Sagebrush Height	suitable	suitable
Sagebrush Growth Shape	suitable	suitable
Grass and Forb Height	suitable	suitable
Perennial Grass Canopy Cover	marginal	marginal
Forb Canopy Cover	suitable	suitable
Preferred Forb Availability	suitable	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>	<b>suitable</b>

- Sage-grouse upland summer habitat suitability rating: marginal

Rationale: Overall marginal habitat rating driven by the less-than-desirable occurrence and height of the sagebrush overstory common to both assessment locations and the absence of forbs at site 3S5W32. However, favorable perennial grass/forb canopy cover in the understory does occur which provides effective security and foraging cover for sage-grouse.

**Table WDLF-64:** Sage-grouse upland summer habitat assessments conducted August 1, 2012, in pasture 1 of the Trout Creek allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

Habitat Indicator	Site 5S5W17 rating	Site 3S5W32 rating
Sagebrush Canopy Cover	marginal (>25%)	marginal (>25%)
Sagebrush Height	marginal (>80cm)	marginal (>80cm)
Perennial Grass and Forb Canopy Cover	suitable	suitable
Preferred Forb Availability	suitable	unsuitable
<b>Overall Site Evaluation</b>	<b>suitable</b>	<b>marginal</b>

d. Sage-grouse late brood-rearing habitat suitability rating: suitable

Rationale: Suitable conclusion is driven by intact riparian conditions such as dominant wetland plant species, no erosion, readily available forbs, and close proximity to sagebrush cover.

Columbia Redband Trout

- Trout Creek flows through this allotment and is identified as Columbia River redband trout stream.
- FAR assessment translates to an impaired stream system not beneficial to redband trout.

Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog.
- Potential habitat exists along stream corridors and springs.

Pasture 2

*Uplands*

- This pasture is managed as a native plant community.
- Wildfires burned 78 acres (20 percent) of this pasture in the 1960s.
- Potential plant community:
  - a. Low sagebrush/bluebunch wheatgrass
  - b. Low sagebrush/Idaho fescue
  - c. Basin big sagebrush/Idaho fescue-bluebunch wheatgrass
- RHFAs are not available for this pasture.
- Rangeland trend monitoring recorded that the site is dominated by bromus species, Poa species, medusahead, North Africa grass, and squirreltail. Bluebunch wheatgrass is showing an upward trend from 2003 to 2012 but is remains a minor component to the community.

*Riparian*

- Slick Rock Canyon = FAR

*Focal Species*

Greater Sage-grouse

- One sage-grouse breeding habitat assessment was collected in 2003.
- One sage-grouse habitat assessment was collected in 2012.
- Two sage-grouse late brood-rearing habitat assessment were collected in 2003.
- There are no leks documented within this pasture.
- PPH sagebrush = 391 acres  
PPH perennial grassland = 1 acre  
PPH conifer encroachment = 0 acres

- PGH = 0 acres
- Sage-grouse breeding habitat suitability rating: marginal

Rationale: The overall *marginal* rating is due to the less-than-desirable growth shape of sagebrush in the overstory and the reduced occurrence and lack of availability of preferred forbs in the understory. However, canopy cover of perennial grasses and combined height of grasses and forbs creates favorable effective nesting, security, and foraging cover for sage-grouse.

**Table WDLF-65:** Sage-grouse breeding habitat assessments conducted June 23, 2003, in pasture 2 of the Trout Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

Habitat Indicator	Site 5S5W18 rating
Sagebrush Canopy Cover	suitable
Sagebrush Height	suitable
Sagebrush Growth Shape	marginal
Grass and Forb Height	suitable
Perennial Grass Canopy Cover	suitable
Forb Canopy Cover	marginal
Preferred Forb Availability	unsuitable
<b>Overall Site Evaluation</b>	<b>marginal</b>

- Sage-grouse upland summer habitat suitability rating: marginal

Rationale: The overall *marginal* habitat rating is driven by the less-than-desirable occurrence and height of the sagebrush overstory common to both assessment locations and the absence of forbs at site 3S5W32. However, favorable perennial grass/forb canopy cover in the understory does occur which provides effective security and foraging cover for sage-grouse.

**Table WDLF-66:** Sage-grouse upland summer habitat assessments conducted August 1, 2012, in pasture 2 of the Trout Creek allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

Habitat Indicator	Site 5S5W19a rating
Sagebrush Canopy Cover	marginal (>25%)
Sagebrush Height	marginal (>80cm)
Perennial Grass and Forb Canopy Cover	suitable
Preferred Forb Availability	marginal
<b>Overall Site Evaluation</b>	<b>marginal</b>

- e. Sage-grouse late brood-rearing habitat suitability rating: marginal

Rationale: Suitable habitat indicators common to both assessment locations included suitable dominance of mesic species, the availability of preferred forbs and the occurrence of minor erosion. The overall marginal rating was drawn from the unfavorable 300- to 400-yard distance to sagebrush habitat.

#### Columbia Redband Trout

- f. No redband trout streams identified within this pasture.

#### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog.
- Potential habitat exists along stream corridors and springs.

### Pasture 3

#### *Uplands*

- This pasture is managed as a native plant community.
- No wildfires have been documented within this pasture in the last 50 years.
- Potential plant community:
  - a. Low sagebrush/Idaho fescue
  - b. Low sagebrush/Sandberg blue grass-bluebunch wheatgrass
  - c. Mountain big sagebrush/bluebunch wheatgrass-Idaho fescue
- RHFAs are not available for this pasture.  
Rangeland trend monitoring recorded that the site is dominated by bromus species, Poa species, medusahead, North Africa grass, and squirreltail. Bluebunch wheatgrass is showing an upward trend from 2003 to 2012 but is remains a minor component to the community.

#### *Riparian*

- Wood Creek = FAR
- Two springs = FAR

#### *Focal Species*

##### Greater Sage-grouse

- One sage-grouse breeding habitat assessment was conducted in 2003.
- One sage-grouse upland summer habitat assessment was collected in 2012.
- There are no leks documented within this pasture.
- PPH sagebrush = 272 acres  
PPH perennial grassland = 0 acres  
PPH conifer Encroachment = 664 acres  
PGH = 0 acres
- Sage-grouse breeding habitat suitability rating: marginal

Rationale: The overall marginal rating is driven by the reduced occurrence and availability of forbs. However, the community composition of favorable sagebrush occurrence and shape combined with favorable occurrence of perennial grasses and height of grasses and forbs in the understory provides effective nesting, security, and foraging cover for sage-grouse.

**Table WDLF-67:** Sage-grouse breeding habitat assessments conducted June 23, 2003, in pasture 3 of the Trout Creek allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 5S5W18 rating</b>
Sagebrush Canopy Cover	suitable
Sagebrush Height	marginal
Sagebrush Growth Shape	suitable
Grass and Forb Height	suitable
Perennial Grass Canopy Cover	suitable
Forb Canopy Cover	marginal
Preferred Forb Availability	marginal
<b>Overall Site Evaluation</b>	<b>marginal</b>

- Sage-grouse upland summer habitat suitability rating: marginal

Rationale: The overall marginal habitat rating is driven by the less-than-desirable occurrence and height of the sagebrush overstory and the less-than-desirable availability of forbs. However, understory canopy cover of perennial grasses/forbs will provide adequate security and foraging cover for sage-grouse.

**Table WDLF-68:** Sage-grouse upland summer habitat assessments conducted August 1, 2012, in pasture 3 of the Trout Creek allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 5S5W28a rating</b>
Sagebrush Canopy Cover	marginal (>25%)
Sagebrush Height	marginal (>80cm)
Perennial Grass and Forb Canopy Cover	suitable
Preferred Forb Availability	marginal
<b>Overall Site Evaluation</b>	<b>marginal</b>

#### Columbia Redband Trout

- No redband trout streams identified within this pasture.

#### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog.
- Potential habitat exists along stream corridors and springs.

#### **Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

#### **Rationale for Evaluation and Determination**

##### *Uplands*

All of the pastures are managed as native plant communities and are not meeting Standard 4 due to historic livestock grazing practices and invasive species. Because upland habitat values are changing to a less-desirable vegetation state, this allotment is failing to provide adequate upland habitat conditions for sagebrush steppe wildlife and therefore is not meeting Standard 8.

##### *Riparian*

Evaluation of Standards 2 and 3 identified streams and springs within this allotment that are not fully functioning. In addition, water quality parameters were not being met but are making significant progress toward meeting riparian standards. Streams, springs, and wetlands that are not fully functioning are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive environment for wildlife. Because Standards 2 and 3 are not fully being met, the allotment does not have adequate riparian habitat conditions to support viable aquatic and terrestrial species populations and is not meeting Standard 8.

##### *Focal Species*

The entire allotment falls within modeled PPH/PGH habitat for sage-grouse. A total of 11 sage-grouse breeding, upland summer habitat, and late brood-rearing assessments have been collected from 2003 to 2012 and identified:

- Pasture 1 - Providing suitable breeding and late brood-rearing habitat conditions and marginal upland summer habitat conditions;
- Pasture 2 - Providing marginal breeding, upland summer, and late brood-rearing habitat conditions;
- Pasture 3 - Providing marginal breeding and upland summer habitat.

Marginal habitat conditions suggest that some of the habitat indicators are not adequately represented. All of the assessments identified fairly adequate canopy cover of large perennial grasses; however, the failure of this allotment to meet Standard 4 because of the dominance of exotic species suggests an inconsistency in the assessment of upland habitat conditions in this allotment. However, because all three pastures are managed as native plant communities and the allotment failed to meet Standard 4 due to the dominance of exotic species, this allotment does not meet the overall needs of sage-grouse and therefore does not meet Standard 8.

Columbia River redband trout are known to occur within the Trout Creek system. Evaluation of Standards 2, 3, and 7 identified these systems as not fully functional, but are making significant progress toward meeting standards. Redband trout require intact channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filters sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flow. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and is therefore not meeting Standard 8.

This allotment is within the range of the Columbia spotted frog. Evaluation of Standards 2, 3, and 7 identified riparian areas that were not fully functional but are making significant progress toward meeting standards. Spotted frogs are usually found along vigorous grassy/sedge margins of streams, lakes, ponds, springs, and marshes not far from sources of quiet permanent water. They migrate along these vegetation corridors between habitats used for spring breeding, summer foraging, and winter hibernation. Riparian conditions not fully functioning have altered or lost soil conditions, water availability, water quality, and hydric communities that are not adequate to sustain viable Columbia spotted frog populations. Although riparian habitat conditions are progressing toward meeting Standards 2, 3, and 7, riparian conditions are currently not fully functioning and therefore not meeting Standard 8 for spotted frogs.

## TROUT CREEK/LEQUERICA

### **Previous Assessment**

#### *Uplands*

- No previous upland assessment and evaluation information is available.

#### *Riparian*

- No previous riparian assessment and evaluation information is available.

### **Current Assessment**

#### Pasture 1

#### *Uplands*

- This pasture is managed as a native plant community.
- Wildfires burned 638 acres (63 percent) of this pasture in the 1960s.
- Potential plant community:
  - a. Mountain big sagebrush/bluebunch wheatgrass-Idaho fescue
- RHFAs recorded a none-to-slight departure from the reference site.
- Rangeland trend monitoring noted the community is dominated by antelope bitterbrush, Wyoming big sagebrush, and western juniper. Bluebunch wheatgrass, Idaho fescue, and Sandberg bluegrass make up the interspaces with scattered forbs. The shrubs and trees appear denser in the 2011 photo than the 1989 photos. Shrubs and grasses displayed high vigor and well established

*Riparian*

- Total stream miles = 2.03  
Perennial stream miles = 0  
Intermittent stream miles = 2.03
- Total miles of stream assessed = 1.33  
Miles in PFC = 0  
Miles in FAR = 0.97  
Miles in NF = 0.36
- Total number of springs = 1  
Total number of springs assessed = 1  
Number of springs in PFC = 1  
Number of springs in FAR = 0  
Number of springs in NF = 0

*Focal Species*

Greater Sage-grouse

- Two sage-grouse breeding habitat assessments were collected in 2001.
- Two sage-grouse upland summer habitat assessments were collected in 2012.
- There are no leks documented within this pasture.
- PPH sagebrush = 884 acres (87 percent).  
PPH perennial grassland = 0 acres  
PPH conifer encroachment = 135 acres (13 percent)  
PGH = 0 acres
- BLM = 696 acres (68 percent) of this pasture.
- Sage-grouse breeding habitat suitability rating: suitable

Rationale: Overall suitable habitat rating driven by the combination of favorable overstory of sagebrush and understory perennial grass/forb canopy cover and height creating adequate nesting, security, and foraging cover.

**Table WDLF-69:** Sage-grouse breeding habitat assessment conducted May 24, 2001, in pasture 3 of the Trout Creek/Lequerica allotment (Refer to Table WDLF-3 for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 5S5W5 rating</b>	<b>Site 5S5W18 rating</b>
Sagebrush Canopy Cover	suitable	marginal (>25%)
Sagebrush Height	marginal (>80 cm)	suitable
Sagebrush Growth Shape	suitable	suitable
Grass and Forb Height	suitable	suitable
Perennial Grass Canopy Cover	marginal	suitable
Forb Canopy Cover	suitable	suitable
Preferred Forb Availability	suitable	suitable
<b>Overall Site Evaluation</b>	<b>suitable</b>	<b>suitable</b>

- Sage-grouse upland summer habitat suitability rating: marginal

Rationale: The overall *marginal* habitat rating is driven by the less-than-desirable occurrence and height of the sagebrush overstory and the reduced availability of forbs. However, understory canopy cover of perennial grasses/forbs will provide adequate security and foraging cover for sage-grouse.

**Table WDLF-70:** Sage-grouse upland summer habitat assessments conducted August 1, 2012, in pasture 3 of the Trout Creek allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

<b>Habitat Indicator</b>	<b>Site 5S5W28a rating</b>
Sagebrush Canopy Cover	marginal (>25%)
Sagebrush Height	marginal (>80cm)
Perennial Grass and Forb Canopy Cover	suitable
Preferred Forb Availability	marginal
<b>Overall Site Evaluation</b>	<b>marginal</b>

#### Columbia Redband Trout

- Trout Creek flows through this allotment and is identified as Columbia River redband trout stream.

#### Columbia Spotted Frog

- This pasture is in the range of Columbia spotted frog. Potential habitat exists along stream corridors and springs.

#### Pasture 2

##### *Uplands*

- This pasture is managed as a native plant community.
- Wildfires burned 124 acres (100 percent) of this pasture in the 1960s.
- Potential plant community:
  - a. Low sagebrush/Idaho fescue
  - b. Dry meadows
- RHFAs recorded a slight to moderate departure from the reference site. Bunchgrasses showed low vigor and juniper is encroachment is occurring.
- Rangeland trend monitoring noted the community is dominated by antelope bitterbrush, Wyoming big sagebrush with western wheatgrass, and basin wildrye, with scattered cheatgrass and forbs in the interspaces. The shrubs appear denser in the 2011 photo than the 1989 photos. Shrubs and grasses displayed high vigor and well established.

##### *Riparian*

- Total stream miles = 0.54  
 Perennial stream miles = 0  
 Intermittent stream miles = 0.26
- Total miles of stream assessed = 0.26  
 Miles in PFC = 0  
 Miles in FAR = 0.26  
 Miles in NF = 0
- Total number of springs = 0

#### *Focal Species*

##### Greater Sage-grouse

- Two sage-grouse upland summer habitat assessments were collected in 2012.
- There are no leks documented within this pasture.
- PPH sagebrush = 884 acres (87 percent)  
 PPH perennial grassland = 0 acres  
 PPH conifer encroachment = 135 acres (13 percent)

- PGH = 0 acres
- BLM = 696 acres (68 percent) of this pasture.
- Sage-grouse upland summer habitat suitability rating: marginal

Rationale: Overall marginal habitat rating driven by the less-than-desirable occurrence and height of the sagebrush overstory and the reduced availability of forbs. However, understory canopy cover of perennial grasses/forbs will provide adequate security and foraging cover for sage-grouse.

**Table WDLF-71:** Sage-grouse upland summer habitat assessments conducted August 1, 2012, in pasture 3 of the Trout Creek allotment (Refer to Table WDLF-4 for habitat indicator value ranges)

Habitat Indicator	Site 5S5W18a rating
Sagebrush Canopy Cover	marginal (>25%)
Sagebrush Height	marginal (>80cm)
Perennial Grass and Forb Canopy Cover	suitable
Preferred Forb Availability	marginal
<b>Overall Site Evaluation</b>	<b>marginal</b>

#### Columbia Redband Trout

- No redband trout streams identified within this pasture.

#### Columbia Spotted Frog

- This pasture is within the range of Columbia spotted frog.
- Potential habitat exists along stream corridors and springs.

#### **Evaluation**

Evaluation Finding – Allotment/watershed is:

Meeting the Standard

Not meeting the Standard, but making significant progress towards meeting

Not meeting the Standard

#### **Rationale for Evaluation and Determination**

##### *Uplands*

Evaluation of Standard 4 identified that the upland vegetation community is meeting Rangeland Health Standards. Therefore upland vegetation composition and structure are likely providing adequate habitat conditions for most sagebrush steppe wildlife species.

##### *Riparian*

Standards 2 and 3 identified streams and springs within this allotment that are not properly functioning due to current grazing practices. Streams, springs, and wetlands that are NF or are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive environment. Because Standards 2 and 3 are not being met, riparian habitat conditions are not adequate to support viable aquatic and terrestrial species, and therefore this allotment is not meeting Standard 8.

##### *Focal Species*

This entire allotment falls within modeled PPH/PGH habitat for sage-grouse. A total of five sage-grouse breeding and upland summer habitat assessments collected from 2001 and 2012 identified:

- Pasture 1 - Providing suitable breeding and marginal upland summer habitat conditions;

- Pasture 2 – Providing marginal upland summer habitat conditions.

Pastures 1 and 2 are not providing favorable upland summer habitat conditions for sage-grouse. The marginal rating is influenced primarily due to the greater than desirable canopy cover of sagebrush in the understory; however, the understory is providing desirable canopy cover of large perennial grasses and forbs. Therefore, although upland summer habitat conditions are only providing marginal overstory (sagebrush) conditions, the understory is creating an effective nesting, escape, screening, and foraging cover for sage-grouse and is meeting Standard 8.

Columbia River redband trout are known to occur within the Trout Creek system. Evaluation of Standards 2 and 3 identified streams and springs within this system that are not properly functioning or meeting water quality parameters due to current grazing practices. Redband trout require intact channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filter sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flow. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and therefore is not meeting Standard 8.

This allotment is within the range of the Columbia Spotted Frog. Evaluation of Standards 2, 3, and 7 identified streams and springs that are not properly functioning or meeting water quality parameters due to current grazing practices. Spotted frogs are usually found along vigorous grassy/sedge margins of streams, lakes, ponds, springs, and marshes not far from sources of quiet permanent water. They migrate along these vegetation corridors between habitats used for spring breeding, summer foraging, and winter hibernation. Because streams and springs are not functioning properly, this allotment is not providing adequate aquatic conditions to sustain viable populations of spotted frogs and therefore is not meeting Standard 8.

## APPENDIX

# SPECIAL STATUS WILDLIFE SPECIES

Special status wildlife species in the Owyhee Field Office and occurrence potential within the Group 2 – Jump Creek allotments

Common Name	Species	Status (conservation plans) <sup>1</sup>	General Habitat <sup>2</sup>	Habitat Present <sup>3</sup>	Species Present <sup>4</sup>	Species/Habitat Affected
Snake River Phylla	<i>Physa natricina</i>	ESA E	Believed to inhabit deep water on the margins of moderately swift rapids or riffles. Individuals have been found in relatively undisturbed areas with gravel, boulder, or cobble substrates and low percentage of epiphytic algae or macrophytes.	No	Not Present	Yes, sediments to Snake River
Columbia Spotted Frog	<i>Rana luteiventris</i>	ESA C (SGCN)	Cool, permanent, quiet water in streams, rivers, lakes, pools, springs, and marshes usually in hilly areas from sea level to about 3000 m. Highly aquatic, but may disperse into forests, grasslands, and shrublands	No	Improbable	Yes
Greater Sage-grouse	<i>Centrocercus urophasianus</i>	ESA C (SGCN/HPBB/BCC)	Broad sagebrush covered valleys and foothills interspersed with wet meadows.	Yes; all allotments	Present	Yes
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	ESA C (SGCN/BCC)	Extensive, mature riparian woodlands, especially of cottonwoods or willows, and other open woodlands with dense understories at lower elevations. Mature riparian areas with willow and alder thickets.	No	Not Present	No
American White Pelican	<i>Pelecanus erythrorhynchos</i>	BLM 2 (SGCN/HPBB)	Typically occur on isolated islands in freshwater lakes, marshes or rivers, on lakes, reservoirs and rivers supporting large fish populations and on mud, sand or gravel shores.	No	Not Present	No
Bald Eagle	<i>Haliaeetus leucocephalus</i>	BGEPA – BLM 2 (SGCN/BCC)	Restricted to large rivers and water bodies near mixed conifer forest, occasionally sagebrush foothills. Nest in oldest trees in the stand. Always associated with aquatic forage area.	No	Not Present	No
Golden Eagle	<i>Aquila chrysaetos</i>	BGEPA (HPBB/BCC)	Open habitats in mountains and hill country, prairies and other grasslands. Open sagebrush areas adjacent to nesting cliffs. Found on prairies, tundra, open wooded country, and barren areas, especially in hilly or mountainous areas. In Idaho, prefers open and semi-open areas in deserts and mountains.	Yes; all allotments	Present	Yes
Northern Leopard Frog	<i>Rana pipiens</i>	BLM 2 (SGCN)	Permanent water sources on the plains, foothill, and in montane zones	Yes	Possible	Yes
Pygmy Rabbit	<i>Brachylagus idahoensis</i>	BLM 2 (SGCN)	Throughout much of the Great Basin; relatively large areas of tall/dense sagebrush and deep soils. In Idaho, closely associated with large stands of sagebrush; prefers areas of tall, dense sagebrush cover with high percent woody cover.	Yes; all allotments	Probable	Yes
Columbia River Redband Trout	<i>Oncorhynchus mykiss gibbsi</i>	BLM 2 (SGCN)	Redband trout are found in a range of stream habitats from desert areas in southwestern Idaho to forested mountain streams in central and northern Idaho.	Yes; Poison Creek and Sands Basin allotments	Present	Yes
White Sturgeon	<i>Acipenser transmontanus</i>	BLM 2 (SGCN)	Rely on streams, rivers, and estuarine habitat as well as marine waters during their lifecycle. Prefer to spawn in rivers with swift currents and large cobble; no nest is built.	No	Not Present	No
Black Tern	<i>Chlidonias niger</i>	BLM 3 (SGCN)	Rivers and ponds. Nests in or on emergent vegetation in alkaline lakes and freshwater marshes, or in marshy areas along	No	Improbable	No

Common Name	Species	Status (conservation plans) <sup>1</sup>	General Habitat <sup>2</sup>	Habitat Present <sup>3</sup>	Species Present <sup>4</sup>	Species/Habitat Affected
			ivers, lakes, or ponds. Forages within a few hundred meters of nest.			
Brewer's Sparrow	<i>Spizella breweri</i>	BLM 3 (SGCN/HPBB/BCC)	Sagebrush steppe. Idaho study found Brewer's Sparrows prefer large, living sagebrush for nesting. A recent study in southwestern Idaho concluded that their distribution was influenced by both local vegetation cover and landscape-level features such as patch size.	Yes; all allotments	Present	Yes
California Bighorn Sheep	<i>Ovis canadensis californiana</i>	BLM 3 (SGCN)	Extremely rugged mountain areas with jutting crags, deep canyons and precipitous cliffs. Grassy slopes near cliffs and rocky ridges in mountains. Mesic to xeric grass. Avoids dense vegetation cover. Semi-desert grassland. Canyonlands and foothills of the Owyhee River drainage.	Yes, all allotments	Probable	Yes
Calliope Hummingbird	<i>Stellula calliope</i>	BLM 3 (HPBB/BCC)	Secondary successional shrub/sapling. Aspen thickets, along streams, open montane forests. Shrubby riparian areas and sparsely timbered sites. In Idaho, found in mountains along meadows, canyons and streams, in open montane forests and willow and alder thickets	Yes	Possible	Yes
Columbia Sharp-tailed Grouse	<i>Tympanuchus phasianellus columbianus</i>	BLM 3 (SGCN/HPBB)	Found in grasslands (especially with scattered woodlands), arid sagebrush, brushy hills, oak savannas, and edges of riparian woodlands. In west-central Idaho study, grouse preferred big sagebrush to other summer cover types; mountain shrub and riparian cover types were critical components of winter habitat.	No	Not Present	No
Common Garter Snake	<i>Thamnophis sirtalis</i>	BLM 3	Usually found in habitats associated with water, such as streams, rivers, lakes, ponds and marshes. They can also be found in open meadows and coniferous forests.	Yes; streams	Possible	Yes
Ferruginous Hawk	<i>Buteo regalis</i>	BLM 3 (SGCN/HPBB/BCC)	Found in shrub steppe at periphery of juniper or other woodlands.	Yes; all allotments	Present	Yes
Flammulated Owl	<i>Otus flammeolus</i>	BLM 3 (SGCN/HPBB/BCC)	Prefers old growth. In Idaho, occupies older ponderosa pine, Douglas-fir, and mixed coniferous forests.	No	Improbable	No
Fringed Myotis	<i>Myotis thysanodes</i>	BLM 3 (SGCN)	Found primarily in desert shrublands, sagebrush-grassland, and woodland habitats (ponderosa pine forest, oak and pine habitats, Douglas-fir). Roosts in caves, mines, rock crevices, buildings, and other protected sites. Prefer to forage in riparian areas characterized by intermittent streams with wider channels (5.5 to 10.5 meters) than ones with channels less than 2.0 meters wide.	Yes	Possible	Yes
Hammond's Flycatcher	<i>Empidonax hammondii</i>	BLM 3 (HPBB)	Found in coniferous forests and woodlands. In Idaho, old-growth associates in Douglas-fir/ponderosa pine forests.	No	Improbable	No
Lewis' Woodpecker	<i>Melanerpes lewis</i>	BLM 3 (SGCN/HPBB/BCC)	Found in open forests and woodlands (often logged or burned), including oak, coniferous forests (primarily ponderosa pine), and riparian woodlands and orchards.	Yes	Probable	Yes
Loggerhead Shrike	<i>Lanius ludovicianus</i>	BLM 3 (HPBB/BCC)	Found in open country with scattered trees and shrubs, in savannas, desert scrub and, occasionally, in open juniper woodlands. Often found on poles, wires or fenceposts.	Yes; all allotments	Present	Yes

Common Name	Species	Status (conservation plans) <sup>1</sup>	General Habitat <sup>2</sup>	Habitat Present <sup>3</sup>	Species Present <sup>4</sup>	Species/Habitat Affected
Longnose Snake	<i>Rhinocheilus lecontei</i>	BLM 3 (SGCN)	Found in desert lowland areas that have sandy or loose soil and numerous burrows.	Yes	Probable	Yes
Mojave Black-collared Lizard	<i>Crotaphytus bicinctores</i>	BLM 3 (SGCN)	Associated with arid habitats with sparse vegetation and the presence of rocks and boulders.	Yes; Poison Creek and Alkali-Wildcat allotments near Jump Creek ACEC	Present	Yes
Mountain Quail	<i>Oreortyx pictus</i>	BLM 3 (SGCN/HPBB)	Mountain quail breed and winter in shrub-dominated riparian communities of hawthorn, willow, and chokecherry in the intermountain West. Diet is dominated by plant material though invertebrates are very important during the first 8 weeks.	Yes	Not Present	No
Northern Goshawk	<i>Accipiter gentilis</i>	BLM 3 (HPBB)	Found in deciduous and coniferous forests, along forest edges and in open woodlands. In Idaho, summers and nests in coniferous and aspen forests; winters in riparian and agricultural areas.	No	Improbable	No
Olive-sided Flycatcher	<i>Contopus borealis</i>	BLM 3 (HPBB)	Found in forests and woodlands (especially in burned-over areas with standing dead trees)	No	Not Present	No
Peregrine Falcon	<i>Falco peregrinus</i>	BLM 3 (SGCN/BCC)	Cliffs near forest, lakes, ponds, and rivers. Most are thought to migrate south of Idaho during winter but individuals remain near urban nest sites in Nampa and Boise year around.	No	Possible	No
Piute Ground Squirrel	<i>Spermophilus mollis</i>	BLM 3 (SGCN)	Sagebrush and grasslands.	Yes	Possible	Yes
Prairie Falcon	<i>Falco mexicanus</i>	BLM 3 (HPBB)	Cliffs and rock outcrops in sagebrush steppe, grassland, montane meadows, marshes, and riparian areas.	Yes; all allotments	Present	Yes
Sage Sparrow	<i>Amphispiza belli</i>	BLM 3 (HPBB/BCC)	Shrub steppe, mixed desert shrub/grassland communities.	Yes; all allotments	Present	Yes
Spotted Bat	<i>Euderma maculatum</i>	BLM 3 (SGCN)	Various habitats from desert to montane coniferous forests. Observed in canyons of Owyhee County. Normally roost in deep rock crevices of canyon and cliff walls but specific roost characteristics are not well documented.	Yes; all allotments	Present	Yes
Townsend's Big-eared Bat	<i>Plecotus townsendii</i>	BLM 3 (SGCN)	Juniper, desert shrub, and dry coniferous forest throughout Idaho; day roosts and hibernates in caves and abandoned mines, forages over water	Yes; all allotments	Possible	Yes
Western Groundsnake	<i>Sonora semiannulata</i>	BLM 3 (SGCN)	Xeric habitat characterized by sandy or loose soil textures, talus slopes, and boulder fields. Vegetation is typically sparse, comprising of shrubs, such as shadscale, sagebrush, greasewood, and bunchgrasses and annual grasses.	Yes	Probable	Yes
Western Toad	<i>Bufo boreas</i>	BLM 3	Wide variety of habitats such as desert springs and streams, meadows and woodlands, and in and around ponds, lakes, reservoirs, and slow-moving rivers and streams.	Yes; all allotments	Possible	Yes
Williamson's Sapsucker	<i>Sphyrapicus thyroideus</i>	BLM 3 (HPBB/BCC)	Dry open woods, orchards, farmlands, and foothills	No	Not Present	No
Willow Flycatcher	<i>Empidonax trailii</i>	BLM 3 (HPBB/BCC)	Found in thickets, scrubby and brushy areas, open second growth, swamps, and open woodlands. In Idaho, associated	Yes	Possible	Yes

Common Name	Species	Status (conservation plans) <sup>1</sup>	General Habitat <sup>2</sup>	Habitat Present <sup>3</sup>	Species Present <sup>4</sup>	Species/Habitat Affected
			with mesic and xeric willow (riparian) habitats.			
Woodhouse Toad	<i>Bufo woodhousii</i>	BLM 3 (SGCN)	Found in grasslands, shrub steppe, woods, river valleys, floodplains, and agricultural lands, usually in areas with deep, friable soils.	No	Not Present	No
Black-throated Sparrow	<i>Amphispiza bilineata</i>	BLM 4	Open shrub areas with Sagebrush, Atriplex, Rabbitbrush, saltsage, horsebrush. Not found in dense sagebrush stands. Found in desert scrub, thorn bush. In Idaho prefers open shrub areas dominated by big sage, spiny hopsage, or horsebrush exceeding 50cm in height.	Yes	Possible	Yes
Dark Kangaroo Mouse	<i>Microdipodops megacephalus</i>	BLM 4	Soft, sandy soils in hot dry sagebrush areas. In Idaho found in loose sands and gravel in shadscale scrub, sagebrush scrub, and alkali sink plant communities. May occur in sand dunes near margins of range	No	Improbable	No
Kit Fox	<i>Vulpes velox</i>	BLM 4	Inhabits arid and semi-arid regions encompassing desert scrub, chaparral, halophytic, and grassland communities. Loose textured soils may be preferred for denning.	Yes	Improbable	No
Little Pocket Mouse	<i>Perognathus longimembris</i>	BLM 4	Shadscale and low sage areas on lower slopes of alluvial fans with pea-sized gravel. Found in sagebrush, creosote bush, and cactus communities. On slopes with widely spaces shrubs, found in firm, sandy soil overlain with pebbles. In Idaho, found in shadscale/low sage on lower slopes of alluvial fans.	No	No	No
Merriam's Ground Squirrel	<i>Spermophilus canus vigilis</i>	BLM 4	Prefers sandy soils in dry, open sagebrush and grassland habitats. Occurs in the lower Snake River Valley south and west of the Snake River in Owyhee County, Idaho and Malheur County, Oregon from Reynolds Creek to Huntington and west to Westfall.	Yes	Present	Yes
White-faced Ibis	<i>Plegadis chihi</i>	BLM 4 (SGCN/HPBB)	Found mostly in freshwater areas, on marshes, swamps, ponds and rivers. In Idaho, prefers shallow-water areas.	No	No	No
Wyoming Ground Squirrel	<i>Spermophilus elegans nevadensis</i>	BLM 4	Mountainous areas and higher plateaus in open and semi-forested habitats. Grasslands. In Idaho found in grasslands and sagebrush, especially on upland slopes with loose, sandy soils. Occupies a variety of sage plain and grassland habitats such as valley bottoms and foothills, montane meadows, subalpine talus slopes, and reclaimed surface-mine areas.	Yes	Possible	Yes

<sup>1</sup> Status includes Endangered (ESA E) and Candidate (ESA C) species listed under the Endangered Species Act (16 U.S.C. § 1531-1544), eagles (BGEPA) protected by the Bald and Golden Eagle Protection Act (16 U.S.C. § 668-668d), and BLM Type 2 (BLM 2), Type 3, (BLM 3), and Type 4 (BLM 4) special status species (USDI-BLM 2003). Additional designations under state and national conservation plans include Idaho Species of Greatest Conservation Need (SGCN; IDFG 2006), Idaho Partners in Flight High Priority Breeding Bird (HPBB; IPIF 2000), and U.S. Fish and Wildlife Service Birds of Conservation Concern (BCC; USDI-FWS 2008).

<sup>2</sup> Habitat descriptions modified from IDVMD 2011.

<sup>3</sup> Presence of habitat within project area was determined from IDVMD 2011; OWE 2011; Yensen and Sherman 2003; Idaho, Oregon and Nevada BLM unpublished data; and specialist expertise.

<sup>4</sup> Categories include species presence documented (**Present**), species likely to occur based on preferred habitat and local species abundance and nearby (<5 miles) occurrences within 5 miles (**Probable**), species may occur based on preferred habitat and/or occurrences within 25 miles (**Possible**), species not likely to occur based on limited or lack of preferred habitat and/or occurrence over 50 miles (**Improbable**), and species not present due to lack of habitat (**Not Present**).

## WORKS CITED

- Besser, T. E., Cassirer, E. F., Potter, K. A., VanderSchalie, J., Fischer, A., Knowles, D. P., . . . Srikuraman, S. (2008). Association of *Mycoplasma ovipneumoniae* infection with population-limiting respiratory disease in free-ranging Rocky Mountain bighorn sheep (*Ovis canadensis canadensis*). *Journal of Clinical Microbiology*, 423-430.
- Besser, T. E., Cassirer, E. F., Yamada, C., Potter, K. A., Herndon, C., Foreyt, W. J., . . . Srikumaran, S. (2012). Survival of bighorn sheep (*Ovis canadensis*) commingled with domestic sheep (*Ovis aries*) in the absence of *Mycoplasma ovipneumoniae*. *Journal of Wildlife Diseases*, 48(1), 168-172.
- Besser, T. E., Highland, M. A., Baker, K., Cassirer, E. F., Anderson, N. J., Ramsey, J. M., . . . Jenks, J. A. (2012). Causes of pneumonia epizootics among bighorn sheep, Western United States, 2008-2010. *Emerging Infectious Diseases*, 18(3), 406-414. Retrieved from [http://wwwnc.cdc.gov/eid/article/18/3/11-1554\\_article.htm](http://wwwnc.cdc.gov/eid/article/18/3/11-1554_article.htm)
- Besser, T.E. (2013). *The role of Mycoplasma ovipeumonia (Movi) in bighorn sheep pneumonia*. Reno, NV: Presentation to Western Association of Fish and Wildlife Working Group.
- Bunting, S. C., Kilgore, B. M., & Bushey, C. L. (1987). *Guidelines for prescribed burning in sagebrush-grass rangelands in the Northern Great Basin*. Ogden, UT: USDA USFS Intermountain Research Station.
- Burkhardt, J. W., & Tisdale, E. W. (1976). Causes of juniper invasion in southwestern Idaho. *Ecology*, 57(3), 472-484.
- Cassirer, E. F., & Sinclair, A. E. (2007). Dynamics of pneumonia in a bighorn sheep metapopulation. *Journal of Wildlife Management*, 71(4), 1080-1088.
- Cassirer, F. E., Plowright, R. K., Manlove, K. R., Cross, P. C., Dodson, A. P., Potter, K. A., & Hudson, P. J. (2013). Spatio-temporal dynamics of pneumonia in bighorn sheep. *Journal of Animal Ecology* 2013, 1-11.
- Connelly, J. W., Knick, S. T., Schroeder, M. A., & Stiver, S. J. (2004). *Conservation assessment of greater sage-grouse and sagebrush habitats*. Unpublished report, Western Association of Fish and Wildlife Agencies, Cheyenne, WY.
- Connelly, J. W., Schroeder, M. A., Sands, A. R., & Braun, C. E. (2000). Guidelines to Manage Sage-grouse Populations and Their Habitats. *Wildlife Society Bulletin*, 28(4), 967-985.
- Dassanayake, R. P., Shanthalingam, S., Herndon, C. N., Lawrence, P. K., Cassirer, E. F., Potter, K. A., . . . Srikumaran, S. (2009). *Mannheimia haemolytica* serotype A1 exhibits differential pathogenicity in two related species, *Ovis canadensis* and *Ovis Aries*. *Veterinary Microbiology*, 133, 366-371.

- DeSante, D. F., & George, T. L. (1994). Population trends in the landbirds of western North America. In J. R. Jehl, & N. K. Johnson (Eds.), *A Century of Avifaunal Change in Western North America - Studies in Avian Biology No. 15* (pp. 173-190). Lawrence, KS: Cooper Ornithological Society.
- Dixon, D. M., Rudolf, K. M., Kinsel, M. L., Cowan, L. M., Hunter, D. L., & Ward, A. C. (2002). Viability of airbourne Pasteurella spp. *Proceedings of the Northern Wild Sheep and Goat Council 13th Biennial Symposium*, (pp. 6-13). Rapid City, SD.
- Dobkin, D. S. (1994). *Conservation and Management of Neotropical Migrant Landbirds in the Northern Rockies and Great Plains*. Moscow, ID: University of Idaho Press.
- Dobkin, D. S. (1998). *Conservation and Management of Landbirds in the Great Basin*. Moscow, ID: University of Idaho Press.
- Dobkin, D. S., & Sauder, J. D. (2004). *Shrubsteppe Landscapes in Jeopardy - Distributions, Abundances, and the Uncertain Future of Birds and Small Mammals in the Intermountain West*. Bend, OR: High Desert Ecological Research Institute. Retrieved from [http://sagemap.wr.usgs.gov/Docs/shrubsteppe\\_landscapes.pdf](http://sagemap.wr.usgs.gov/Docs/shrubsteppe_landscapes.pdf)
- Engle, J. C., & Munger, J. C. (2003). *Population fragmentation of spotted frogs in the Owyhee Mountains*. IDFG.
- Foreyt, W. J., Snipes, K. P., & Kasten, R. W. (1994). Fatal pneumonia following inoculation of healthy bighorn sheep with Pasteurella haemolytica from healthy domestic sheep. *Journal of Wildlife Diseases*, 30(2), 137-145.
- Fricke, K. A., Kempema, S. L., & Powell, L. A. (2009). Ecology of small mammals, vegetation, and avian nest survival on private rangelands in Nebraska. *Great Plains Research*, 19, 65-72.
- Garton, E. O., Connelly, J. W., Horne, J. S., Hagen, C. A., Moser, A., & Schroeder, M. A. (2011). Greater sage-grouse population dynamics and probability of persistence. In S. T. Knick, & J. W. Connelley (Eds.), *Greater Sage-grouse: ecology and conservation of a landscape species and its habitats* (Vol. Studies in Avian Biology 38, pp. 293-381). Berkeley, California: University of California Press.
- George, J. L., Martin, D. J., Lukacs, P. M., & Miller, M. W. (2008). Epidemic pasteurellosis in a bighorn sheep population coinciding with the appearance of a domestic sheep. *Journal of Wildlife Diseases*, 44(2), 388-403.
- Hanser, S. E., & Knick, S. T. (2011). Greater sage-grouse as an umbrella species for shrubland passerine birds: a multiscale assessment. In S. T. Knick, & J. W. Connelley (Eds.), *Greater Sage-grouse: ecology and conservation of a landscape species and its habitats* (Vol. Studies in Avian Biology 38, pp. 475-487). Berkeley, California: University of California Press.

- Heyerdahl, E. K., Miller, R. F., & Parsons, R. A. (2006). History of fire and Douglas-fir establishment in a savanna and sagebrush-grassland mosaic, southwestern Montana, USA. *Forest Ecology and Management*, 230, 107-118.
- IDFG. (1992). Idaho's Migratory Landbirds: description, habitats and conservation. *Nongame Wildlife Leaflet #10*. (D. Ronayne, Ed.) Boise, Idaho: Idaho Department of Fish and Game. Retrieved from <http://www.google.com/url?sa=t&rct=j&q=idaho's%20migratory%20landbirds&source=web&cd=1&ved=0CEcQFjAA&url=http%3A%2F%2Ffishandgame.idaho.gov%2Fpublic%2Fwildlife%2Fnongame%2FleafletLandbirds.pdf&ei=xalqUlqREem9yWHRqoGwCQ&usg=AFQjCNFoDJHHTFb0ntKfF B2jvSqfESHA>
- IDFG. (2000a). *Project W-170-R-24 Elk Study I, Job 1*. Boise, Idaho.
- IDFG. (2000b). *Project W-170-R-24 Mule Deer Study I, Job 2*. Boise, Idaho.
- IDFG. (2005). *Inland Redband Trout *Oncorhynchus mykiss gairdneri**. Species Report.
- IDFG. (2006). *Idaho Comprehensive Wildlife Conservation Strategy: Appendix F Species Accounts and Distribution Maps for Idaho Species of Greatest Concern*. Boise, ID: IDFG Idaho Natural Heritage Program. Retrieved November 17, 2011, from <https://fishandgame.idaho.gov/ifwis/cwcs/appendixf.htm>
- IDFG. (2009). *Columbia spotted frog Great Basin population (Owyhee subpopulation) long-term monitoring plan: year 2009 results*. Threatened and endangered species project E-26-6 final and E-26-7 interim section 6, Endangered Species Act, Progress Report, Boise, ID.
- IDFG. (2010a). *Idaho Bighorn Sheep Management Plan 2010*. Boise, ID. Retrieved from <http://fishandgame.idaho.gov/public/wildlife/planBighorn.pdf>
- IDFG. (2010b). *Project W-170-R-34 Mule Deer Study I, Job 2*. Boise, ID.
- IDFG. (2010c). *Project W-170-R-34 Pronghorn Study I, Job 7*. Boise, Idaho.
- IDFG. (2012). *Reynolds Creek and Sinker Creek, GMU 40 (specimens BC 12-001-001, reported 9-27-2012)*. Laboratory report, Wildlife Health Laboratory, Caldwell, ID.
- Knopf, F. L., Johnson, R. R., Rich, T., & Samson, F. B. (1988). Conservation of riparian ecosystems in the United States. *The Wilson Bulletin*, 100, 272-284.
- Lawrence, P. K., Shanthalingam, S., Dassanayake, R. P., Subramaniam, R., Herndon, C. N., Knowles, D. P., . . . Srikumaren, S. (2010). Transmission of *Maneheimia haemolytica* from domestic sheep (*Ovis aries*) to bighorn sheep (*Ovis canadensis*): unequivocal demonstration with green fluorescent protein-tagged organisms. *Journal of Wildlife Diseases*, 46(3), 706-717.
- Makela, P., & Major, D. (2012). *A framework to identify greater sage-grouse preliminary priority habitat and preliminary general habitat in Idaho*. White Paper, USDI BLM, Boise, ID. Retrieved from

[http://www.google.com/url?sa=t&rct=j&q=makela%20major%20sage-grouse%20preliminary%20priority%20habitat&source=web&cd=1&ved=0CD8QFjAA&url=http%3A%2F%2Fwww.blm.gov%2Fpgdata%2Fetc%2Fmedialib%2Fblm%2Fid%2Fwildlife%2Fsensitive\\_species%2Fsagegrouse\\_habitat.Parf](http://www.google.com/url?sa=t&rct=j&q=makela%20major%20sage-grouse%20preliminary%20priority%20habitat&source=web&cd=1&ved=0CD8QFjAA&url=http%3A%2F%2Fwww.blm.gov%2Fpgdata%2Fetc%2Fmedialib%2Fblm%2Fid%2Fwildlife%2Fsensitive_species%2Fsagegrouse_habitat.Parf)

- Malmberg, J. L., Nordeen, T., & Butterfield, C. (2008). The effects of disease, stress, and distribution on bighorn sheep restoration in Nebraska. *proceedings of the Northern Wild Sheep and Goat Council's 16th Biennial Symposium*. Midway, UT.
- Miller, D. S., Hoberg, E., Wieser, G., Aune, K., Atkinson, M., & Kimberling, C. (2012). A review of hypothesized determinants associated with bighorn sheep (*Ovis canadensis*) die-offs. *Veterinary Medicine International, Vol. 2012, Article 796527, Hindawi Publishing Company*.
- Miller, R. F., & Rose, J. A. (1999). Fire history and western juniper encroachment in sagebrush steppe. *Journal of Range Management, 52*(6), 550-559.
- Miller, R. F., Knick, S. T., Pyke, D. A., Meinke, C. W., Hanser, S. E., Wisdom, M. J., & Hild, A. L. (2011). Characteristics of sagebrush habitats and limitations to long-term conservation. (S. T. Knick, & J. W. Connelly, Eds.) *Studies in Avian Biology, 38*, pp. 145-184.
- Mills, L. S. (2007). Bridging applied population and ecosystem ecology with focal species concepts. In *Conservation of wildlife populations* (pp. 276-285). Oxford, United Kingdom: Blackwell Publishing.
- Mosconi, S. L., & Hutto, R. L. (1982). The effect of grazing on land birds of a western Montana riparian habitat. In J. M. Peek, & P. D. Dalke (Ed.), *Wildlife-Livestock Relationships Symposium: Proceedings 10*. Moscow, ID. Retrieved from [http://dbs.umt.edu/research\\_labs/huttolab/PDF/publications/1982-Mosconi&Hutto-UI-grazing.pdf](http://dbs.umt.edu/research_labs/huttolab/PDF/publications/1982-Mosconi&Hutto-UI-grazing.pdf)
- NABCI-US. (2012). *Bird Conservation Regions*. Retrieved May 15, 2012, from North American Bird Conservation Initiative - United States: <http://www.nabci-us.org/bcrs.htm>
- ODFW. (2003). *Oregon's bighorn sheep and Rocky Mountain goat management plan*. Salem, OR. Retrieved from [http://www.dfw.state.or.us/wildlife/management\\_plans/docs/sgplan\\_1203.pdf](http://www.dfw.state.or.us/wildlife/management_plans/docs/sgplan_1203.pdf)
- ODFW. (2013). *Lab reports: Leslie Gulch herd. Case#2012-13787 and Case#2013-1129*. Washington Animal Diagnostic Lab. Pullman, WA. Obtained from Oregon Dept. of Fish and Wildlife, Corvallis, OR.
- O'Laughlin, J., & Cook, P. S. (2010). *Bighorn sheep and domestic sheep: Current situatipon in Idaho*. Report No. 30, University of Idaho, College of Natural Resources.

- Onerka, D. A., & Wishart, W. D. (1988). Experimental contact transmission of pasteurilla hemolytica from clinically normal domestic sheep causing pneumonia in Rocky Mountain bighorn sheep. *Journal of Wildlife Diseases*, 24(4), 663-667.
- Perkins, J. M., & Peterson, J. R. (1997). *Bat distribution in the juniper woodlands of the Idaho Owyhee Mountains*. Technical Bulletin No. 94, USDI BLM.
- Schroeder, M. A., Aldridge, C. L., Apa, A. D., Bohne, J. R., Braun, C. E., Bunnell, S. D., . . . Stiver, S. J. (2004). Distribution of sage-grouse in North America. *The Condor*, 106, 363-376.
- Schroeder, M. A., Young, J. R., & Braun, C. E. (1999). Sage grouse (*Centrocercus urophasianus*). In A. Poole, & F. Gill (Eds.), *The Birds of North America* (Vol. 425, pp. 1-28). Philadelphia, Pennsylvania: The Birds of North America.
- Stiver, S. J., Apa, A. D., Bohne, J. R., Bunnell, S. D., Deibert, P. A., Gardner, S. C., . . . Schroeder, M. A. (2006). *Greater sage-grouse comprehensive conservation strategy*. Unpublished Report, Western Association of Fish and Wildlife Agencies, Cheyenne, WY.
- Subramaniam, R., Shanthalingam, S., Bavananthasivam, J., Kugadas, A., Potter, K., Foreyt, W., . . . Srikumaran, S. (2011). A multivalent Mannheimia-Bibersteinia vaccine protects bighorn sheep against Mannheimia haemolytica challenge. *Clinical and Vaccine Immunology*, Oct. 2011, Vol. 18, No.10, 1689-1694.
- Tait, C. K., & Vetter, R. (2008). *Potential effects of livestock grazing on Columbia spotted frogs (rana luteiventris) and management recommendations*. USDA USFS and USDI BLM.
- USDA USFS. (2010). *Record of Decision for the: Final Supplemental Environmental Impact Statement and Forest Plan Amendment Identifying Suitable Rangeland for Domestic Sheep and Goat Grazing to Maintain Habitat for Viable Bighorn Sheep Populations*. McCall, ID.
- USDA USFS. (2013a). *Bighorn sheep risk of contact tool*. USDA Forest Service, Intermountain Region, Prepared by USDA FS Bighorn Sheep Working Group, Critigen Inc.
- USDA USFS. (2013b). *Modeling and analysis technical report*. USDA Forest Service, Intermountain Region, Prepared for the USDA FS Bighorn Sheep Working Group, Critigen Inc.
- USDI. (2010, August 31). Memorandum of Understanding Between the Bureau of Land Management and the U.S. Fish and Wildlife Service to Promote the Conservation of Migratory Birds. Retrieved from [http://www.blm.gov/style/medialib/blm/wo/Information\\_Resources\\_Management/policy/ib\\_attachments/2010.Par.67473.File.dat/IB2010-110\\_att1.pdf](http://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/ib_attachments/2010.Par.67473.File.dat/IB2010-110_att1.pdf)
- USDI BLM. (1999). *Owyhee Resource Management Plan*. Marsing, ID.
- USDI BLM. (2001). *Assessment of the Northwest Owyhee Front*. Marsing, ID.

- USDI BLM. (2003). *Idaho Bureau of Land Management Sensitive Species List*. Instruction Memorandum ID-2003-057, Bureau of Land Management, Idaho State Director, Boise, Idaho.
- USDI BLM. (2008). *Manual 6840 – Special Status Species Management*. Retrieved from [http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information\\_Resources\\_Management/policy/blm\\_manual.Par.43545.File.dat/6840.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/blm_manual.Par.43545.File.dat/6840.pdf)
- USDI USFWS. (1918). *Migratory Bird Treaty Act of 1918*. Retrieved from <http://www.fws.gov/laws/lawsdigest/migtrea.html>
- USDI USFWS. (1940). *Bald Eagle Protection Act of 1940*. Retrieved from <http://www.fws.gov/laws/lawsdigest/BALDEGL.HTML>
- USDI USFWS. (2010, March 4). Endangered and threatened wildlife and plants: 12-month Findings to List the Greater Sage-grouse (*Centrocercus urophasianus*) as Threatened and Endangered. *Federal Register*, 75(55).
- USDI USFWS. (2013). *Great Basin redband trout (Oncorhynchus mykiss gibbsi) Species Fact Sheet*. Retrieved from Oregon Fish and Wildlife Office Endangered Species Data: <http://www.fws.gov/oregonfwo/Species/Data/GreatBasinRedbandTrout/>
- WAFWA. (2012). *Recommendations for domestic sheep and goat management in wild sheep habitat*. Prepared by the Wild Sheep Working Group. Retrieved from <http://www.wafwa.org/documents/wswg/WSWGMangementofDomesticSheepandGoatsinWildSheepHabitatReport.pdf>
- Wehausen, J. D., Kelly, S. T., & Ramey, II, R. R. (2011). Domestic sheep, bighorn sheep, and respiratory disease: a review of the experimental evidence. *California Fish and Game*, 97(1), 7-27.