

Standard 8: Threatened and Endangered Plants and Animals

Special Status Plants

Site-visits to known populations of SSP and historical population information on file at the BLM were used to evaluate this standard. In some cases, the same data that was used to assess native plant communities under standard 4 (abundance, diversity, vigor, production, cover, utilization, trend and the occurrence of noxious and invasive plants) was also used to further analyze habitat condition for SSP.

Sensitive species discussed below are those species listed on the 2005 BLM sensitive species list for the Bruneau Field Office. Revisions have occurred to the status of some of the sensitive species that were previously reported in 1997. Unlike the information reported in 1997, only known populations of SSP occurring in the East Castle Creek Allotment are discussed below. The East Castle Creek Allotment provides habitat for several sensitive species that are not currently known to occur in this area, however these will not be reported in this document. All observations of population condition or impacts that are reported in this document are on file with BLM.

There are nine BLM SSP known to occur in the East Castle Creek Allotment (Table 57). All nine SSP are either Type 2, Type 3, Type 4, or Type 5 BLM Sensitive species (See Appendix J for definitions of these Types). The single Type 2 plant is the Mulford's milkvetch (*Astragalus mulfordiae*). Type 3 plants include Mud Flat milkvetch (*Astragalus yoder-williamsii*), cowpie buckwheat (*Eriogonum shockleyi*) and spreading gilia (*Ipomopsis polycladon*). Type 4 species are desert pincushion (*Chaenactis stevioides*), white eatonella (*Eatonella nivea*), rigid threadbush (*Nemacladus rigidus*) and white-margined wax plant (*Glyptopleura marginata*). The single Type 5 species is Snake River milkvetch (*Astragalus purshii* var. *ophiogenes*).

Currently, there are no known populations of Proposed, listed Threatened, or listed Endangered plants (Type 1) in this allotment. However, the USFWS considers all of Idaho to be within the potential range of Ute ladies'-tresses (*Spiranthes diluvialis*), a federally threatened orchid species. This plant occurs in spring, seep, and riparian habitats. Due to the difficulty in narrowly defining potential habitat for this species, USFWS has chosen to apply a loose definition and requires Section 7 consultation only in three counties of southeast Idaho or in areas where the plant is actually found (USFWS 2002). Surveys specifically for this plant are recommended prior to authorizing federal actions in southwest Idaho, but not required. This plant will not be discussed further.

Table 57. BLM Special Status Plants known to occur in the East Castle Creek Allotment, 2007.

Species	Habitat	Status in 2007 ¹	Pasture Located	Potential conflicts with Livestock
Mulford's milkvetch <i>Astragalus mulfordiae</i>	Needle-&-Thread/Indian ricegrass, deep sandy soils	BLM Sensitive, Type 2	5B, 5BEX	Livestock grazing and trampling
Mud Flat milkvetch <i>Astragalus yoder-williamsii</i>	Mountain big sagebrush, Low sagebrush, cindery, silt loams	BLM Sensitive, Type 3	12, 17, 22, 24, 44, 28, 28A, 29A, 31	Range projects and trampling

Species	Habitat	Status in 2007 ¹	Pasture Located	Potential conflicts with Livestock
Desert pincushion <i>Chaenactis stevioides</i>	Wyoming sagebrush, Wyoming sagebrush-shadscale, Horsebrush, Indian ricegrass	BLM Sensitive, Type 4	5B	
White eatonella <i>Eatonella nivea</i>	Wyoming sagebrush-shadscale, sandy or cinder soils in salt desert shrub habitat	BLM Sensitive, Type 4	5B, 8B	Livestock grazing and trampling
Cowpie buckwheat <i>Eriogonum shockleyi</i>	Wyoming sagebrush-shadscale, lakebed sediments and oolitic limestone outcrops of salt desert shrub habitat	BLM Sensitive Type 3	8B	Range projects and trampling
Spreading gilia <i>Ipomopsis polycladon</i>	Low sagebrush, Wyoming sagebrush-shadscale, horsebrush, soils of lakebed origin in sagebrush or salt desert shrub habitats	BLM Sensitive, Type 3	5B	Range projects and trampling
Rigid threadbush <i>Nemacladus rigidus</i>	Wyoming sagebrush, Wyoming sagebrush-shadscale, sandy, cindery, or ashy outcrops in shadscale-sagebrush habitats	BLM Sensitive, Type 4	8B	Range projects and trampling
White-margined wax plant <i>Glyptopleura marginata</i>	Salt desert shrub, greasewood, sandy soils	BLM Sensitive, Type 4	5B, 8B	Range projects and trampling
Snake River milkvetch <i>Astragalus purshii</i> var. <i>ophiogenes</i>	Needle-&-Thread/Indian ricegrass, sandy bluffs and dunes in salt desert shrub habitat	BLM Watch, Type 5	5B, 5BEX	Range projects and trampling
Simpson's hedgehog cactus <i>Pediocactus simpsonii</i>	Benches and canyon rims in rocky or sandy soil in low sagebrush habitat	BLM Watch	14R	None known

Status definitions.

BLM Sensitive: Rare species on the Idaho State Director's list indicating that the plant is of conservation concern.

Type 1: Species listed by the FWS as threatened or endangered, or proposed or candidates for listing under the Endangered Species Act (there are no Type 1 plant species in this assessment area).

Type 2: Species that have a high likelihood of being listed in the foreseeable future due to their global rarity and significant endangerment factors (there are no Type 2 plant species in this assessment area).

Type 3: Species that are globally rare with moderate endangerment factors.

Type 4: Species that are generally rare in Idaho with small populations or localized distribution and may currently have low threat levels.

Type 5: Species that may be added to the BLM Sensitive species list depending on new information.

Mulford's Milkvetch

Populations of Mulford's milkvetch are found throughout the eastern half of pastures 5B and 5BEX in the East Castle Creek Allotment. There are also a few small populations located toward the northern portion of pasture 5B. The populations found in pasture 5B about 1 mile off Mudflat road, were trampled in Dec 2003 due to the watering troughs being located about 75 yards from known rare plant site. Mulford's milkvetch grows in extremely sandy soils and the area contained some sagebrush, four wing salt bush, rabbitbrush, snakeweed, and spiny hopsage

but little grass. The major damage occurring to the milkvetch habitat by winter grazing probably occurred when livestock trampled the sandy soils before fall moisture arrived. (Rosentreter 2003, State Office Botanist).

Mud Flat Milkvetch

Mud Flat milkvetch is found throughout the southern portion of the East Castle Creek Allotment in pastures 28, 28A, 29A, and 31. While Mud Flat milkvetch is the most frequently occurring sensitive plant in the allotment, it is a former federal candidate for listing as threatened or endangered and is of particular concern due to its limited distribution. This perennial species is found in mountain big sagebrush and low sagebrush communities, sometimes on the edge of the juniper zone. Identified populations of the mud flat milkvetch appear to be situated adjacent to Roadways within this portion of the allotment.

Many of the SSP that are known to occur in the Bruneau Field Office are highly specialized and inhabit micro-sites that only represent a small fraction of the total landscape. Species typically associated with Mud Flat milkvetch however include mountain big sagebrush, low sagebrush, Idaho fescue, and bitterbrush. Therefore, the health of these communities can be helpful when assessing the potential for impacts to Mud Flat milkvetch populations.

Desert Pincushion

There are two population of desert pincushion located within pasture 5B just west of Twenty Mile Gulch. One of these populations was fairly large in size with five small discontinuous patches covering an area of approximately 1,000 square meters in 2002. The populations vigor was assessed as good with more potential habitat present in the area. The other population was small with only one reproductive genet. This population was assessed as having poor vigor in 2002.

White Eatonella

There were three occurrences of white eatonella observed within the East Castle Creek Allotment. There were two populations located in pasture 5B and one population located in pasture 8B. All of the populations were assessed as having fair to excellent vigor. One of the populations within pasture 5B covers an area of approximately one acre with a new subpopulation. The other population within pasture 5B covers an area of approximately 0.1 acres made up by two subpopulations. The population within pasture 8B consists of three subpopulation totaling 0.5 – 1 acre, with plant density varying from high (150/1 square meter) to low (1/1 square meter).

Cowpie Buckwheat (Packard's Buckwheat)

There is one new population of identified in 2002 within pasture 5B near Vinson Wash. This population covers an area approximately 40,000 to 50,000 square meters and was made up of 50,000 to 60,000 individuals. Two other populations were identified in the 1980's which were addressed in the 1997 AIE.

Spreading Gilia

There was one new population of spreading gilia identified in 2002 within pasture 5B of the East Castle Creek allotment. This population contained five individuals and comprised an area of approximately five square meter. There was additional habitat present around the population available for expansion. The vigor of the population was assessed as fair. Two other

populations were identified in 1990 and were addressed in the 1997 AIE and will not be discussed further.

Rigid Threadbush

Rigid threadbush is a small annual that is dark greenish-purple or brownish-purple in color. A large area has been designated as containing multiple populations and suitable habitat. This area covers the southeastern corner of pasture 5B, and 5BEX and the north eastern corner of 8B. This species has not been documented as occurring anywhere else within the allotment. There is no information available about the status or impacts to these populations.

White-Margined Wax Plant

There were four new populations of white-margined wax plant located on the East Castle Creek allotment in 2002. Two populations were identified in pasture 5B and two were identified in pasture 8B. Both of the populations in pasture 5B are small (approximately 16 genets). The populations in pasture 8B vary in size one containing approximately 20 genets in at least four subpopulations and the other contains multiple subpopulations that occur as small scattered clusters spread out over one mile along the bottoms and adjacent to uplands of Poison Creek. The subpopulations range from 2 to 150 genets in size and few square meters to about an acre in extent. The larger population in pasture 8B was assessed as having good vigor and 100 percent reproductive. Three other populations are known to occur within the allotment that were identified prior to 1997 and have been addressed in the 1997 AIE. No new information has been collected on these populations.

Snake River Milkvetch

A large area has been designated as Snake River milkvetch habitat along the southeastern boundary of pasture 5BEX. There is one population of Snake River milkvetch identified as occurring in pasture 5B in the vicinity of Vinson Wash. There is no information available about the status or impacts to this population, this Watch list species is of low conservation risk due to its relative abundance and slightly higher tolerance for disturbance. Snake River milkvetch often occurs on barren sites within habitats containing big sagebrush, Indian ricegrass, needle-and-thread grass and four-wing saltbush.

Simpson's Hedgehog Cactus

A single population of Simpson's hedgehog cactus is located within pasture 14R in the vicinity of West Fork Shoofly Creek. Hedgehog cactus occurs on rocky or sandy benches and canyon rims. This plant has no specific phenologically "critical" period since it remains above ground all year and is subject to herbivory or mechanical disturbance at any time. However, hedgehog cactus is resilient to disturbance typically due to its rocky habitat and its protective spines, which prevent trampling and herbivory. There is no information available about the status or impacts to this population, this Watch list species is of low conservation risk due to its relative abundance and slightly higher tolerance for disturbance.

Wildlife

The following information sources were used for assessing the Standard:

- Sage grouse habitat assessments 2006
- Sage grouse telemetry data from IDFG 2003-2007

- Sage grouse lek surveys 2004, 2007
- Historical sage grouse lek data
- Pygmy rabbit surveys 2002-2007
- Bighorn Sheep population data IDFG 2006
- Spotted Frog surveys- 1990's-2006
- General field observations 2002-2007
- Information from Standards 2 and 4

General Wildlife Information

East Castle Creek Allotment contains a variety of wildlife habitats from low-elevation salt desert to mountain mahogany savannah and mountain sagebrush. Figure 1 depicts special wildlife habitats. The low elevation flats of pastures 5B and 8B are winter range for antelope. The foothills in pastures 8B and 10B are winter range for deer and the whole allotment is year-round range for deer.

Rough Mountain and other high knobs of low sage that are blown clear of snow in the winter are winter range for sage grouse (BLM sensitive species). The higher elevations above about 5000 feet are nesting and brood-rearing habitat for sage grouse. There are three historic lek locations (mating grounds) in the allotment; none showed activity during surveys in the 1990's, but one new location in pasture 8B had activity for a few years. That lek and two historic locations in pasture 8B were checked in 2007, and no activity was observed. Sage grouse lek surveys were flown by helicopter in 2004 that covered from the Mudflat Road to the south, thus only the southern edge of the East Castle Creek allotment was flown. No known active leks are found within the allotment; however there are two known active leks within 5 miles of the allotment. Sage grouse from these leks and others use the allotment for nesting, and spend summer, fall and winter in the allotment. Sage grouse and/or sage grouse scat have been observed from pasture 8B up to the higher elevations.

Bighorn sheep (BLM sensitive species) habitat lies along West Fork of Shoofly Creek. About 30 sheep use the Shoofly Creek drainage, part of a larger population of 235 animals (2006 counts by IDFG) in Big and Little Jacks creeks. Another population of about 30 bighorn sheep exists in Castle Creek. The foothills of East Castle Creek allotment form the route for movements between these populations. Bighorn sheep have been spotted along the northwest side of the Mudflat road from the Phase III seedings up to Lone Juniper Creek.

A number of other species classified as BLM "Sensitive Species" or State of Idaho "Species of Special Concern" are also known or likely to occur within this allotment. Columbia spotted frogs, a candidate species for listing as endangered, have been found in the headwaters of Battle Creek, Sheep Creek, and in Birch Creek. We use riparian condition rating to assess habitat condition for frogs.

Pygmy rabbits are found above about 5500 feet in the mahogany savannah in pastures 12, 29A, 28A, 28. They are widespread in the Bruneau Field Office in mountain sage from the Mudflat Road southeast to the Nevada border.

Other sensitive species known to occur include loggerhead shrike, Brewer's sparrow, and sage thrashers. Habitat condition for these sagebrush species is assumed to be closely correlated with conditions for sage grouse, and are not discussed separately. Appendix K lists additional species that are likely to occur within this allotment, their legal status, and their key habitat associations;

including 14 bird species, four mammal species, three amphibian species, four reptile species, and one fish species.

Wildlife Assessment

Sage grouse: Assessments for nesting and brood-rearing habitat for sage grouse were conducted by both a contractor (most brood-rearing) and BLM (nesting and some brood-rearing). Wet areas (moist or wet meadows, springs, and riparian areas) are late-summer brood-rearing habitat, occurring in all the pastures except 5B and 8B. Habitat assessments of wet meadows, springs and riparian areas are based on presence of appropriate mesic or wetland plant species, amount of erosion and bare ground that can dry or reduce wet areas, and availability of green forbs for food. Nesting habitat occurs mostly in the higher-elevation, rolling terrain with mountain sagebrush, in the summer pastures of 29A, 28A and 28. Nesting habitat assessments are based on canopy cover and height of sagebrush, grasses, and forbs, and availability of specific forbs that are preferred food.

A summary of the ratings for nesting and brood-rearing habitat is in Table 58. Most nesting areas were rated suitable. However, habitat in pasture 28 was mostly marginal, lacking grass cover and forbs for food. This lack is probably because, compared to 28A and 29A, the big sage occurs more in small pockets within a landscape of low sage in this pasture, and these big sage pockets tend to be disproportionately used by cattle. In pasture 28, the assessments were done somewhat late, in July and early August after cattle had already begun grazing, and thus cover values of grass were probably lower than would have been measured before grazing. However, only about 20% of the grasses measured had been grazed, and at one site, most of the grasses were under the protection of the shrubs and there was mostly bare ground between the shrubs. Thus the cover values do reflect a lack of vigor and density of grasses and not just grazing use. Even in the sites rated suitable, overall grass cover was about half of what can be expected for the sites, compared to two reference areas (Table 59). Pasture 31 is relatively a reference area, having received lighter grazing for a number of years than the surrounding pastures. One site in the far western corner of pasture 28A also is a reference site, with vigorous, abundant tall perennial bunchgrasses and forbs. These sites had about 50 to 60% grass cover, versus about 20 to 30% grass cover in the rest of sites measured. Bare soil was less in the reference sites also. However, trend data (see standard 4) shows improvement in grass frequency in these pastures.

Overall, 74% of spring and riparian areas and wet meadows for late summer habitat were marginal or unsuitable because of erosion and high use levels by livestock resulting in bare ground, drying of wet areas, and lack of food plants (Tables 58 and 60 and Photos 1-6). This problem occurs in all pastures with springs and wet meadows. As a rule, under spring grazing, plants at springs often recover and soils can heal. However, in this allotment, wet areas in spring grazed and summer grazed pastures all have erosion problems. Pastures 5B, 8B and 31 lack wet areas.

Pasture 12 contains a series of mesic-to-wet meadows at the upper end. These meadows regrow by the end of the season because they are grazed in June. However, most showed erosion and bare ground in and below the meadows, and hoofed-out cuts at the bottom end of the meadows, which leads to drying and risk of headcutting through the meadows (photos 1 and 2). The use level in upland areas at the upper end of pasture 12 was heavy on a landscape scale (photo 3), which matched the heavy hoof-shearing and cuts found at any wet areas. Another problem area

is the head tributaries of Battle Creek in pasture 29A, with heavy use on wet soils leading to headcuts and drying of the meadow (photo 4). All unfenced wet areas in pasture 28 were heavily used with erosion, large bare areas and drying of meadows; photos 5 and 6 show examples.

Bighorn Sheep. Bighorn sheep use the canyon of West Fork of Shoofly Creek, and have been seen in the ½ mile stretch of BLM above Keck’s private (B. Zoellick, pers comm.) This stretch is accessible to cattle from pasture 8 B and is in Functioning at Risk condition. The level of browse use and the low vigor of the riparian herbaceous vegetation indicates that it has received cattle use longer than only May. Food for bighorn sheep is very reduced in this part of the creek from what is potential.

Pygmy Rabbits. Pygmy rabbits are common in the mahogany savannah and mountain sagebrush above about 5500 feet, in pockets of big sagebrush (Figure 1). They are sagebrush obligates, and eat almost entirely sagebrush in the winter. During a telemetry study of pygmy rabbits in 2004 and 2005, primarily in East Castle Creek allotment, Burak (2006) tallied observations of what pygmy rabbits were seen eating during the summer. Percentages of feeding observations were: 38% on shrubs, 45% on grasses, and 11% on forbs. Burak also found that pygmy rabbits preferred habitat composed of dense and tall sagebrush stands with higher litter and forb canopy cover. Burak (pers. comm.) found high predation rates on radio-tagged rabbits. Rabbits also did not spend much time in their burrows during the summer. This means that cover of shrubs and herbaceous vegetation would be important for protection from predators, as well as for food.

East Castle Creek allotment contains suitable habitat for pygmy rabbits, judging by their widespread presence in the higher elevations. However, it is not up to potential except in pasture 31, because grass cover is only about half of what the area could produce (see Table 59). In the main pastures with pygmy rabbit habitat (28A and 29A), grass cover was measured in June before much cattle grazing had occurred, and reflects a lack of vigor and abundance, not grazing use.

Spotted Frogs. The riparian condition in the headwaters of Battle Creek, and thus habitat for spotted frogs, is in an upward trend in pastures 29 D and C, after being fenced into riparian pastures after the 1997 decision. Spotted frogs are found in a section of Sheep Creek in pasture 33 in the SW corner of the allotment. This section of creek has good condition riparian vegetation, but is being threatened by three headcuts from inactive beaver dams. One location in Birch Creek in pasture 10B is in functioning at risk condition with an upward trend, but the meadow where frogs were seen in 1996 (B. Zoellick, pers. com.) is also being threatened by a headcut.

Table 58. Summary of ratings from sage grouse brood-rearing and nesting habitat assessments in the East Castle Creek Allotment, 2006.

Habitat	Suitable		Marginal		Unsuitable	
	No.	Percent	No.	Percent	No.	Percent
Brood-rearing	15	26%	27	48%	15	26%
Nesting	10	70%	3	30%	1	10%

Table 59. Comparison of reference sites with other sites in pastures 28 and 28A of East Castle Creek allotment: percent cover of perennial grass and forbs from sage grouse breeding habitat assessments, 2006. Data are from 50 points per site, on a pace transect. Pasture 31 functions as a reference site; it is a state section fenced from the surrounding pastures and grazed shorter duration in the fall. Site 4 in pasture 28A also functions as a reference site: it is far from water, slightly grazed, and was burned approximately 20 years ago.

Pasture	Site	Location: Township, Range, Section	Perennial grass	Perennial forbs			Bare soil
				Total	Lupine	Other	
Reference Sites							
31	1	9S 1W 16 NW	60	16	10	6	4
	2	9S 1W 16 SWSW	62	12	6	6	14
	3	9S 1W 16 NESW	54	18	12	6	6
Average			58	15	9	6	8
28A	4	8S 1W 31 SW	52	40	18	22	10
Other sites							
28A	1	8S 1W 34 NW	30	14	6	8	28
	2	9S 1W 3 SW	22	32	24	8	10
	3	9S 1W 5SE 4SW	36	28	20	8	6
Average			29	24	17	8	14
28	1	8S 1W 28 SWNW	16	0	0	0	13
	4	8S 1W 19 SW	18	12	6	6	26
	5	8S 1W 31 SW	30	16	16	0	26
Average			21	9	7	2	22

Table 60. Sage grouse nesting and brood-rearing habitat assessments in East Castle Creek Allotment, 2006. Nesting assessments are shaded in the table.

Pasture	Spring Name	Location	Rating	Season	Rationale for Ratings and Comments
10B	89310B2A	7S1E29 NENW	U	Late Brood-Rearing	Unsuitable habitat due to lack of preferred food and cover.
	89310B3A	7S1E29 NWSE	M	Late Brood-Rearing	Marginal due to erosion and xeric plants in the riparian areas.
	89310B4A	7S1E30 SESE	S	Late Brood-Rearing	Some preferred forbs such as yarrow and curlydock scattered throughout.
	89310B10A	7S1E23 NWNW	U	Late Brood-Rearing	Succulent, green forbs are scarce; channel is incising.
	Half Moon Spring	7S1E32 SWSE	U	Late Brood-Rearing	no preferred forbs, minor erosion.
	Little Half Moon Spring enclosure	7S1E34 NESW	S	Late Brood-Rearing	Forbs such as curly dock yarrow common, slight bare ground, in enclosure.
	Poison Gulch	7S1E34 SENW	M	Late Brood-Rearing	Marginal diversity and availability of forbs.
	893127A	7S1E29 NWNW	U	Late Brood-Rearing	Area is heavily grazed with major erosion and pugging throughout.
11B	89311B6A	7S1E31 NWNW	S	Late Brood-Rearing	Area dominated by riparian meadow in PFC, forbs marginal.
	89311B18A	8S1W01 SWSW	S	Late Brood-Rearing	Minor erosion, forbs suitable.
	89311B19A	8S1W02 SESW	S	Late Brood-Rearing	Minor erosion, forbs suitable.
	89311B20A	8S1W02 SESE	M	Late Brood-Rearing	Major erosion with shearing along entire spring boundary, loss of about 1 ft of soil in spring, forbs are scarce.
	Eagle Spring	8S1W06 NENE	M	Late Brood-Rearing	Forbs marginal, minor erosion.
12	8931216B	8S1E15 NWSE	S	Late Brood-Rearing	Areas is heavily grazed with close proximity to good brood rearing habitat
	8931217B	8S1E20 NENW	M	Late Brood-Rearing	Heavy grazing, limited forb availability to grouse, minor erosion.
	8931218B	8S1E17 SENW	M	Late Brood-Rearing	Area heavily grazed, preferred species present grazed to nubs, major erosion.
	Bald Mountain Spring	8S1E21 SWSW	U	Late Brood-Rearing	Water diverted into troughs, bare area with some wet bare ground
	Summit Spring Enclosure	8S1E20 SWNW	S	Late Brood-Rearing	Erosion healing, sufficient forbs available.
	1	8S1E20 North center of SW	S	Late Brood-Rearing	Forbs available, minor erosion, is a catch-basin for sediment
	2	8S1E20 SWNW	M	Late Brood-Rearing	Forbs available but erosion at bottom of meadow and pugging.
	3	8S1E17 SWNWSW	M	Late Brood-Rearing	Forbs marginal and major erosion.
	4	8S1E17 SWSWNE	M	Late Brood-Rearing	Major and extensive erosion upstream and downstream.
15	8931526B	8S1E07 NWSE	M	Late Brood-	Forbs marginal, xeric species in

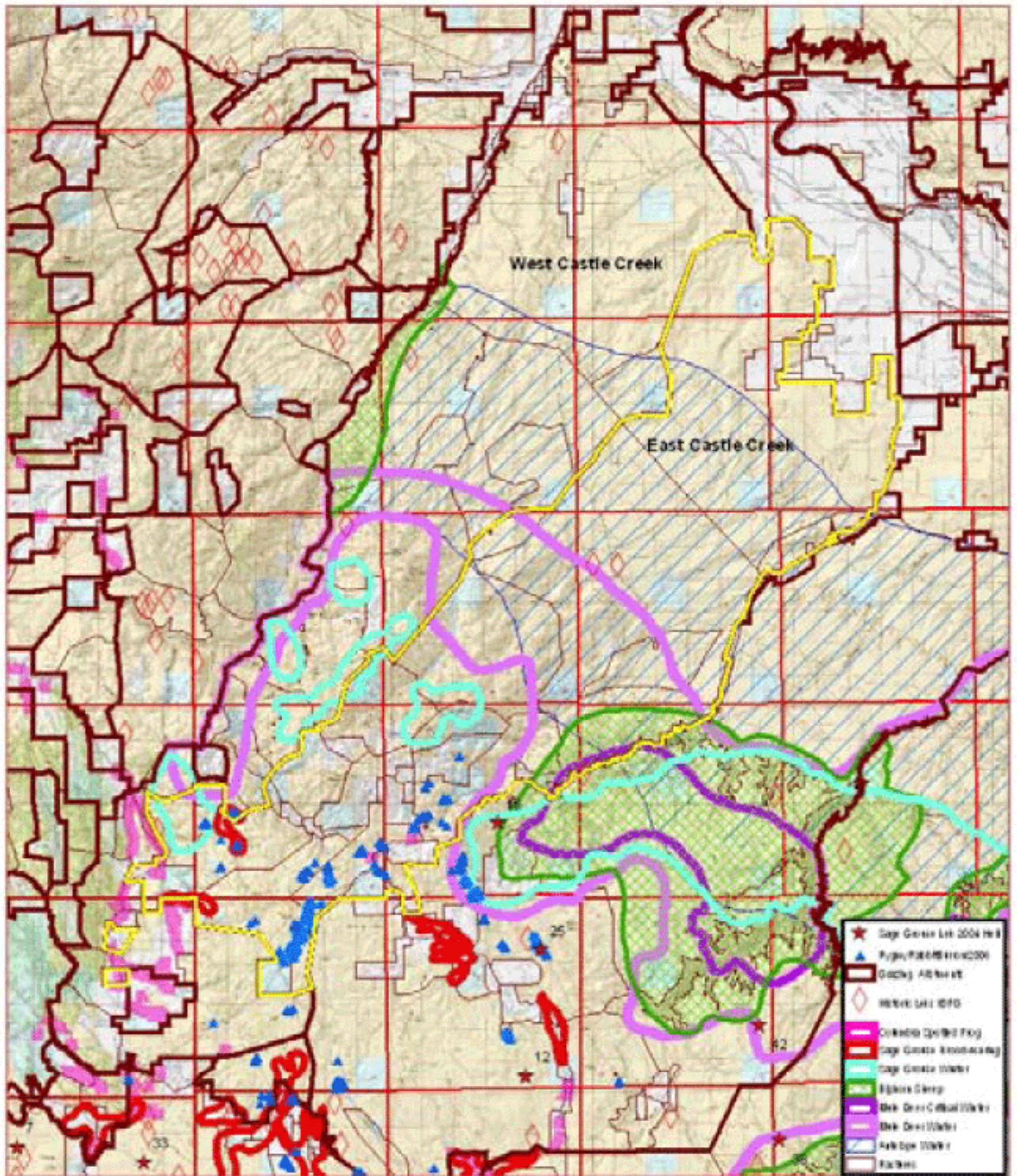
Pasture	Spring Name	Location	Rating	Season	Rationale for Ratings and Comments
				Rearing	meadow.
17	8931727B	8S1E08 SWNW	U	Late Brood-Rearing	No preferred forbs available.
	8931728B	8S1E08 NESW	U	Late Brood-Rearing	Scarce forbs.
44	8934429B	8S1E08 NENW	M	Late Brood-Rearing	Bare ground around trough, pugging in seep, forbs adequate.
	8934430B	8S1E08 NWNE	M	Late Brood-Rearing	Minor erosion and spotty distribution of forbs.
	8934432B	8S1E05 NESE	S	Late Brood-Rearing	Minimal soil disturbance and grouse was seen on site during survey; forbs suitable.
19	8931923B	8S1E12 NESE	U	Late Brood-Rearing	No preferred forbs available; Major erosion.
Magpie Cr	Magpie Creek Site 1	8S1W23 SESE	U	Late Brood-Rearing	Primarily dominated by bare ground; major erosion with scarce forbs available.
	Magpie Creek Site 2	8S1W23 SWSW	M	Late Brood-Rearing	Minor erosion and spotty of limited distribution of forbs.
22	8932213A	8S1W22 NWNW	S	Late Brood-Rearing	Limited disturbance from grazing.
	8932220B	8S1W14 SESW	M	Late Brood-Rearing	Forbs are scarce. Minor pugging in seep.
	8932221B	8S1W15 NESE	M	Late Brood-Rearing	Spotty forb distribution, lots of bare ground from pugging.
	8932222B	8S1W14 SENW	U	Late Brood-Rearing	Major erosion and sagebrush is encroaching on lower spring area, lots pugging creating bare ground
	8932225B	8S1W15 NENE	U	Late Brood-Rearing	Areas is heavily pugged with minimal succulent and forb presence.
22A	89322A24B	8S1W12 NWSW	M	Late Brood-Rearing	Minor erosion and forbs marginal.
28	8932814A	8S2W24 SWSW	M	Late Brood-Rearing	Headcut in meadow, minor erosion and pugging of wetted area, most forage has been grazed.
	8932815A	8S2W25 NENE	M	Late Brood-Rearing	Area is heavily grazed and forbs are sparse and heavily utilized by cattle.
	8932824A	8S1W21 SWNW	M	Late Brood-Rearing	Forbs lacking from closed canopy of trees and shrubs, and soil hooped bare in wetted area below
	Rat Spring	8S1W29 NWNE	U	Late Brood-Rearing	Heavily grazed, bare ground, major erosion, heavy pugging.
	Station Spring exclosure	8S1W30 NWNW	S	Late Brood-Rearing	No erosion, forbs adequate.
	Site 6	8S1W20 S	U	Late Brood-Rearing	Major erosion, xeric plant species along water's edge, scarce forbs, heavy use and bare areas.
	Rock Spring exclosure	8S1W31 NENE	S	Late Brood-Rearing	Areas has dense sage cover with ample forage and cover.
	Juniper Cr	8S1W29 SENW	M	Late Brood-Rearing	Major erosion and lack of forbs.
	Site 4	8S1W20 SWSW	M	Late Brood-Rearing	Meadow dried by lack of vegetation cover; wet area pugged and hoof-sheared

Pasture	Spring Name	Location	Rating	Season	Rationale for Ratings and Comments
	Site 5	8S1W31 W	M	Late Brood-Rearing	Minor erosion with xeric plant invading riparian areas.
	Site 1	8S1W28	U	Nesting	Forbs are rare to sparsely present.
	Site 3	8S 2W 24 NENE	S	Nesting - Low sage forb	5 preferred species common to abundant – rating for forbs only
	Site 4	8S 1W 19 SW	M	Nesting	Forb and grass cover and vigor are low for site.
	Site 5	8S1W31 SW	M	Nesting	Preferred forbs marginal.
28A	Site 1	8S1W34	S	Nesting	Adequate forbs and cover.
	Site 2	9S1W3 SW	S	Nesting	Adequate forbs and cover
	Site 3	9S1W 4	S	Nesting	Adequate forbs and cover
	Site 4	8S1W31 SW	S	Nesting	Excellent grass and forb cover, old burn with scattered juniper.
	Sheep Cr	9S 1W 6 SE	M	Late Brood-Rearing	Incised channel drying meadow, heavy pugging.
29A	89329A8A	8S1W24 NENW	M	Late Brood-Rearing	Bare soil 50%, forbs marginal.
	89329A9A	8S1W24 SESE	S	Late Brood-Rearing	No erosion, but forbs are sparse
	89329A19B	8S1W25 SENE	S	Late Brood-Rearing	No erosion, forbs abundant
	Site 1	8S1W25 SENW	M	Late Brood-Rearing	Major erosion, forbs marginal.
	Site 1	8S1W25 SENW	M	Nesting	Forbs and grass height marginal
	Site 2	8S1W34	S	Nesting	Forbs common, grass height marginal.
	Site 3	8S1W35 NW	S	Nesting	Grass, forbs and sage all suitable.
29D	Site 1	8S1E19 SESE	M	Late Brood-Rearing	Upward trend with healing incision, forbs marginal.

S=Suitable habitat, M=Marginal habitat, U=unsuitable habitat

Figure 1: East Castle Creek
Wildlife

East Castle Creek Wildlife



Map created by Helen Ulmschneider
Bureau FO Wildlife Biologist
August 30, 2007



1:250,000



No Warranty is made by the Bureau of Land Management.
The accuracy, reliability, or completeness of these data for
individual use or aggregate use with other data is not guaranteed.

Photo 1. Hoof-sheared cut and bare area at bottom of meadow in pasture 12. Drying of meadow above is evident by the sagebrush growing in above the cut. Grazing use was in June. Sept 6, 2006. 8S 1E 20 SWNW.



Photo 2. Hoof-sheared cut and bare area at bottom of willow clump, pasture 12, Sept 11, 2006. Grazing use was in June. 8S 1E 17 SENW.



Photo 3. Fenceline contrast in use levels and grass cover: pasture 12 on right, private land on left. Use in pasture 12 is in June. Sept 6, 2006. 8S 1E 19 SESE



Photo 4. Cut in wet meadow in a head tributary of Battle Creek, pasture 29A. Sept 27, 2006. 8S 1W 25 SENW.



Photo 5. Bare hoofed soil at spring area in pasture 28 near Juniper Station, September 28, 2006. 8S 1W 20 south center.



Photo 6. Rat Spring in pasture 28, August 3, 2006. Pugging and bare areas of wet soils is evident.

Fish

Redband trout (*Oncorhynchus mykiss gairdneri*) are a BLM sensitive species and a State of Idaho species of special concern. Redband trout are year-long residents of perennial portions of Rock Creek, Sheep Creek (tributary to Rock Creek), and West Fork Shoofly Creek, and seasonally inhabit intermittent segments of these streams.

Rock Creek

About 0.3 mile of Rock Creek was fenced into a grazing exclosure in 1997. This segment formerly was weakly vegetated with bank-stabilizing plant species, and streambanks and channels were unstable. Trend in habitat condition for redband trout is strongly upward with late-seral plant cover increasing on streambanks and floodplains and stabilizing banks and channels. About 0.2 mile of Rock Creek in pasture 33 is slowly improving in habitat condition as cover of willows and sedges is slowly increasing on streambanks and floodplains.

Sheep Creek

The lower 0.45 mile of Sheep Creek is located in pasture 33 and most of this segment has perennial stream flows. About 0.2 mile of Sheep Creek from the confluence upstream to the road crossing at the BLM/private land boundary is in PFC. Streambanks are stable and well vegetated with plant communities dominated by bank-stabilizing species, and are providing adequate habitat for the long term maintenance of redband trout populations. The next BLM segment upstream (0.25 mile long) is also well vegetated with plant communities dominated by bank-stabilizing species, and stream channels are well shaded. However, 3 active headcuts are present, and the segment is functioning at risk with a downward trend as channels are continuing to erode at the headcuts. Consequently, this reach is not providing adequate habitat for the long-term maintenance of redband trout populations.

West Fork Shoofly Creek

About 1.5 mile of West Fork Shoofly Creek in pasture 8B is located in a rocky canyon that is closed to grazing. Streamflows are perennial in this section except in drought years. This segment is providing adequate habitat for the long-term maintenance of redband trout populations. Streambanks and floodplains are densely vegetated with riparian shrub and tree communities. Stream channels are stable and well shaded. However, recent livestock trailing (during the hot season) created bare soil areas in the floodplain that are at risk of erosion during high flows.

The lower 0.5 mile of West Fork Shoofly Creek in pasture 8B is intermittent with duration of stream flows dependent on the size of winter snowpacks. This segment is historically incised 2 to 5 feet deep into a G-channel (Rosgen 1996). Redband trout habitat is impacted by the historical incision, which has reduced bank storage of water needed to maintain stream flows. Riparian plants needed to stabilize streambanks and channels are also impacted by the loss of water and this segment is in functional at risk condition with a static trend. Redband trout habitat is inadequate on this reach due to unstable banks and channels and loss of stream flows. This reach is an important migratory corridor for redband trout moving between Shoofly Creek and perennial headwater reaches of West Fork Shoofly Creek.

Most of West Fork Shoofly Creek in pasture 14 (0.6 mile) provides adequate habitat for the long-term maintenance of redband trout populations. Upstream of the private land (LL Cow Camp) in pasture 14, streambanks are stable and densely vegetated with willow shrub communities so that

stream channels are stable and well shaded. About 0.2 mile of West Fork Shoofly downstream of private land in pasture 14 is historically incised 4 to 5 feet deep into a G-channel (Rosgen 1996). Sediment levels are elevated because about 20 to 25% of the steep, incised banks are bare and eroding. Redband trout habitat quality is impaired in this 0.2 mile reach due to the historical incision of the channel, but is slowly improving as streambank vegetation has an upward trend in cover and density.

About 2.8 miles of West Fork Shoofly Creek in pastures 8B and 14 was identified for improvement in habitat condition for redband trout in the 1983 Land Use Plan (Bruneau MFP, WL-AQ Objective 2.1; USDI 1983). Of 2 miles in pasture 8B, 1.5 mile is improving in condition or meeting the MFP objective. About 0.5 mile is in functional at risk condition with a static trend and not meeting the MFP objective. In pasture 14, 0.6 mile of stream is meeting the MFP objective, while another 0.2 mile is historically incised and functioning at risk with a slow upward trend, and thus making slow progress towards the MFP objective.