Assessments for Boone Peak (0589), Red Mountain (0588), Bridge Creek (0590), Quicksilver FFR (0483), and Stahle FFR (0641) Allotments

Standards for Rangeland Health and
Guidelines for Livestock Grazing Management
Owyhee Field Office

Jenna Whitlock, Field Manager

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Loretta Chandler, Field Manager 2013

Allotment Information 7
Idaho Rangeland Health Standards Evaluation 28
Methods Used to Evaluate Rangeland Health 29
Winter Use (Red Mountain Pasture 1) 32
Data Collection 32
Livestock Use 34
Standard 1: Watersheds 37
Standard 2: Riparian Areas and Wetlands 39
Standard 3: Stream Channel/Floodplain 41
Standard 4: Native Plant Communities 41
Shadscale communities 42
Big sagebrush communities 42
Herbaceous (Burned) Communities 43
Standard 8: Threatened and Endangered Plants and Animals 44
Redband Trout 44
Plants 48
Early Spring Use (Red Mountain Pasture 2) 48
Data Collection 49
Livestock Use 50
Standard 1: Watersheds 54
Shadscale and low sagebrush communities 54
Big sagebrush communities 54
Standard 2: Riparian Areas and Wetlands 56
Standard 3: Stream Channel/Floodplain 57
Standard 4: Native Plant Communities 57
Shadscale and low sagebrush communities 57
Big sagebrush communities 58
Herbaceous (Burned) Communities 59
Standard 8: Threatened and Endangered Plants and Animals 59
Redband Trout 59
Plants 64
Mid Spring Use (Red Mountain Pasture 3) 64
Data Collection 65
Livestock Use 67
Standard 1: Watersheds 71
Low sagebrush communities 71
Big sagebrush communities 73
Standard 2: Riparian Areas and Wetlands 73
Standard 3: Stream Channel/Floodplain 74
Standard 4: Native Plant Communities 76
Low sagebrush communities 76
Big sagebrush communities 77
Herbaceous (Burned) Communities 77
Standard 8: Threatened and Endangered Plants and Animals 78
Redband Trout 78
Plants 89

Late Spring Use (Bridge Creek; Quicksilver FFR Pastures 2 and 3) 90
Standard 1: Watersheds 96
Low sagebrush communities 96
Big sagebrush communities 96
Standard 2: Riparian Areas and Wetlands 98
Standard 3: Stream Channel/Floodplain 100
Standard 4: Native Plant Communities 101
Low sagebrush communities 101
Big sagebrush communities 101
Herbaceous (Burned) Communities 103
Standard 8: Threatened and Endangered Plants and Animals 104
Redband Trout 104
Plants 114
Summer/Fall Use (Boone Peak) 114
Data Collection 114
Livestock Use 118
Standard 1: Watersheds 122
Standard 2: Riparian Areas and Wetlands 124
Standard 3: Stream Channel/Floodplain 128
Standard 4: Native Plant Communities 129
Low sagebrush communities 129
Big sagebrush communities 131
Herbaceous (Burned) Communities 132
ACEC Communities 132
Standard 8: Threatened and Endangered Plants and Animals 132
Redband Trout 132
Plants 145
Fall Use (Quicksilver FFR Pastures 1 and 4; Stahle FFR) 147
Data Collection 147
Livestock Use 147
Standard 1: Watersheds 148
Low sagebrush communities 149
Big sagebrush communities 149
Standard 2: Riparian Areas and Wetlands 150
Standard 3: Stream Channel/Floodplain 150
Standard 4: Native Plant Communities 150
Low sagebrush communities 150
Big sagebrush communities 151
Herbaceous (Burned) Communities 152
Standard 8: Threatened and Endangered Plants and Animals 152
Plants 152
Redband Trout 153
Standard 7: Water Quality – Red Mountain/ Bridge Creek/ Boone Peak / Quicksilver FFR / Stahle FFR 155
Red Mountain Allotment 155
Bridge Creek Allotment 156

Boone Peak Allotment 157
Standard 8: Habitat for Special Status Species. Boone Peak, Red Mountain, Bridge Creek, Stahle FFR, and Quicksilver FFR Allotments 159
Appendices 162
Appendix A. Ecological sites with associated plant communities and landforms in the Boone Peak Core Area 162
Appendix B. Special status animals known to or likely to occur in the Boone Peak Core Area 163
Appendix C. Indicators Used for Sage Grouse Habitat Evaluations 165
Appendix D. Site-specific management actions for Cinnabar Mountain RNA/ACEC designated by the Owyhee RMP, 1999 167
Appendix E. Actual Livestock Use and Use Periods, Pastures 1, 2, and 3 Red Mountain Allotment, Winter-Mid Spring Use Periods. Precipitation measured at Sinker Creek 168
Appendix F. Actual Livestock Use and Use Periods, Boone Peak and Bridge Creek Allotments, Late Spring-Fall Use Periods; Licensed Use and Use Periods, Quicksilver FFR, and Stahle FFR Allotments; Precipitation measured at Silver City 170
Appendix G. Utilization of Bluebunch Wheatgrass and Idaho Fescue, Winter-Mid Spring Use Areas, Red Mountain Allotment, 1976-2002 172
Appendix G (cont.). Utilization of Squirreltail, Winter-Mid Spring Use Areas, Red Mountain Allotment, 1976-2002 174
Appendix H. Utilization of Bluebunch Wheatgrass, Idaho Fescue, and Squirreltail, Late Spring-Fall Use Areas, Bridge Creek and Boone Peak Allotments, 1976-2002 175
Appendix I. Rangeland Health Evaluation Ratings, Winter and Early Spring Use Pastures, Red Mountain Allotment, 2002 176
Appendix J. Rangeland Health Evaluation Ratings, Mid- and Late-Spring Use Pastures, Red Mountain, Bridge Creek and Quicksilver FFR Allotments, 2002 178
Appendix K. Rangeland Health Evaluation Ratings, Summer/Fall and Fall Use Pastures, Boone Peak, Quicksilver FFR, and Stahle FFR Allotments, 2002 179
Appendix L. Frequencies of perennial grasses, Nested Plot Frequency Transects, Boone Peak Core Area, 1984-2001 180
Appendix M. Frequencies of shrubs and forbs, Nested Plot Frequency Transects, Boone Peak Core Area, 1984-2001 181
Appendix N. Functioning Condition Indicators (Standard 2) and Rating by Stream Segment 182
Appendix O. Functioning Condition Indicators (Standard 3) and Rating by Stream Segment 185
Literature Cited 188
Works Cited (2013 Supplement) 188
DETERMINATION BOONE PEAK 189
Standard 1 (Watersheds) 191
Standard 2 (Riparian Areas and Wetlands) 191
Standard 3 (Stream Channel/Floodplain) 192
Standard 4 (Native Plant Communities) 193
Standard 5 (Seedings) 194
Standard 6 (Exotic Plant Communities, Other than Seedings) 194
Standard 7 (Water Quality) 194

Standard 8 (Threatened and Endangered Plants and Animals) 195
DETERMINATION RED MOUNTAIN 196
Standard 1 (Watersheds) 198
Standard 2 (Riparian Areas and Wetlands) 198
Standard 3 (Stream Channel/Floodplain) 199
Standard 4 (Native Plant Communities) 200
Standard 5 (Seedings) 200
Standard 6 (Exotic Plant Communities, Other than Seedings) 201
Standard 7 (Water Quality) 201
Standard 8 (Threatened and Endangered Plants and Animals) 202
DETERMINATION BRIDGE CREEK 203
Standard 1 (Watersheds) 204
Standard 2 (Riparian Areas and Wetlands) 204
Standard 3 (Stream Channel/Floodplain) 205
Standard 4 (Native Plant Communities) 206
Standard 5 (Seedings) 206
Standard 6 (Exotic Plant Communities, Other than Seedings) 207
Standard 7 (Water Quality) 207
Standard 8 (Threatened and Endangered Plants and Animals) 208
DETERMINATION STAHLE FFR 208
Standard 1 (Watersheds) 210
Standard 2 (Riparian Areas and Wetlands) 210
Standard 3 (Stream Channel/Floodplain) 211
Standard 4 (Native Plant Communities) 211
Standard 5 (Seedings) 212
Standard 6 (Exotic Plant Communities, Other than Seedings) 212
Standard 7 (Water Quality) 213
Standard 8 (Threatened and Endangered Plants and Animals) 213
DETERMINATION QUICKSILVER FFR 214
Standard 1 (Watersheds) 215
Standard 2 (Riparian Areas and Wetlands) 215
Standard 3 (Stream Channel/Floodplain) 216
Standard 4 (Native Plant Communities) 217
Standard 5 (Seedings) 217
Standard 6 (Exotic Plant Communities, Other than Seedings) 218
Standard 7 (Water Quality) 218
Standard 8 (Threatened and Endangered Plants and Animals) 218
2013 Rangeland Health Determinations 220
Boone Peak Allotment 220
Red Mountain Allotment 229
Bridge Creek Allotment 237
Stahle FFR Allotment 245
Quicksilver FFR Allotment 249

Assessments for Boone Peak (0589), Red Mountain (0588), Bridge Creek (0590), Quicksilver FFR (0483), and Stahle FFR (0641) Allotments

Standards for Rangeland Health and Guidelines for Livestock Grazing Management

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations (Boone Peak (0589), Red Mountain (0588), Bridge Creek (0590), Stahle FFR (0641), and Quicksilver FFR (0483) allotments
The Rangeland Health Standards and Guidelines Assessment for the Boone Peak (0589), Red Mountain (0588), Bridge Creek (0590), Stahle FFR (0641), and Quicksilver FFR (0483) allotments was completed in 2003 as a portion of the grazing permit renewal process. Following completion of the assessment, individual determination documents were completed for these allotments. All five determination documents were signed by the authorized officer on July 7, 2003. To date, permits authorizing grazing use in these allotments have not been fully processed for renewal. The current document consists of the RHA, in full, including a Determination signed in 2003, which is superseded by the 2013 Determination found at the end of this document. This 2013 supplement incorporates new information compiled since the 2003 assessment was completed, as well as a review of conclusions reached using earlier data. Portions of this 2013 document that supplement the 2003 document are presented in this two-field table format with the header above, while those portions carried forward unchanged from the 2003 document are outside the two-field tables. The 2013 supplement to the assessment includes data compiled between 2003 and 2013, as well as the completion of the 2013 evaluation report and determination consistent with the Livestock Grazing Permit Renewal Desk Guide for Idaho Bureau of Land Management, May 2009.

Background

In 1997, the BLM in Idaho adopted rangeland health standards, which were developed in coordination with the Resource Advisory Councils during the previous two years. There are eight standards, not all of which apply to any one parcel of land. Standards of rangeland health are expressions of the level of physical and biological condition or degree of function required for healthy, sustainable rangelands. Rangelands should be meeting or making significant progress toward meeting the standards. If the standards are met, there should be proper nutrient and hydrologic cycling, and energy flow. Current livestock grazing management is evaluated in these Assessments to determine if it maintains standards or promotes significant progress toward meeting the standards.

Indicators are typical physical and biological factors and processes that can be measured or observed. These Assessments examine the indicators for each standard and use quantitative and qualitative information including inventory data, monitoring data, health assessment information or other observations to evaluate the current status of each indicator for each standard. Observations of each indicator for each standard and trends in measured indicators are discussed

below for all of the standards that are applicable to each of the allotments.

Conclusions as to whether or not allotments are meeting or making significant progress toward meeting the standards will be provided in separate determination documents based on information in this document. New information will be considered in developing the final determinations if received in a timely manner.

Allotment Information

The Assessment area includes five allotments with approximately 26,893 acres of public land, 1,917 acres of state land, and 8,008 acres of private land (Table 1, Map WDLF-1).

Table 1. Acreages (2002) by pasture and ownership for the Boone Peak, Red Mountain, Bridge Creek, Quicksilver FFR, Stahle FFR allotments, Owyhee County, Idaho.

Allotment	Pasture	Public	State	Private	Total
Boone Peak (0589)	1	9,469	646	4,845	14,960
Red Mountain (0588)	1	3,520	622	8	4,150
	2	4,369	11	23	4,403
	3	6,594	638	10	7,242
	Totals	14,483	1,271	41	15,795
Bridge Creek (0590)	1	2,571	0	7	2,578
Quicksilver FFR (0483)	1	54	0	612	666
	2	53	627	1,236	1,916
	3	86	0	635	721
	4	1	646	257	904
	Totals	178	1,273	2,741	4,192
Stahle FFR (0641)	1	192	0	627	819

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations (Boone Peak (0589), Red Mountain (0588), Bridge Creek (0590), Stahle FFR (0641), and Quicksilver FFR (0483) allotments

Allotment and pasture acreage and ownership were recalculated from GIS layers that were updated using NAIP imagery. Table 1 of the 2003 assessment was updated to these 2013 data as presented in Table ALLOT-1.

Table ALLOT-1: Acreages (2013) by pasture and ownership for the Boone Peak, Red Mountain, Bridge Creek, Quicksilver FFR, Stahle FFR allotments, Owyhee County, Idaho

Allotment	Pasture	Public	State	Private	Total
Boone Peak (0589)	1	9,481	647	4,845	14,973
Red Mountain (0588)	1	3,517	626	8	4,151
	2	4,371	11	21	4
	3	6,727	640	1	7,368

	Totals	14,616	1,277	31	15,923
Bridge Creek (0590)	1	2,567	0	9	2,576
Quicksilver FFR (0483)	1	54	0	612	667
	2	53	626	1,238	1,917
	3	70	0	630	700
	4	Pasture 4 in T.6S., R.2W., Sections 15, 16, 19, 20, 21, and 22 is no longer a 4th parcel of Quicksilver FFR allotment.			
	Totals	178	626	2,480	3,284
Stahle FFR (0641)	1	57	0	635	692

Physical and Administrative

Located in Owyhee County, Idaho, near the towns of Oreana, Triangle, and Silver City, the allotments are located along the east and south faces of the Silver City Range of the Owyhee Mountains. Landmarks within or bordering the allotments include Boone Peak on the south, Turntable Mountain and Cinnabar Mountain on the north, Mammoth Ridge on the west, and Quicksilver Mountain and Red Mountain in the central portion.

Elevations range from 3,460 feet along Pickett Creek to over 8,400 feet on Hayden Peak of Cinnabar Mountain. Landforms consist of badlands, fan terraces, foothills, and structural benches in the Red Mountain Allotment. Landforms consist of mountains, upper foothills, and small areas of outwash terraces in the Boone Peak, Bridge Creek, Stahle FFR, and Quicksilver FFR Allotments. The terrain is gently rolling but dissected by streams at lower elevations and is gently sloping on ridgetops and stream terraces and steeply sloping on the sides of mountains and foothills at upper elevations.

A portion of the Boone Peak Allotment (260 acres) is within the Cinnabar Mountain RNA (Research Natural Area)/ACEC (Area of Critical Environmental Concern). The total size of this ACEC is 277 acres. It was designated in 1999 by the Owyhee RMP for its excellent examples of high elevation mountain mahogany, Douglas-fir, subalpine fir, and low sagebrush communities. The area also has high scenic values.

Livestock Grazing Use

The current total permitted use for livestock grazing in the Red Mountain, Boone Peak, Bridge Creek, Stahle FFR (Fenced Federal Range), and Quicksilver FFR allotments is shown in Table 2. Elmer Stahle is the permittee in these allotments. John Edwards is also a permittee in Red Mountain Allotment, and his permitted use is confined to pasture 1. Elmer Stahle is leasing the Edwards permit through October 1, 2006. Exchange-of-use totaling 47 AUMs was granted to Elmer Stahle in Red Mountain Allotment through 2000, but is now licensed as 97% federal range instead. Boone Peak contains substantial acreages of private and state land controlled by Elmer Stahle, and is licensed as 60% federal range.

Table 2. Total permitted use, active permitted use, and suspended use for individual permittees in the Red

Mountain, Boone Peak, Bridge Creek, Stahle FFR, and Quicksilver FFR allotments (1981 - present).

Allotment	Permittee	Active Use	Suspended Use	Total Use	Exchange of Use	Total Active Use	% BLM AUMs
Red Mountain (0588)	Elmer Stahle	1,911	636	2,547	0	*1,202	97
	John Edwards	375	692	1,067	0	1,067	100
Boone Peak (0589)	Elmer Stahle	2,094	782	2,876	0	2,094	60
Bridge Creek (0590)	Elmer Stahle	664	221	885	0	664	100
Stahle FFR (0641)	Elmer Stahle	35	0	35	0	35	100
Quicksilver FFR (0483)	Elmer Stahle	12	0	12	0	12	100

*Limited to 902 AUMs spring and 300 AUMs winter under terms of March 1996 Agreement with Elmer Stahle.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations (Boone Peak (0589), Red Mountain (0588), Bridge Creek (0590), Stahle FFR (0641), and Quicksilver FFR (0483) allotments

Transfer of the permit held by Elmer Stahle in 2003 to Rohl and Faye Hipwell was completed in 2006. That transferred permit authorizes livestock grazing in the Red Mountain, Boone Peak, Bridge Creek, Stahle FFR (Fenced Federal Range), and Quicksilver FFR allotments, as shown in Table LVST-1. The base property lease agreement between Elmer Stahle and John Edwards identified in the 2003 assessment expired in 2006 as stated and a permit was once again offered to John Edwards to graze cattle in pasture 1 of Red Mountain allotment during the winter, with a term from 2006 through 2016.

Table LVST-1: Active use, suspension and total permitted use for individual permittees in the Red Mountain, Boone Peak, Bridge Creek, Stahle FFR, and Quicksilver FFR allotments (2013)

Allotment	Permittee	Active Use	Suspension	Permitted Use	Percent Public Land
Red Mountain (0588)	Rohl & Faye Hipwell	1,624	529	2,153	95
	John Edwards	375	1,050	1,425	100
Boone Peak (0589)	Rohl & Faye Hipwell	2,094	782	2,876	60
Bridge Creek (0590)	Rohl & Faye Hipwell	664	221	885	100
Stahle FFR (0641)	Rohl & Faye Hipwell	35	0	35	100
Quicksilver FFR (0483)	Rohl & Faye Hipwell	12	0	12	100

Authorized AUMs in the Red Mountain allotment identified in the 2003 assessment Table 2 are inconsistent with those data presented in Table LVST-1 of the ORMP and Table LVST-1 of the Proposed Owyhee Resource Management Plan and Final Environmental Impact Statement. Data in the above Table LVST-1 and derived from current permits are consistent with the two tables in the land use planning documents.

Boone Peak Allotment (0589)

The Oreana #6B Allotment was designated by the 1965 Oreana Unit Adjudication decision. The

boundaries were mostly unfenced at that time, although fences existed around private parcels that permitted some control of drift. The Bates Creek Field at the northeastern end of Oreana #6B was fenced away from the Oreana #6B Allotment prior to 1938. Part of the reason for the lack of fencing of the north and west boundaries was that the allotment was grazed primarily by sheep owned by Vic Allen, Augustin Salove, and later, by Emeterio Quintana. Sheep use continued through 1969 and continues in the adjoining Flint Creek Allotment to the present. The permit was converted from sheep to cattle use in 1971.

Sheep would cross the top of the Silver City Range and enter the Oreana #6B Allotment in early May. Salove had three bands that grazed the allotment. One band was in the allotment from about May 1 to August 1, the other two entered the allotment after shipping lambs about July 15 and grazed the higher parts of the allotment until August 1 or so. Sheep would trail back through the area once more in late fall on the way out from South Mountain. Quintana continued this operation, but one large and one small band of sheep grazed the allotment continuously from May through November. Jump Creek Sheep Co. also grazed the top of the Silver City Range at the upper end of the allotment, particularly around their mining claim lease.

Salove and Son retained a season long (April through November) cattle permit in the Oreana Unit while leasing the sheep portions of the permit to Quintana during 1945-1951, and cattle and sheep grazed the Oreana Unit allotments in common. Salove and Son were granted a private allotment on the former Salove homestead entry, and it was grazed with horses season-long for a total of 80 AUMs. From 1952 to 1957, the Oreana Unit allotments were grazed only with cattle season-long. Much of the spring use occurred in what is now the Red Mountain Allotment, with summer and fall use in what are now the Boone Peak and Bridge Creek allotments. Entry and exit from Boone Peak Allotment were dependent primarily on the rate of cattle drift or herding of sheep. Small numbers of permitted cattle from other permittees (Jayo) also grazed the allotment during spring, summer, and fall, and additional cattle drifted in from surrounding allotments. Most of the permitted cattle use was eliminated by a rangeline agreement and by a transfer of the Salove and Son permit to Quintana in 1957. Quintana took large amounts of nonuse between 1958 and 1970, when the allotment was grazed primarily by sheep.

Boundary fences were constructed in 1966 and relocated in 1978 and 1980 along the top of the Silver City Range to eliminate drift of cattle from the Oreana #3 (Silver City) Allotment into the Oreana #6B Allotment. Fences between the Moore and Jess homesteads were constructed in 1965, eliminating drift between the Oreana #5 (spring-fall use) and Oreana #6B (summer use) Allotments. The homesteads themselves had been fenced since at least 1939. The southern boundary of the Boone Peak Allotment is formed by private fences enclosing old homesteads, most of which were in place prior to 1936. The Bridge Creek Allotment was separated from Oreana #6B and from Quicksilver FFR by construction of two fence segments in 1971. Although a rangeline agreement between Boone Peak and Flint Creek allotments was approved in 1983, only limited fencing has been constructed to separate the allotments. Currently, there is no effective separation between the allotments.

The season of use in Boone Peak Allotment has been June 1 to October 15 since 1965. Decisions adjusting allotment boundaries were issued in 1968 and 1969. An adjustment to the closing date for summer use to September 15 was proposed for implementation in 1969, but

never implemented. A delay to June 15 in spring turnout was proposed beginning in 1971, but was never implemented. A 25% reduction was proposed in 1969, implemented in 1971, and is carried as suspended use.

The Boone Peak Allotment was designated by decisions dated January 10 and July 5, 1983. The July 5 decision established a deferred rotation grazing system, but the cross-fencing needed to implement it has not been constructed. Utilization limits of 50% were also imposed, and were to be the basis for any adjustments in permitted use. The limiting factor to implementation of the grazing system without fencing is the inability to prevent drift to the highest portions of the allotment soon after spring turnout.

In 1996, Elmer Stahle signed an agreement that the season of use would continue to be June 1 to October 31. The agreement stipulated that spring cattle numbers in the Red Mountain Allotment would be limited to 450 head, but Mr. Stahle has also voluntarily limited summer and fall cattle numbers to 450 head, and consequently, the amount of use in Boone Peak Allotment. Since 1997, the Bridge Creek Allotment and pastures 2 and 3 of the Quicksilver FFR have been grazed in June and early July in order to delay turnout into the highest portions of Boone Peak to promote seed production. Most cattle have been gathered into the Stahle FFR and pasture 1 of Quicksilver FFR (Jess Place) at the end of the grazing season since 1997.

Red Mountain Allotment (0588)

The Oreana #5 Allotment was designated by the 1965 Oreana Unit Adjudication decision. It was a large spring-fall common allotment for both cattle and sheep, and was one of the most degraded portions of the Oreana Unit. The Stock Driveway Withdrawal crossed all three pastures of the present-day allotment from north to south, and exited the allotment at the corrals at the southern tip of pasture 3. The Stock Driveway was extensively used through 1948 while livestock were shipped from the railhead at Murphy, but also to a lesser extent as long as sheep use continued into the late 1960's. No fence existed dividing the adjoining winter (Oreana #4) allotment and this spring-fall allotment until 1966. Fences dividing the Oreana #5A (pastures 1 and 2) and #5B (pasture 3) Allotments from the remainder of Oreana #5 Allotment were constructed in 1971, and an accompanying rangeline agreement assigned the permitted use of Salove and Sons (Elmer Stahle) and M.C. Shelley (John Edwards) to these allotments. The Salove and Sons permit (successor to Quintana) was converted from sheep to cattle use in 1971.

The Red Mountain Allotment has been grazed from April 1 to at least May 31 since 1965. The closing date for spring use has been extended as late as June 30 at various times since 1965, but is currently May 31. Decisions adjusting allotment boundaries were issued in 1968 and 1969. Adjustments to the spring turnout date (April 15) and to the closing date for spring use (June 15) were proposed for implementation in 1969, but the delay in turnout was implemented for only a few years in the early 1970's. A 25% reduction was proposed in 1969, implemented in 1971, and is carried as suspended use.

The Oreana #5A and #5B Allotments were renamed the Red Mountain Allotment by decisions dated June 24, 1981 and July 1, 1983. Fencing dividing pastures 1 and 2 and gap fencing dividing pasture 3 into two sub-pastures was constructed in 1982. The pasture fence and gap fencing were needed to implement a deferred rotation within pasture 3 and a rest rotation in

pastures 1 and 2 under the Proposed Decision of 1981. Permitted use was specified by pasture as a percentage of the total. The respective seasons of use were specified as April 16 to June 15 and November 1 to December 15. Utilization limits of 50% were also imposed, and were to be the basis for any adjustments in permitted use. The 1983 final decision established a three-pasture rest rotation, with early (4/1-4/22) and mid-spring (4/23-5/31) use in two respective pastures each year. The gap fencing is not used under the current management.

In 1996, Elmer Stahle signed an agreement that spring cattle numbers would be limited to 450 head, with an April 1 to 15 season in pasture 2 and an April 16 to May 31 season of use in pasture 3 of the Red Mountain Allotment. He further agreed to make pasture 1 a fall- winter use area, with his permitted use not to exceed 300 AUMs. In 1997, pasture 1 was formally made a fall-winter use area, John Edwards became the sole permittee, and active use was reduced from 800 to 372 AUMs by final decision. Water hauling occurs to facilitate winter use in pasture 1.

Early and mid-spring use is no longer rotated between the remaining two pastures, and no fall use is authorized in them. The early spring use period was designed to avoid the critical period for perennial grasses, and the limited use levels were designed to allow improvement in pasture 3, which is grazed during the critical growth period for perennial grasses. Cattle gathered into the Stahle FFR and pasture 1 of the Quicksilver FFR from the Boone Peak Allotment have been actively trailed across the Red Mountain Allotment at the end of the grazing season since 1997.

Bridge Creek Allotment (0590)

The Bridge Creek Allotment was part of the Boone Peak Allotment until 1969. The history of use in the area has been generally described for the Boone Peak Allotment. Jayo's cattle made much of the use in this area, in addition to sheep. The Bridge Creek Allotment was separated from Oreana #6B and from Quicksilver FFR pasture 4, by construction of two fence segments in 1971. After construction of these fences, the Bridge Creek Allotment had primarily cattle use and some sheep trailing. The season of use has also been June 1 to October 15, and a 25% reduction was proposed in 1969, implemented in 1971, and is carried as suspended use. A trade of permitted use occurred in 1973 that left Salove and Son as the only active permittee.

The Bridge Creek Allotment was designated by a decision dated July 5, 1983. The 1983 decision deferred use until after seed-ripe (July 1 to October 31, preferably October 1 to 31). Utilization limits of 50% were also imposed, and were to be the basis for any adjustments in permitted use. Within flexibility provided by the established season of use, Bridge Creek was grazed during September or October from 1972 through 1993. Under this arrangement, Quicksilver FFR pasture 4 was used for gathering cattle at the end of the grazing season. From 1994 through 1996, the Bridge Creek Allotment was again grazed season-long from late May into October, with reduced numbers of cattle.

In 1996, Elmer Stahle signed an agreement that the season of use would continue to be June 1 to October 31. The agreement stipulated that spring cattle numbers in the Red Mountain Allotment would be limited to 450 head, but Elmer Stahle has also voluntarily limited summer and fall cattle numbers to 450 head, and consequently, the amount of use in the Bridge Creek Allotment. Since 1997, the Bridge Creek Allotment and pastures 2 and 3 of the Quicksilver FFR have been grazed in June and early July in order to delay turnout into the highest portions of Boone Peak to

promote seed production in that allotment.

Stahle FFR Allotment (0641)

The Stahle FFR Allotment is also commonly known as the Moore Field. It has been recognized as a separate entity from surrounding federal land since at least 1947. In1977, the season of use was established as April 1 to May 15, with 32 AUMs permitted use for the enclosed federal land. However, it was given FFR status at that time. Fenced Federal Ranges may be grazed at the permittee's discretion, as long as the usage is not detrimental to the included federal land. It was first licensed separately from the Boone Peak and Red Mountain allotments in 1978. The amount of permitted use was changed to 35 AUMs by a decision dated June 24, 1981. The season of use has been listed as December 1 to 31 since 1984, but since 1997, most cattle from Boone Peak have been gathered into the Stahle FFR and pasture 1 of Quicksilver FFR (Jess Place) at the end of the grazing season in October.

Quicksilver FFR Allotment (0483)

The Quicksilver FFR Allotment is a collection of four pastures around the edges of the Boone Peak Allotment that enclose small amounts of federal land. These include pastures known as the Jess Place (pasture 1), the North Boulder Field (pasture 2), the Bennard Field (pasture 3), and the Billy Cane field (pasture 4). In 1982, these pastures were formally separated from the Boone Peak Allotment, the season of use was established by decision as discretionary, and 12 AUMs of the permitted use for Boone Peak were assigned to this allotment. The allotment was given FFR status at that time, and was first licensed separately in 1982. Utilization limits of 50% were also imposed, and were to be the basis for any adjustments in permitted use.

From 1972 through 1993, Quicksilver FFR, pasture 4 was used for gathering cattle at the end of the grazing season. Since 1997, most cattle from Boone Peak have been gathered into the Stahle FFR and pasture 1 of Quicksilver FFR at the end of the grazing season in October. Pastures 2 and 3 of the Quicksilver FFR have also been grazed in June and early July in order to delay turnout into the highest portions of Boone Peak to promote seed production in that allotment.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations (Boone Peak (0589), Red Mountain (0588), Bridge Creek (0590), Stahle FFR (0641), and Quicksilver FFR (0483) allotments
Pasture 4 in T.6S., R.2W., Sections 15, 16, 19, 20, 21, and 22 is no longer a 4th parcel of Quicksilver FFR allotment.

Soils

The landforms in the Assessment area can be grouped into three broad categories: lakebeds, foothills, and mountains. The Assessment area includes 23 ecological sites (Appendix A) occurring in these landforms.

Lakebeds Area

The fan terrace, fan piedmont, and structural bench landforms have soils that are shallow to moderately deep and formed in lacustrine deposits and mixed alluvium. Precipitation in the lakebeds ranges from 7 to 12 inches.

Shallow loamy soils commonly occur on the tops of fan terraces, and the associated potential natural vegetative community consists of shadscale and bud sagebrush (Calcareous Loam 7-10" ecological site). Moderately deep and very deep soils support Wyoming big sagebrush, Thurber needlegrass and, at higher elevations, lesser amounts of bluebunch wheatgrass. These may occur on fan terrace tops where soil depth allows, but may be restricted to toeslopes and shallow drainages where soils are generally shallower. While the Owyhee County soil survey calls the Hardtrigger soil a Sandy Loam 8-12" ecological site, it better fits the Loamy 10-12 ecological site that has been described for MLRA B-11. The clay component at a shallow depth may restrict the stature of the Wyoming big sagebrush community on it. The Wyoming big sagebrush/Thurber needlegrass community at lower elevations is classified as a Loamy 8-10 ecological site.

Deep sandy soils support fourwing saltbush communities (Sandy 7-10 ecological site). Deep sandy loam soils support Wyoming big sagebrush communities (Sandy Loam 8-12" ecological site). Deep soils associated with larger drainage bottoms may support greasewood communities (Saline Bottom 8-12" ecological site). Intermingled areas of badlands support a variety of shrub communities.

Foothill Area

The foothill landforms have soils that are shallow to moderately deep and formed in residuum, alluvium, and colluvium from welded rhyolitic tuff, granite, or basalt. Slopes range from nearly level to very steep. Precipitation in the foothills ranges from 10 to 16 inches.

The parent material and slope aspect have a profound influence on soil depth, effective precipitation, and the associated potential natural vegetative communities. Big sagebrush predominates on moderately deep to deep soils. Low sagebrush replaces big sagebrush on shallow soils. Soils on rhyolitic parent material tend to be finer textured and have a higher available water capacity. Coarse, well-drained soils on granitic parent materials tend to have higher needlegrass, bitterbrush, and mountain mahogany components, while loamy soils on rhyolitic parent materials tend to have more of an Idaho fescue component. Warmer exposures may have an overstory of Wyoming big sagebrush or shadscale with bluebunch wheatgrass, while cooler exposures may have mountain big sagebrush with Idaho fescue. The Owyhee County soil survey presents a greatly simplified soil/ecological site correlation.

On rhyolitic parent materials, the Loamy 10-13" ecological site occurs on relatively level, moderately deep soils at lower elevations. Some of the associated soils also have a clay layer at a shallow depth that makes them susceptible to frost heaving. On steep south slopes, which have lower effective precipitation within this landform, the plant community has somewhat more diverse shrub and grass components, and resembles the Stony South Slope 12-16 ecological site. The Loamy 13-16" ecological site occurs on relatively level areas at higher elevations and on steep north slopes at lower elevations, which have higher effective precipitation within this landform.

On granitic parent materials, the Loamy 10-12 ecological site occurs on relatively level, moderately deep soils at lower elevations. The South Slope 10-12 ecological site occurs on steep south slopes in the lower elevation portion of the foothills. Wyoming big sagebrush is the predominant shrub. The Granitic 13-16 ecological site occurs on steep south slopes at higher elevations. Mountain big sagebrush replaces Wyoming big sagebrush as the predominant shrub on this site. The Loamy 13-16" ecological site occurs on gentle slopes at higher elevations and occurs on steep north slopes even at lower elevations within the foothill area. On cool exposures, the higher effective precipitation tends to override influences of parent material.

Shallow soils with claypans in the foothills area support low sagebrush communities. These are more predominant on rhyolitic parent material, due to the finer texture. These soils are also susceptible to frost heaving. Bluebunch wheatgrass and Thurber needlegrass are the predominant understory species on south slopes, which have lower effective precipitation (Shallow Claypan 11-13" site). Idaho fescue is the predominant understory species on the Shallow-Claypan 12-16" ecological site, which occurs on relatively level areas and on cooler exposures.

Mountain Area

The mountain landforms have soils that are shallow to deep and formed in residuum, colluvium, and slope alluvium from rhyolite, basalt, latite, and intermediate intrusive rocks. Slopes range from nearly level to very steep. Precipitation in the mountains ranges from 16 to 32 inches. In this precipitation zone, snow accumulation is an important factor in plant community composition. Where snow accumulates, sagebrush/bunchgrass communities tend to give way to mixed shrub, aspen, or Douglas-fir communities with understories containing higher sedge and rhizomatous grass components. Single species are less often dominant in the shrub or understory layers.

The topographic position and slope aspect have a profound influence upon soil depth, effective precipitation, and the associated potential natural vegetative communities in this broad landform area. The indirect influence of these factors upon overstory closure also strongly influences understory composition. Grasses commonly found in the understory of mountain shrub, aspen, and conifer communities are more shade-tolerant than those typical of shrub steppe communities.

Shallow soils, where low sagebrush predominates, generally occur on ridgetops and saddles. On moderately-deep to deep soils, mountain big sagebrush is often an understory species rather than the dominant. Instead, western juniper and mountain mahogany comprise the overstory. Mountain shrub species such as snowberry, Woods rose, chokecherry, serviceberry, and snowbrush may partially or wholly replace mountain big sagebrush in snow accumulation areas. The mountain shrub species may also extend into aspen, Douglas-fir, and subalpine fir communities as major understory components. Warmer exposures may have a bluebunch wheatgrass, needlegrass, or Idaho fescue understory, while cooler exposures have elk sedge, pinegrass, mountain brome, and rhizomatous wheatgrass components. In the highest precipitation areas, grasses rather than shrubs may be dominant.

Parent material also has some influence within this landform area. Coarse, well-drained soils on granitic parent materials tend to have greater needlegrass, bitterbrush, and mountain mahogany components.

Riparian

Thirteen miles of stream flow through the assessment area, which support 37 acres of riparian habitat. These streams include Bridge, Pickett, Bates, North Fork Boulder, and Hart creeks.

Approximately 25 springs are located in the assessment area most of which support small areas of wetland/riparian habitat. Three springs have been developed with water piped to a trough. Much of the riparian/wetland habitat at developed springs is excluded from livestock grazing.

Wildlife and Special Status Animals

Redband Trout

Pickett, Hart, North Boulder, and Bridge creeks support populations of redband trout. Information on trout abundance in the streams in the assessment area is limited: redband trout densities were sampled in Pickett and North Fork Boulder creeks. Trout density was low (4 trout/100 m^2 of stream) in Pickett Creek (Red Mountain Allotment) and high (20 trout/100 m^2 of stream) in North Fork Boulder Creek (Boone Peak Allotment).

Wildlife

The allotment contains habitat for numerous species of wildlife including mule deer, Rocky Mountain elk, pronghorn antelope, mountain lion, bobcat, river otter, badger, coyote, sage grouse, chukar, California quail, various raptors, and a large diversity of other non-game birds, small mammals, reptiles, and amphibians.

A number of species classified as BLM “Sensitive Species” or State of Idaho “Species of Special Concern” are also known or likely to occur within this allotment. They include 14 bird species, four mammal species, three amphibian species, four reptile species, and one fish species. Appendix B lists these species, their legal status, and their key habitat associations.

Inventory and monitoring data are limited or absent for many of these special status species. Therefore, little is known about their distribution, population status or trend within the allotments. Their occurrence within the allotments has been verified through field observation or assumed likely because the allotments fall within the species known range and contain habitat types potentially capable of supporting viable populations of the species.

Since the late 1970s, BLM and Idaho Department of Fish and Game biologists periodically conducted sage grouse lek (mating ground) surveys. Recent aerial surveys that included all or portions of this allotment were conducted in 1994 and 2001 and confirmed the presence of two active leks in the allotment. In 2002, Idaho Department of Fish and Game began a radio-telemetry study of sage grouse in the area of these allotments. This study has shown that sage

grouse from leks on the Owyhee front move into the mountains for summer, fall and winter, utilizing these allotments.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations (Boone Peak (0589), Red Mountain (0588), Bridge Creek (0590), Stahle FFR (0641), and Quicksilver FFR (0483) allotments

Red Mountain Allotment (0588)

Wildlife Habitats

Information Sources

Information sources that were used to assess and evaluate the composition and condition of wildlife habitats within the Red Mountain allotment include sage-grouse habitat assessments (SG HA; 2002, 2008, and 2012), land cover classification (2002), aerial imagery (2011), photographs (2001, 2002, 2008, 2012, and 2013), and field visits (2013), in addition to information summarized in Standards 1, 2, 3, and 4 in this document.

Landscape Setting

Two Level IV Ecoregions of Idaho are represented within the present allotment and include the Unwooded Alkaline Foothills (12j) and the Owyhee Uplands and Canyons (80f) (Map WDLF-1) (McGrath, et al., 2002).

Habitat, Cover Types, and Ecological Sites

A variety of major habitats and general cover types occur within the allotment (Table WDLF-1; Map WDLF-2). These upland and riparian habitats and cover types occur within a variety of ecological sites that will be discussed by pasture in more detail below.

Table WDLF-1: Major habitat and general cover types within the Red Mountain allotment

Habitat Type	**General Cover Type**	**Percentage of Allotment**	
		General Cover Type	**Habitat Type**
Salt Desert Shrub	salt desert shrub	11	11
	greasewood	1	
Grassland	bunchgrass	6	7
	seeding	1	
Shrub Steppe[1]	big sagebrush	48	65
	mountain big sagebrush	12	
	low sagebrush	5	
Mountain Shrub	mountain shrub	2	2
Forest	aspen	<1	8
	juniper	7	
	Douglas--fir	1	
Riparian	wet meadow	2	2
Non-native/Disturbed	exotic annuals	4	5
	rabbitbrush	1	
	sparse vegetation	<1	

[1]Shrub steppe habitat type includes the predominant big and low sagebrush communities in the area. Big sagebrush (*Artemisia tridentata*) cover types include communities dominated by the subspecies Wyoming (*wyomingensis*) and

Basin (*tridentata*) and mixed communities of both species. Mountain big sagebrush (*A. tridentata vaseyana*) and low sagebrush (*A. arbuscula*) cover types comprise the remaining sagebrush communities.

Focal Special Status Species

Greater sage-grouse

Population Ecology

No fewer than seven leks (occupied or active) are located in or near the allotment. In addition, the allotment is located within several 75 percent breeding bird density (BBD) lek buffers (4 mile; Table WDLF-2).

Table WDLF-2: Attendance at occupied leks[1] in or within 4 miles of the Red Mountain allotment, 2007-2012

Lek[2]	**Pasture/s[3]**	**Survey Year[4]**					
		2012	**2011**	**2010**	**2009**	**2008**	**2007**
2O642*	3	50	41	40	--	0	--
2O196*	2, 3	23	16	11	8	4	16
2O664*	1, 2	19	14	8	8	9	15
2O505*	1^, 2, 3	28	40	26	21	29	35

[1]A traditional display area where two or more male sage-grouse have attended in 2 or more of the previous 5 years (Idaho Sage-grouse Advisory Committee 2006).
[2]Leks with 75 percent BBDs are designated by an asterisk.
[3]The pasture in which the lek is located is designated by the ^ symbol.
[4]Surveys were not conducted in years indicated by dashes (--).

Several additional leks that occur within or in proximity (≤4 miles) to the allotment that have been active within the last five years but that do not qualify as occupied include 2O504 (located within pasture 1), 2O507 (located within pasture 1), and 2O548 (pastures 2 and 3 are within BBD).

Habitat Characteristics

Northern Great Basin Population/Owyhee Subpopulation Mid-Scale

Recently, Idaho BLM initiated a modeling effort to identify preliminary priority sage-grouse habitat (PPH) within the Snake River Plain MZ (Makela and Major 2012). Priority habitat includes breeding, late brood-rearing, and winter concentration areas. Because priority habitat areas have the highest conservation value for maintaining the species and its habitat, it is BLM policy (as per WO IM 2010-071) to identify these areas in collaboration with respective state wildlife agencies. With the exception of a relatively small portion of the upper elevations of pasture 3 which is classified as PGH, the current model indicates that the remainder of pasture 3, and all of pastures 1 and 2 are comprised entirely of PPH (Map WDLF-3).

Owyhee Front/Triangle Local Population Fine-scale

A review of the 2012 PPH output revealed that the area around the Toy Mountain group allotments in one of the critical input data layers (i.e., Idaho Sage-grouse Key Habitat Planning

Map) had for the most part not been refined since its initial creation in the early 2000s. Much of the area was coarsely classified as Conifer Encroachment (R3). Review of recent (2012) aerial imagery and a OFO land cover classification (Bunting and Strand 2008) of the area have provided better habitat information and edits to be incorporated into the 2013 Greater Sage-grouse Habitat Planning Map (as per IM ID-2013-010). The update identifies large areas of currently Key Habitat (K) that were misclassified as R3 across the Owyhee Field Office (OFO), especially in the Toy Mountain group area. The update reveals that the allotment pastures have varying amounts of key habitat and conifer encroachment areas (Map WDLF-4).

Allotment/Pasture Site-scale
Based on a telemetry study of sage-grouse from the Owyhee Front/Triangle local population, seasonal locations show that the allotment contains differing amounts of breeding, upland summer, early and late brood-rearing riparian summer, and winter seasonal habitats (Table WDLF-3; Map WDLF-5B; also see narrative under each allotment pasture).

Table WDLF-3: Seasonal habitat types within the Red Mountain allotment

Allotment	Pasture	Seasonal Habitat			
		Breeding	Upland Summer	Early/Late Brood-rearing Lentic/Lotic Areas	Winter
Red Mountain	1	X		X	X
	2	X		X	X
	3	X	X	X	X

Habitat Assessments
The current conditions of sage-grouse seasonal habitats were assessed following protocols outlined in the Sage-grouse Habitat Assessment Framework (SG HAF; (Stiver, Rinkes, & Naugle, 2010)). The primary habitat indicators and habitat suitability ranges within the SG HAF are consistent with sage-grouse habitat management guidelines provided by Connelly et al. (2000), the State of Idaho's sage-grouse management alternative (The State of Idaho, 2012), and interim BLM sage-grouse habitat management guidance as per WO-IM 2012-043. Habitat indicators and suitability ranges should not be viewed independently but rather as an assembly of vegetation components that contribute to providing for sage-grouse seasonal habitat requirements.

Bridge Creek Allotment (0590)

Wildlife Habitats
Information Sources
Information sources that were used to assess and evaluate the composition and condition of wildlife habitats within the Bridge Creek allotment include sage-grouse habitat assessments (SG HA; 2012), land cover classification (2002), aerial imagery (2011), photographs (2002, 2008, and 2012), in addition to information summarized in Standards 1, 2, 3, and 4 in this document.

Landscape Setting

One Level IV Ecoregion of Idaho is represented within the present allotment and includes the Semiarid Uplands (80j) (Map WDLF-1) (McGrath, et al., 2002).

Habitat, Cover Types, and Ecological Sites

A variety of major habitats and general cover types occur within the allotment (Table WDLF-4; Map WDLF-2). These upland and riparian habitats and cover types occur within a variety of ecological sites that will be discussed for the allotment in more detail below.

Table WDLF-4: Major habitat and general cover types within the Bridge Creek allotment

Habitat Type	General Cover Type	Percentage of Allotment	
		General Cover Type	Habitat Type
Grassland	bunchgrass	6	6
Shrub Steppe[1]	big sagebrush	2	34
	mountain big sagebrush	23	
	low sagebrush	9	
Mountain Shrub	mountain shrub	20	20
Forest	aspen	<1	37
	juniper	37	
Riparian	wet meadow	2	2
Non-native/Disturbed	exotic annuals	1	1

[1]Shrub steppe habitat type includes the predominant big and low sagebrush communities in the area. Big sagebrush (*Artemisia tridentata*) cover types include communities dominated by the subspecies Wyoming (*wyomingensis*) and Basin (*tridentata*) and mixed communities of both species. Mountain big sagebrush (*A. tridentata vaseyana*) and low sagebrush (*A. arbuscula*) cover types comprise the remaining sagebrush communities.

Focal Special Status Species

Greater sage-grouse

Population Ecology

No fewer than 2 leks (occupied or active) are located near the allotment. In addition, the allotment is located within a 75 percent breeding bird density (BBD) lek buffer (4 mile; Table WDLF-5).

Table WDLF-5: Attendance at leks within 4 miles of the Bridge Creek allotment, 2007-2012

Lek[1]	Pasture/s	Survey Year[2]					
		2012	2011	2010	2009	2008	2007
2O557*+	1	--	--	32	--	--	--
2O619	1	--	--	17	--	0	--

[1]An occupied lek is designated by the + symbol and defined as a traditional display area where two or more male sage-grouse have attended in 2 or more of the previous 5 years (Idaho Sage-grouse Advisory Committee 2006). Leks with 75 percent BBD areas are designated by an asterisk.
[2]Surveys were not conducted in years indicated by dashes (--).

Habitat Characteristics

Northern Great Basin Population/Owyhee Subpopulation Mid-Scale

Recently, Idaho BLM initiated a modeling effort to identify preliminary priority sage-grouse habitat (PPH) within the Snake River Plain MZ (Makela & Major, 2012). Priority habitat includes breeding, late brood-rearing, and winter concentration areas. Because priority habitat areas have the highest conservation value for maintaining the species and its habitat, it is BLM policy (as per WO IM 2010-071) to identify these areas in collaboration with respective state wildlife agencies. The current model indicates that the majority of the allotment is classified as PGH, with the remainder classified as PPH (Map WDLF-3).

Owyhee Front/Triangle Local Population Fine-scale

A review of the 2012 PPH output revealed that the area around the Toy Mountain group allotments in one of the critical input data layers (i.e., Idaho Sage-grouse Key Habitat Planning Map) had for the most part not been refined since its initial creation in the early 2000s. Much of the area was coarsely classified as Conifer Encroachment (R3). Review of recent (2012) aerial imagery and a OFO land cover classification (Bunting & Strand, 2008) of the area have provided better habitat information and edits to be incorporated into the 2013 Greater Sage-grouse Habitat Planning Map (as per IM ID-2013-010). The update identifies large areas of currently Key Habitat (K) that were misclassified as R3 across the OFO, especially in the Toy Mountain group area. The update reveals that the allotment pastures have varying amounts of key habitat and conifer encroachment areas (Map WDLF-4).

Allotment/Pasture Site-scale

Based on a telemetry study of sage-grouse from the Owyhee Front/Triangle local population, seasonal locations show that the allotment contains differing amounts of breeding, upland summer, and early and late brood-rearing riparian summer seasonal habitats (Table WDLF-6; Map WDLF-5C; also see narrative for the allotment below).

Table WDLF-6: Seasonal habitat types within the Bridge Creek allotment

Allotment	**Pasture**	**Seasonal Habitat**			
		Breeding	**Upland Summer**	**Early/Late Brood-rearing Lentic/Lotic Areas**	**Winter**
Bridge Creek	1	X	X	X	

Boone Peak Allotment (0589)

Wildlife Habitats

Information Sources

Information sources that were used to assess and evaluate the composition and condition of wildlife habitats within the Boone Peak allotment include sage-grouse habitat assessments (SG HA; 2012), land cover classification (2002), aerial imagery (2011), photographs (2001, 2002, 2008, and 2012), in addition to information summarized in Standards 1, 2, 3, and 4 in this

document.

Landscape Setting
Two Level IV Ecoregions of Idaho are represented within the present allotment and include the Semiarid Uplands (80j) and Partly Forested Mountains (80k) (Map WDLF-1) (McGrath, et al., 2002).

Habitat, Cover Types, and Ecological Sites
A variety of major habitats and general cover types occur within the allotment (Table WDLF-7; Map WDLF-2). These upland and riparian habitats and cover types occur within a variety of ecological sites that will be discussed for the allotment in more detail below.

Table WDLF-7: Major habitat and general cover types within the Boone Peak allotment

Habitat Type	**General Cover Type**	**Percentage of Allotment**	
		General Cover Type	**Habitat Type**
Grassland	bunchgrass	5	5
Shrub Steppe[1]	big sagebrush	1	33
	mountain big sagebrush	29	
	low sagebrush	3	
Mountain Shrub	mountain shrub	19	20
	bitterbrush	1	
Forest	aspen	2	38
	juniper	29	
	Douglas--fir	7	
Riparian	wet meadow	3	3
Non-native/Disturbed	exotic annuals	1	1

[1]Shrub steppe habitat type includes the predominant big and low sagebrush communities in the area. Big sagebrush (*Artemisia tridentata*) cover types include communities dominated by the subspecies Wyoming (*wyomingensis*) and Basin (*tridentata*) and mixed communities of both species. Mountain big sagebrush (*A. tridentata vaseyana*) and low sagebrush (*A. arbuscula*) cover types comprise the remaining sagebrush communities.

Focal Special Status Species
Greater sage-grouse
Population Ecology
No leks (occupied or active) are located in or within 4 miles of the allotment.

Habitat Characteristics
Northern Great Basin Population/Owyhee Subpopulation Mid-Scale
Recently, Idaho BLM initiated a modeling effort to identify preliminary priority sage-grouse habitat (PPH) within the Snake River Plain MZ (Makela & Major, 2012). Priority habitat includes breeding, late brood-rearing, and winter concentration areas. Because priority habitat areas have the highest conservation value for maintaining the species and its habitat, it is BLM policy (as per WO IM 2010-071) to identify these areas in collaboration with respective state wildlife agencies. The current model indicates that the majority of the allotment is classified as PGH, with the remainder classified as PPH (Map WDLF-3).

Owyhee Front/Triangle Local Population Fine-scale
A review of the 2012 PPH output revealed that the area around the Toy Mountain group allotments in one of the critical input data layers (i.e., Idaho Sage-grouse Key Habitat Planning Map) had for the most part not been refined since its initial creation in the early 2000s. Much of the area was coarsely classified as Conifer Encroachment (R3). Review of recent (2012) aerial imagery and a OFO land cover classification (Bunting and Strand 2008) of the area have provided better habitat information and edits to be incorporated into the 2013 Greater Sage-grouse Habitat Planning Map (as per IM ID-2013-010). The update identifies large areas of currently Key Habitat (K) that were misclassified as R3 across the OFO, especially in the Toy Mountain group area. The update reveals that the allotment pastures have varying amounts of key habitat and conifer encroachment areas (Map WDLF-4).

Allotment/Pasture Site-scale
Based on a telemetry study of sage-grouse from the Owyhee Front/Triangle local population, seasonal locations show that the allotment contains differing amounts of breeding, upland summer, early and late brood-rearing riparian summer, and winter seasonal habitats (Table WDLF-8; Map WDLF-5A; also see narrative for the allotment below).

Table WDLF-8: Seasonal habitat types within the Boone Peak allotment

Allotment	Pasture	Seasonal Habitat			
		Breeding	Upland Summer	Early/Late Brood-rearing Lentic/Lotic Areas	Winter
Boone Peak	1	X	X	X	X

<u>Quicksilver FFR Allotment (0483)</u>

Wildlife Habitats
Information Sources
Information sources that were used to assess and evaluate the composition and condition of wildlife habitats within the Quicksilver FFR allotment include land cover classification (2002), aerial imagery (2011), photographs (2001 and 2002), in addition to information summarized in Standards 1, 2, 3, and 4 in this document.

Landscape Setting
Two Level IV Ecoregions of Idaho are represented within the present allotment and include the Owyhee Uplands and Canyons (80f) and Semiarid Uplands (80j) (Map WDLF-1) (McGrath, et al., 2002).

Habitat, Cover Types, and Ecological Sites
A variety of major habitats and general cover types occur within the allotment (Table WDLF-9; Map WDLF-2). These upland and riparian habitats and cover types occur within a variety of ecological sites that will be discussed for each pasture in more detail below.

Table WDLF-9: Major habitat and general cover types within the Quicksilver FFR allotment

Habitat Type	General Cover Type	Percentage of Allotment	
		General Cover Type	Habitat Type
Grassland	bunchgrass	8	8
Shrub Steppe[1]	big sagebrush	3	27
	mountain big sagebrush	22	
	low sagebrush	2	
Mountain Shrub	mountain shrub	23	24
	bitterbrush	1	
Forest	aspen	1	31
	juniper	25	
	Douglas--fir	5	
Riparian	wet meadow	6	6
Non-native/Disturbed	exotic annuals	4	4

[1]Shrub steppe habitat type includes the predominant big and low sagebrush communities in the area. Big sagebrush (*Artemisia tridentata*) cover types include communities dominated by the subspecies Wyoming (*wyomingensis*) and Basin (*tridentata*) and mixed communities of both species. Mountain big sagebrush (*A. tridentata vaseyana*) and low sagebrush (*A. arbuscula*) cover types comprise the remaining sagebrush communities.

Focal Special Status Species

Greater sage-grouse

Population Ecology

No less than 1 lek (occupied or active) is located near the allotment. In addition, the allotment is located within a 75 percent breeding bird density (BBD) lek buffer (4 mile; Table WDLF-10).

Table WDLF-10: Attendance at occupied leks[1] within 4 miles of the Quicksilver FFR allotment, 2007-2012

Lek[2]	Pasture/s	Survey Year[3]					
		2012	2011	2010	2009	2008	2007
2O541*	1	0	--	--	11	19	--

[1]A traditional display area where two or more male sage-grouse have attended in 2 or more of the previous 5 years (Idaho Sage-grouse Advisory Committee 2006).
[2]Leks with 75 percent BBDs are designated by an asterisk.
[3]Surveys were not conducted in years indicated by dashes (--).

Habitat Characteristics

Northern Great Basin Population/Owyhee Subpopulation Mid-Scale

Recently, Idaho BLM initiated a modeling effort to identify preliminary priority sage-grouse habitat (PPH) within the Snake River Plain MZ (Makela & Major, 2012). Priority habitat includes breeding, late brood-rearing, and winter concentration areas. Because priority habitat areas have the highest conservation value for maintaining the species and its habitat, it is BLM policy (as per WO IM 2010-071) to identify these areas in collaboration with respective state wildlife agencies. The current model indicates that the majority of the allotment is classified as

PGH, with a small portion classified as PPH (Map WDLF-3).

Owyhee Front/Triangle Local Population Fine-scale
A review of the 2012 PPH output revealed that the area around the Toy Mountain group allotments in one of the critical input data layers (i.e., Idaho Sage-grouse Key Habitat Planning Map) had for the most part not been refined since its initial creation in the early 2000s. Much of the area was coarsely classified as Conifer Encroachment (R3). Review of recent (2012) aerial imagery and a OFO land cover classification (Bunting & Strand, 2008) of the area have provided better habitat information and edits to be incorporated into the 2013 Greater Sage-grouse Habitat Planning Map (as per IM ID-2013-010). The update identifies large areas of currently Key Habitat (K) that were misclassified as R3 across the OFO, especially in the Toy Mountain group area. The update reveals that the BLM lands of allotment pastures have varying amounts of key habitat and conifer encroachment areas (Map WDLF-4).

Allotment/Pasture Site-scale
Based on a telemetry study of sage-grouse from the Owyhee Front/Triangle local population, seasonal locations show that the allotment contains differing amounts of breeding, upland summer, early and late brood-rearing riparian summer, and winter seasonal habitats (Table WDLF-11; Map WDLF-5D; also see narrative for each pasture below).

Table WDLF-11: Seasonal habitat types within the Quicksilver FFR allotment

Allotment	**Pasture**	**Seasonal Habitat**[1]			
		Breeding	**Upland Summer**	**Early/Late Brood-rearing Lentic/Lotic Areas**	**Winter**
Boone Peak	1	X	X		X
	2	*	*	*	*
	3	X	X		

[1]Asterisk indicates potential seasonal habitats present but not corroborated with local population seasonal use areas.

<u>Stahle FFR Allotment (0641)</u>

Wildlife Habitats
Information Sources
Information sources that were used to assess and evaluate the composition and condition of wildlife habitats within the Stahle FFR allotment include land cover classification (2002), aerial imagery (2011), photographs (2001 and 2008), in addition to information summarized in Standards 1, 2, 3, and 4 in this document.

Landscape Setting
Two Level IV Ecoregions of Idaho are represented within the present allotment and include the Owyhee Uplands and Canyons (80f) and Semiarid Uplands (80j) (Map WDLF-1) (McGrath, et al., 2002).

Habitat, Cover Types, and Ecological Sites
A variety of major habitats and general cover types occur within the allotment (Table WDLF-12; Map WDLF-2). These upland and riparian habitats and cover types occur within a variety of ecological sites that will be discussed for the allotment in more detail below.

Table WDLF-12: Major habitat and general cover types within the Stahle FFR allotment

Habitat Type	General Cover Type	Percentage of Allotment	
		General Cover Type	Habitat Type
Grassland	bunchgrass	1	1
Shrub Steppe[1]	big sagebrush	12	37
	mountain big sagebrush	21	
	low sagebrush	4	
Mountain Shrub	mountain shrub	10	10
	bitterbrush	<1	
Forest	aspen	<1	46
	juniper	41	
	Douglas--fir	5	
Riparian	wet meadow	6	6
Non-native/Disturbed	exotic annuals	<1	<1

[1]Shrub steppe habitat type includes the predominant big and low sagebrush communities in the area. Big sagebrush (*Artemisia tridentata*) cover types include communities dominated by the subspecies Wyoming (*wyomingensis*) and Basin (*tridentata*) and mixed communities of both species. Mountain big sagebrush (*A. tridentata vaseyana*) and low sagebrush (*A. arbuscula*) cover types comprise the remaining sagebrush communities.

Focal Special Status Species
Greater sage-grouse
Population Ecology
No less than 1 lek (occupied or active) is located near the allotment. In addition, the allotment is located within a 75 percent breeding bird density (BBD) lek buffer (4 mile; Table WDLF-13).

Table WDLF-13: Attendance at occupied leks[1] within 4 miles of the Stahle FFR allotment, 2007-2012

Lek[1]	Pasture/s	Survey Year[2]					
		2012	2011	2010	2009	2008	2007
2O548*	1	0	54	--	--	--	--

[1]Leks with 75 percent BBD areas are designated by an asterisk.
[2]Surveys were not conducted in years indicated by dashes (--).

Habitat Characteristics
Northern Great Basin Population/Owyhee Subpopulation Mid-Scale
Recently, Idaho BLM initiated a modeling effort to identify preliminary priority sage-grouse habitat (PPH) within the Snake River Plain MZ (Makela & Major, 2012). Priority habitat includes breeding, late brood-rearing, and winter concentration areas. Because priority habitat

areas have the highest conservation value for maintaining the species and its habitat, it is BLM policy (as per WO IM 2010-071) to identify these areas in collaboration with respective state wildlife agencies. The current model indicates that the majority of the allotment is classified as PGH, with a small portion classified as PPH (Map WDLF-3).

Owyhee Front/Triangle Local Population Fine-scale
A review of the 2012 PPH output revealed that the area around the Toy Mountain group allotments in one of the critical input data layers (i.e., Idaho Sage-grouse Key Habitat Planning Map) had for the most part not been refined since its initial creation in the early 2000s. Much of the area was coarsely classified as Conifer Encroachment (R3). Review of recent (2012) aerial imagery and a OFO land cover classification (Bunting & Strand, 2008) of the area have provided better habitat information and edits to be incorporated into the 2013 Greater Sage-grouse Habitat Planning Map (as per IM ID-2013-010). The update identifies large areas of currently Key Habitat (K) that were misclassified as R3 across the OFO, especially in the Toy Mountain group area. The update reveals that the BLM lands of allotment remained as conifer encroachment areas (Map WDLF-4).

Allotment/Pasture Site-scale
Based on a telemetry study of sage-grouse from the Owyhee Front/Triangle local population, seasonal locations show that the allotment contains differing amounts of breeding, upland summer, and winter seasonal habitats (Table WDLF-14; Map WDLF-5E; also see narrative for allotment below).

Table WDLF-14: Seasonal habitat types within the Stahle FFR allotment

Allotment	Pasture	Seasonal Habitat[1]			
		Breeding	Upland Summer	Early/Late Brood-rearing Lentic/Lotic Areas	Winter
Stahle FFR	1	X	X		X

Special Status Plants

There are three special status plants that occur in this core area; two are known from federal land. No federally listed threatened or endangered plant species are known to occur in the Boone Peak core area allotments although the U.S. Fish and Wildlife Service considers all of Idaho to be within the potential range of Ute ladies'-tresses (*Spiranthes diluvialis*), a federally threatened orchid. This plant occurs in spring, seep, and stream habitats, but it has not been found during surveys of riparian and wetland sites in southwest Idaho, nor has it been found in these allotments. Most riparian and wetland areas in the Boone Peak core area meet the definition of "disqualified" habitat (USFWS 1998) due to past disturbance, improper hydrologic regime, and/or improper associated species. The site-specific observations reported in this document are on file with the CDC (Idaho Fish & Game Conservation Data Center) and were made by BLM or CDC staff, unless noted otherwise.

Idaho Rangeland Health Standards Evaluation

The conditions of allotments in this assessment were evaluated by how they relate to the standards for rangeland health that were adopted by Idaho BLM in 1997. The conditions of each season of use are discussed relative to the appropriate standards.

Description of Standards

Standard 1 - Watersheds: *Watersheds provide for the proper infiltration, retention, and release of water appropriate to soil type, vegetation, climate, and landform to provide for proper nutrient cycling, hydrologic cycling and energy flow.*

The standard Matrix for Rangeland Health Evaluation contains indicators in hydrology, soil erosion/deposition, and vegetation. Indicators from all three sections are applicable to this standard. These indicators assess the composition of the vegetation community, its ability to stabilize the soil surface, dissipate raindrop energy and prevent accelerated soil erosion.

Standard 2 – Riparian Areas and Wetlands: *Riparian areas are in properly functioning condition appropriate to soil type, climate, geology, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.*

The standard checklist for riparian functioning condition contains indicators in hydrology, soil erosion/deposition, and vegetation. Indicators from the vegetation section are applicable to this standard. These indicators assess the composition of the vegetation community, and its ability to stabilize streambanks, filter sediment, dissipate energy, and revegetate point bars.

Standard 3 - Stream Channel/Floodplain: *Stream channels and floodplains are properly functioning relative to the geomorphology (e.g. gradient, size, shape, roughness, confinement, and sinuosity) and climate to provide for proper nutrient cycling, hydrologic cycling, and energy flow.*

The standard checklist for riparian functioning condition contains indicators for hydrology, vegetation, and soil erosion/deposition. Indicators from the hydrologic and soils erosion/deposition sections are applicable to this standard. These indicators assess the structural components and characteristics of the stream channel and floodplain, the stability of the system, and its ability to dissipate energy and transport sediment.

Standard 4 Native Plant Communities: *Healthy, productive, and diverse native animal habitat and populations of native plants are maintained or promoted as appropriate to soil type, climate, and land form to provide for proper nutrient cycling, hydrologic cycling, and energy flow.*

The standard Matrix for Rangeland Health Evaluation contains indicators in hydrology, soil erosion/deposition, and vegetation. Indicators from the vegetation section are applicable to this standard. These indicators assess the composition, productivity, and current successional status of the vegetation community, and its ability to maintain itself, protect the soil, capture energy, and cycle nutrients.

Standard 5 - Seedings: *Rangelands seeded with mixtures, including predominately non-native plants, are functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle.*

This standard does not apply to these allotments.

Standard 6 - Exotic Plant Communities, Other than Seedings: *Exotic plant communities, other than seedings, will meet minimum requirements of soil stability and maintenance of existing native and seeded plants. These communities will be rehabilitated to perennial communities when feasible cost effective methods are developed.*

This standard does not apply to these allotments.

Standard 7 - Water Quality: *Surface and ground water on public lands comply with the Idaho Water Quality Standards.*

All streams in the Assessment area have general use designations for secondary contact recreation, agricultural water supply, wildlife habitat, and aesthetics. Pickett, Hart, North Boulder, and Bridge creeks support populations of redband trout. Thus, cold-water aquatic life and salmonid spawning are additional beneficial uses of these streams.

Pickett Creek is on the State of Idaho's 303(d) list of water quality limited stream segments. Pickett Creek is listed by the State of Idaho as water quality limited. DEQ identified flow alteration, sediment, and temperature modification as the primary pollutants in Pickett Creek.

Standard 8 - Threatened and Endangered Plants and Animals: *Habitats are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.*

Standard 8 incorporates indicators from hydrology, water quality, and vegetation. Vegetation and hydrology indicators primarily from Standards 2 and 4 are incorporated into this standard. These indicators assess the composition and current successional status of both riparian and upland communities; and their ability to maintain themselves, protect the soil, and provide structural cover and food for dependent wildlife species. In addition, Standard 8 includes an evaluation of the current status of sage grouse habitat within many of these allotments. Losses of sagebrush habitats have been so great in recent years that BLM has recently begun evaluating the quantity and quality of these habitats primarily by focusing on sage grouse whose habitat needs also roughly encompass those of other sagebrush obligate species.

Methods Used to Evaluate Rangeland Health

Rangeland Health Evaluations

Rangeland Health Evaluation Worksheets, outlined in BLM technical reference 1734-6 Interpreting Indicators of Rangeland Health, and other available qualitative and quantitative data are used to determine if rangelands are meeting or making significant progress toward meeting the Standards for Rangeland Health. The rangeland health evaluation summary worksheet consists of 17 indicators, each of which is rated on the degree of departure from the appropriate ecological site description or ecological reference area. Areas without a nearby reference area are evaluated using familiarity of the area and incorporating the best professional judgment of the evaluators. The indicators are compiled into three interlocking attribute categories representing soil/site stability, hydrologic function, and biotic integrity. The preponderance of evidence of each attribute determines the condition of the site.

Proper Functioning Condition

Standard Checklists, outlined in the 1998 BLM Technical Reference 1737-15, A User Guide to Assessing Proper Functioning Condition and the Supporting Science for Lotic Areas (flowing water), and other available qualitative and quantitative data are used to determine if riparian areas are meeting Rangeland Health Standards. The standard checklist consists of 17 indicators that are used to assess the functioning condition of riparian areas. The indicators are compiled into three interlocking attribute categories representing erosion/deposition, hydrologic function, and vegetative status. Status of noxious weeds is also considered for riparian health.

Spring wetland areas were assessed for proper functioning condition as outlined in Technical Reference 1737-11, "Process for assessing proper functioning condition for lentic riparian-wetland areas" (USDI 1994). Lentic areas are defined as wetland-riparian areas adjacent to standing water habitats such as lakes, ponds, seeps, and meadows.

Trend and Photo Plots

Trend data provides information on changes in the plant community, changes in plant occurrence, vigor and health. Vegetation trend data are collected at permanently located nested plot frequency transect (NPFT) sites. Frequency and cover data are collected as well as shrub density where applicable. The methodology used to establish and collect data at these sites is described in full detail in BLM technical references 1400-4 and 1730-1. Frequency data illustrates changes in numbers of plants and provides information on reproductive capabilities. Cover data describes the percent of ground covered by plant material, biological soil crusts, gravel, rock, and litter. Photographs are taken at NPFT sites and at other sites permanently marked for photo plots. At NPFT and photo plots sites, a minimum of three photographs are taken, two general views and one of the photo plot itself. The photo plot is sketched out to illustrate sizes and species more clearly and can be correlated with the photograph to document plant vigor and health. Shrub density is recorded in either 1/100th or 1/200th acre plots, depending on the density of shrubs. This information is expressed as plants per acre.

Utilization

Utilization data are important in evaluating the effects of grazing and browsing on specific areas of rangeland. Utilization is generally expressed as a percentage of available forage weight or number of plants, twigs, etc., that have been consumed or destroyed. Utilization is recorded in

terms of current year's production removed. Generally, utilization transects are run at pre-determined key use areas (permanent NPFT locations), however utilization may be collected anywhere throughout a pasture or allotment. A number of methods may be used including the Landscape Appearance Method, Key Species Method, or Grazed Class Method (Interagency Technical Reference 1996 BLM/RS/ST-96/004+1730). In general, the utilization data used in this assessment were collected using the Landscape Appearance Method, which was formerly known as the Key Forage Plant Method.

Wildlife

Riparian special status species habitats were assessed primarily using information presented in Standard 2. While there is no direct correlation between stream functioning condition and special status species habitat, many of the indicators of riparian functionality are also crucial components of habitat for many of the special status and other wildlife species dependent on this habitat type, especially redband trout and neotropical migratory birds and amphibians. The indicators that assess structure, composition and vigor of hydric (riparian) vegetation are especially important because they also assess the quality and quantity of shade, nesting/breeding habitat, forage and escape cover.

Sage grouse breeding and brood-rearing habitat evaluations were conducted using methodology described in the draft document entitled "A Framework to Assist in Making Sensitive Species Habitat Assessments for BLM-Administered Public Lands in Idaho" (as revised in May, 2001) primarily as a means of evaluating the suitability of the assessment areas as habitat for sage grouse. Although this methodology specifically addresses the habitat requirements of sage grouse, it is also useful in assessing the general health of sagebrush steppe ecosystems and their suitability as habitat for a diversity of other dependent special status species.

The assessment of upland habitats for other special status animal species were conducted primarily using the same data that was used to assess native plant communities under standard 4 including abundance, diversity, vigor, production, cover, utilization, trend and the occurrence of noxious and invasive plants.

Plants

Federally listed species are not known to occur in this area, although the U.S. Fish and Wildlife Service considers all of Idaho to be within the potential range of Ute ladies'-tresses (*Spiranthes diluvialis*), a federally "threatened" orchid. This plant occurs in spring, seep, and stream habitats, but it has not been found during surveys of riparian and wetland sites in southwest Idaho, nor has it been found in these allotments. Most riparian and wetland areas in the Boone Peak core area meet the definition of "disqualified" habitat (USFWS 1998) due to past disturbance, improper hydrologic regime, and/or improper associated species. This species will not be discussed further.

Three BLM sensitive plant species occur in this core area: least phacelia (*Phacelia minutissima*), basalt milkvetch (*Astragalus conjunctus*), and rabbitbrush goldenweed (*Haplopappus bloomeri* var. *bloomeri*). Incidental work for site-specific projects has yielded a few occurrences, though this type of work has been limited. Systematic inventories for special status plants have also been limited. The only inventory that has been conducted in this core area is as follows:

-*Final Report for CCS Project: Inventory for least phacelia (Phacelia minutissima), a BLM special status plant*, D. Atwood, 1996. Four small patches of appropriate habitat were inventoried in the Boone Peak Allotment. No plants were found on BLM land during this inventory.

Formal monitoring has not been done for the BLM sensitive plants known from this core area.

ACEC

The Cinnabar Mountain ACEC was last visited in November 2001, but the focus of that visit was to conduct rehabilitation on illegal widening of the road. There is no record of a formal evaluation of the ecological status of this area since it was first identified as a potential ACEC in 1987.

Riparian Data

Evaluations of Standard 2 are based on field inventories and examinations of streams and riparian areas conducted in 2001 and of springs conducted in 2003. Field inventories included functioning condition assessments, delineation of the distribution and composition of riparian plant communities, and examination of streambank, channel, and hydrologic conditions. BLM monitoring data collected from 1976 to present were also used to evaluate trend in condition of riparian/aquatic habitats (Appendices N, O). Locations of sites where trend in riparian habitat condition, riparian plant utilization by livestock, and water quality were monitored are shown on Map WDLF-4.

Evaluations of Standard 3 are based on field inventories and examinations of streams and riparian areas conducted in 2001. Field inventories included functioning condition assessments, delineation of the distribution and composition of riparian plant communities, and examination of streambank, channel, and hydrologic conditions.

Winter Use (Red Mountain Pasture 1)

Summary

- active erosion is apparent, primarily in big sagebrush communities where decreaser grass cover is reduced, especially in shrub interspaces;
- all 2.35 miles of stream in pasture 1 are functioning at risk;
- upland vegetation has primarily a static trend in ecological condition;
- decreaser grass cover is less than expected, shrub cover is similar to expected.

Data Collection

Three rangeland health evaluations were conducted in big sagebrush (2 evaluations) and shadscale (1 evaluation) communities between June 18 and June 25, 2002 (Table 3, Map WDLF-2). One trend plot was conducted in a big sagebrush community between 1986 and 2002 (Table 3, Map WDLF-3). All locations were within or near the historic livestock driveway withdrawal.

Table 3. Summary of upland data collected in pasture 1 (Winter Use), Red Mountain Allotment.

Data Type[1]	Allotment	Pasture	Location	Ecological Site	Condition/Trend[2]
RHE	Red Mountain	1	04S02W25	Calcareous Loam 7-10”	0
			04S02W34	Loamy 8-10	0
			05S02W02A	Loamy 7-10	0-
NPFT	Red Mountain	1	04S02W34	Loamy 8-10	Static

[1] RHE – Rangeland Health Assessment, NPFT – Nested Plot Frequency Transect
[2] + = none-slight departure from reference conditions, 0 slight-moderate departure from reference conditions, - = moderate departure from reference conditions, -- = moderate-extreme departure from reference conditions

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Additional data were collected during 2008 and 2011 at one nested plot frequency transect in pasture 1 (T 04S, R 02W, Sec 34; see accompanying graph). These data indicate a long-term (all data from 1991 through 2011) upward trend with increasing frequency of squirreltail recorded, especially from 1991 to 2002 and again from 2008 to 2011 when differences were statistically different (Student’s T-test; p-value <0.1). At the same time, frequency of Sandberg bluegrass recorded through all dates was 100 percent, providing little insight to trend. The frequency of cheatgrass recorded only in 2008 and 2011 has increased from 2 to 6 percent (Student’s T-test; p-value <0.1), indicating declining condition with increasing dominance by an annual invasive grass.

While the recorded density of mature big sagebrush has increased since 2002, recruitment of new seedlings between 2008 and 2011 after a high density was recorded in 1991. No recent wildfire is associated with the high number of big sagebrush seedlings recorded in 1991.

Figure VEG-1: Frequency of native perennial bunchgrass species at the trend transect (T. 04S., R. 02W., Sec 34) in pasture 1 of the Red Mountain allotment

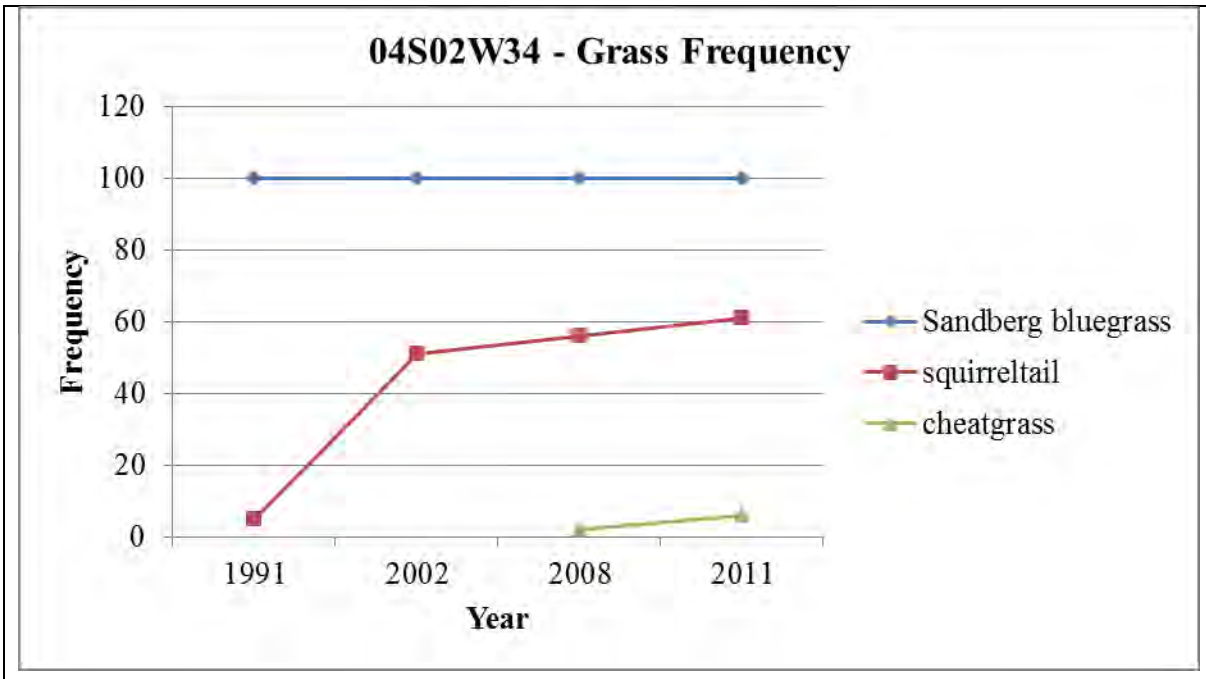
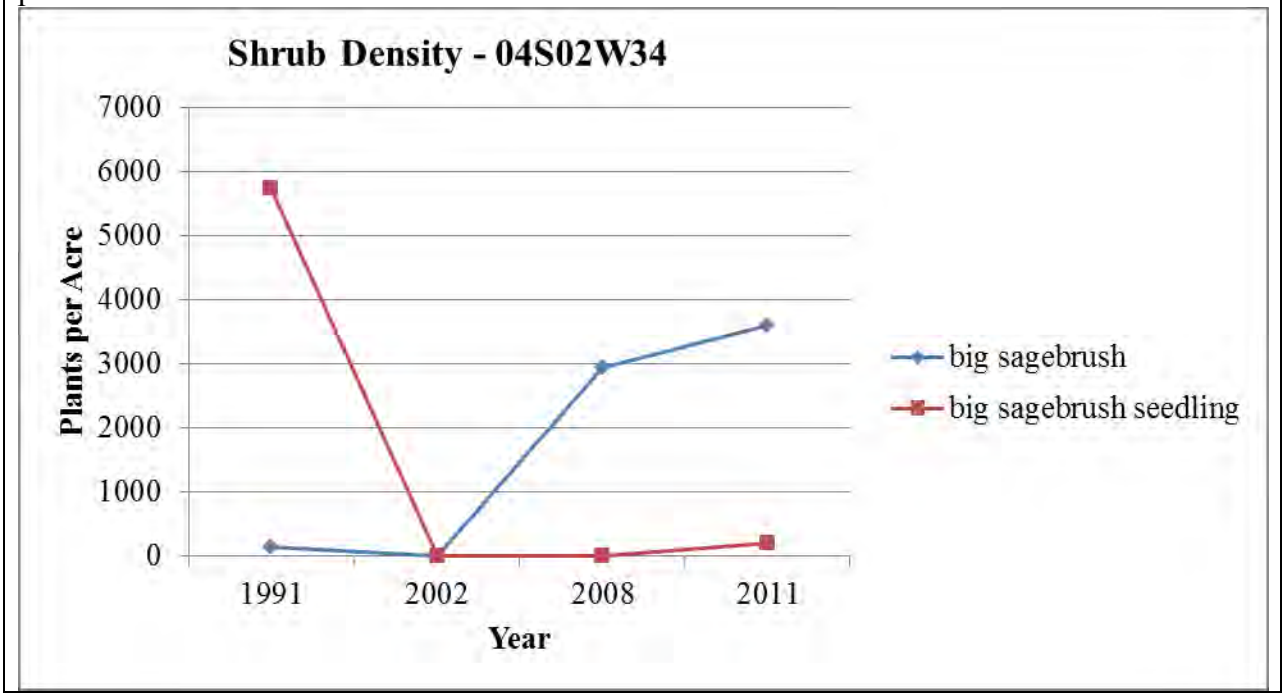


Figure VEG-2: Density of big sagebrush at the trend transect (T. 04S., R. 02W., Sec 34) in pasture 1 of the Red Mountain allotment



Livestock Use

Since 1997, use in pasture 1 occurs from November through the end of February (Appendix E). The season of use was either early spring (April 1-22) or mid-spring (April 23-May 31) under the

1983 final decision. During 1984 through 1995, early spring and mid-spring use, and rest were rotated among the three pastures. Pasture 1 was rested 58% of the time and grazed lightly in winter an additional 17% of the time between during those years. An effort was made to promote recovery in pasture 1, which had the poorest condition of the three.

Winter grazing in pasture 1 avoids the critical growth period for all perennial grass species. During 1984-1995, spring use avoided the critical growth period except for 1985. Prior to 1984, levels of use were much greater, and all pastures were licensed concurrently.

Pasture 1 lies within the Late Spring Use Area as defined by the Boise District Phenology Study. The critical growth period for perennial grasses occurs during the boot stage of development. Grazing during that time has the greatest impact upon vigor and reproduction. The critical growth period for bluebunch wheatgrass, Indian ricegrass, needle-and-thread, and Idaho fescue occurs during late-May in the Late Spring Use Area. The critical growth period for Thurber needlegrass was not defined by the study, but probably is similar to that of Idaho fescue, although it tends to stay green later. The critical growth period for squirreltail occurs in mid-May. The critical growth period for Sandberg bluegrass occurs during early May.

Total actual use in pasture 1 ranged between 263 AUMs in 1997 and 415 AUMs in 1989 in years when it was grazed, but averaged only 153 AUMs between 1986 and 2002 (Appendix E). Winter use has averaged 111 AUMs, and spring use averaged 42 AUMs for the entire period. Actual use data or licensed use, by pasture, is not available before 1986. Pasture 1 was rested 50% of the time between 1986 and 2002. Nonuse for the Red Mountain Allotment as a whole averaged 1,891 AUMs (70%) from 1986 to 1996, and 1,109 AUMs (49%) from 1997 to 2002. Prior to 1997, all of the permitted use in Red Mountain Allotment was formally designated as spring use. The 1997 final decision changed the season of use to winter in pasture 1, with permitted use limited to 372 AUMs. The State land within pasture 1 is leased by Elmer Stahle, and an Exchange-of-Use application is pending.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Table LVST-2: Livestock grazing use in pasture 1 of the Red Mountain allotment reported by the permittee in recent years

Year	Dates of Use	AUMs
2012	4/1-4/27	397
2011	4/1-4/18	350
2010	4/1-4/21	443
2009	3/20-4/20	482
2008	3/20-4/21	510
2007	3/15-4/10	277
2006	3/15-4/15	431
2005	3/22-4/20	454
2004	No Data	No Data
2003	No Data	No Data
2002	12/28-3/1	41

These data indicate that grazing use has recently occurred during the early spring, a treatment reported for the period between 1984 and 1995 under the 1983 final decision and differing from the planned winter use of pasture 1 reported in the 2006 assessment.

Livestock distribution was generally good; however, drainage bottoms and areas adjacent to water sources and along roads received greater use and badlands received less use. In extreme drought, inadequate water is available in Bates Creek to support winter use, such as occurred in 2002-2003. However, even in more typical winters, water has been hauled to improve distribution and eliminate any concentrated use in riparian areas. Early spring utilization in 1989 was low moderate over most of the pasture, but heavy along the western fence. Pasture 1 has not been grazed in the spring since 1989. Overall utilization in pasture 1 was light in 1996-97 and slight in 2001-02. Utilization on squirreltail at the trend site was none to slight in 2002.

Utilization of squirreltail, the most consistently measured upland perennial grass, was generally slight to light between 1984 and 2002 (Appendix G). Squirreltail utilization doesn't show any obvious relationship to stocking rate or precipitation. Squirreltail utilization was moderate to heavy during 1975 and 1976. Most of the active use (1,911 AUMs) was imposed each spring in Red Mountain Allotment prior to 1983. Squirreltail utilization during 1981-1984, which were good precipitation years, was influenced by higher stocking levels, selection for Sandberg bluegrass and cheatgrass, and by substantial regrowth prior to measurement in 1981 and 1982. Remnant populations of bluebunch wheatgrass occur, and utilization was heavy in the late 1970's.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Table VEG-1: Recorded utilization on squirreltail in pasture 1 of the Red Mountain allotment in recent years

Year	SIHY
1981	31
1982	30
1983	16
1984	
1985	36
1986	
1987	
1988	
1989	45
1990	
1991	
1992	
1993	
1994	
1995	

1996	
1997	30
1998	
1999	
2000	
2001	
2002	
2003	
2004	
2005	
2006	
2007	24
2008	
2009	55
2010	8
2011	
2012	14

Although no data are available for most years, these data indicate that with grazing use, utilization record has seldom exceeded the maximum allowable level of 50 percent established in the Owyhee Resource Management Plan.

Utilization of herbaceous riparian vegetation by livestock was low on the portion of Bates Creek in pasture 1; however, heavy shrub utilization occurred in 1996 (see Table 4).

Table 4. Riparian herbaceous stubble heights and percent shrub utilization, pasture 1, Red Mountain Allotment, 1996-2001.

Stream	Allotment (Pasture)	Date	Median Stubble Height (inches)	% Shrub Utilization
Bates Cr 001	588 (1)	5/24/01	7	0
Bates Cr 002	588 (1)	5/24/01	6	
Bates Cr 001	588 (1)	8/15/00	>4	
Bates Cr 001	588 (1)	3/14/96		69

Standard 1: Watersheds

Rangeland Health Evaluation Summary Worksheets

The worksheets indicate a slight to extreme (with many indicators more to the moderate end) departure from those found in reference areas and ecological site guides for rangeland health indicators relating to watershed. Evaluations were conducted in Loamy 7-10 (04S02W34, 05S02W02A) and Calcareous Loam 7-10” (04S02W25) ecological sites.

Hydrologic Function - Signs of active surface erosion were highly evident, but many features documented appear to be more a result of older erosional episodes that are not healing. Water flow patterns were common with some of short duration and not connected to those that are longer and show connectivity with depositional gravel material in them. These are rated most severely at site 05S02W02 where they are still active and increase in degree with slope and are accompanied by terracette formation. At site 04S02W25 the flow paths end in ponded areas that frequent the landscape and have physical crusted surface layers. Pedestalling of bunchgrass is associated with these flow patterns and is rated moderate-extreme at the two loamy sites (site 05S02W02 has some shrubs pedestalled as well as abundant pedestalling of bunchgrasses). Where pedestalling is rated moderate-extreme soil loss has occurred primarily in the interspatial areas and this has lowered site productivity.

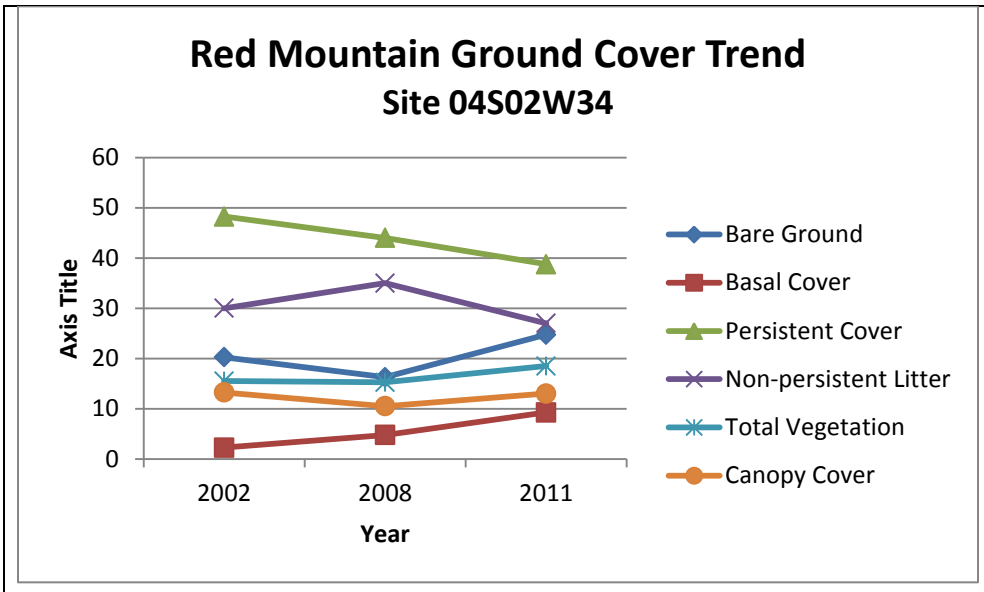
Soil Surface and Vegetative Function/Cover - The amount of bare ground was not a concern due to the large amounts of gravels that compensated for the lack of vegetative cover. The biological soil crust component was adequate at the Calcareous Loam site but reduced at the loamy sites. The plant community indicator showed a moderate degree of departure, with most sites being dominated by increaser species and increased shrub density. The main visual feature of the plant community, as it reflects hydrologic function, is one where most of the decreaser plants are now replaced by increaser species and the shrub component is greater than expected. Density of the key bunchgrass species is less than expected particularly in the interspatial areas. These plant community changes do not allow for proper moisture capture, storage, and management as compared to reference communities.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Ground Cover Trend

Ground cover trend data were collected in pasture 1 at the nested plot frequency transect (04S02W34) in 2002, 2008, and 2011 (see Figure Soil-1). Bare ground, total vegetation, and basal vegetation have increased with the latter significantly (Student's T-test; p-value <0.1) over the short and long term. Rock, gravel, biological crusts, and persistent litter (after here referred to as persistent cover) and non-persistent litter show a primarily non-significant decline. Canopy cover values are static over the long term and significantly increase in the short term.

Figure Soil-1: Ground Cover data from trend site in pasture 1 of the Red Mountain allotment (2002, 2008, and 2011)



The site is showing a static to slight long-term downward trend for the majority of cover values with the exception of basal cover and total vegetation. The main decline can be seen in a recent increase in bare ground. It is on the rise after a period of improvement between 2002 and 2008 despite some of the cover values, like total vegetation, basal cover, and canopy cover displaying a short term increase. The inverse relationship with non-persistent litter suggests that bare ground is sensitive to its decline. Shrub density is inconclusive due to the potential misidentification of sage species and does not offer any insights of whether a decrease in shrubs and its litter is associated to the bare ground changes.

Grass frequency trend shows that shallow rooted bunchgrasses dominate and that biotic diversity is limited. Overall interpretations of trend data suggest that ground cover conditions reflect a long-term static to downward trend that can be related to biotic conditions where shallow rooted bunchgrasses dominate, deep-rooted perennial native bunchgrasses are absent, and invasive annuals are on a slight increase.

Standard 2: Riparian Areas and Wetlands

Riparian Areas

Pasture 1 includes 2.35 miles of Bates Creek (Bates 001, Bates 002) and 4.5 acres of associated riparian area (Map WDLF-4). Both segments were rated functioning at risk with upward trend (Appendix N).

In Bates 001, hydric vegetation is not adequate to provide root mass needed to protect stream banks during high flow events. The riparian overstory vegetation is dominated by Woods rose (*Rosa woodsii*), and arroyo willow (*Salix lasiolepis*), with an understory of cheatgrass (*Bromus tectorum*), Sandberg bluegrass (*Poa secunda*), and a mix of forbs. The dominant community types (CT) are arroyo willow/Woods rose CT and Woods rose CT.

The arroyo willow/woods rose CT is a late seral CT (Manning and Padgett 1995). This CT is associated with marginally riparian communities. The surface soils are relatively dry and support only scattered herbaceous species.

The Woods rose CT typically occurs on elevated stream terraces in the lower part of the watershed, or where streamflow is minimal or absent (Manning and Padgett 1995). The Woods rose CT indicates historic heavy grazing, but roots help maintain streambank stability and branches impede livestock access to the stream. At the time of inventory (5/24/2001), stubble height was 7 inches.

In Bates 002, the riparian overstory vegetation is dominated by black cottonwood (*Populus trichocarpa*), with a shrub understory of arroyo willow, Woods rose, yellow willow (*S. lutea*), and western virgins-bower (*Clematis ligusticifolia*). The dominant community types are arroyo willow/woods rose CT and black cottonwood/willow CT.

The arroyo willow/Woods rose CT is a late seral CT. The black cottonwood/willow CT is mid seral. These sites typically dry out in mid to late season. Roots provide moderate streambank protection. Livestock access is limited. At the time of inventory (5/24/2001), stubble height was 6 inches.

Springs

There are no springs on public land in this pasture.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

The table below represents a comprehensive display of all the riparian information currently in the BLM riparian database for the Red Mountain allotment, both that used in the original assessment, as well as newer, supplemental information.

Table RIPN-1: Red Mountain allotment riparian information summary

	Allotment & Pasture Stream Miles & Condition				
Stream Name	**Red Mountian-01**	**Red Mountian-02**	**Red Mountain-03**	**Assessment Issues/ Impacts Identified**	**Total Miles**
Bates Creek	1.4 (FARU-2001)			lack of species with roots capable of protecting stream banks/ understory of cheatgrass	1.4
	1.0 (FARS-2001)			presence of noxious weeds/ shift to early seral species typical of drier sites	1.0
		0.2 (FARS- 2001)		portion of reach above that extends into pasture 2	0.2
Pickett Creek		1.2 (FARU-2001) 1.2 (FARU-2001) (PFC-2008) 1.5 (FARU-2001)		2001- lack of soil moisture to maintain hydric species/ noxious weeds present/ lack of bank stabilizing species/ portions with	3.9

		(PFC-2008)		over-wide channel 2008- armored with boulders and willows/ lacks understoy	
			1.0 (FARS-2001)	lacks soil moisture and thus hydric species/ shift from deep-rooted hydric species to those species more suited to drier sites	1.0
Brown's Creek			1.9 (FARS-2001) (PFC-2008)	2001- lack of species composition with roots capable of protecting stream banks/ understory of cheatgrass 2008- abundance of willows, woody debris, and cobbles stream channel	1.9
Hart Creek			0.9 (FARS-2001) (PFC-2008) 1.2 (FARU-2001) (PFC-2008)	2001- overstory community typical of upland sites/ understory lacks hydric species/ existing root mass has poor stabilizing ability 2008- occurs in constrained canyon and is armored with bedrock/ lower portion incised	2.1

Standard 3: Stream Channel/Floodplain

Bates Creek - The stream channel/floodplain is functioning at risk with upward trend for Bates Creek (001, 002). The stream is over-widened in many places and the width/depth ratio is out of balance with the landforms. This limits floodplain inundation and water storage capabilities. In places the floodplain and channel characteristics are inadequate to dissipate energy and trap sediment to enhance point bar development. The system is not downcutting. Light pugging is present on immediate banks accessible to livestock. Approximately 10% of the banks are uncovered and unstable.

Bates Creek is predominantly a F4b stream channel type, with streambank material of gravel and small cobble. The F4b stream type is low gradient, deeply entrenched and relatively unstable. The F4 channel is a departure from full operating condition (C4) in this landform as a result of historic direct channel disturbances.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment
See Table RIPN-1 under Standard 2 above for a comprehensive display of all the riparian information currently in the BLM riparian database for the Red Mountain allotment, both that used in the original assessment, as well as newer, supplemental information.

Standard 4: Native Plant Communities

Shadscale communities

Rangeland Health Evaluation Summary Worksheets
Shadscale communities showed a moderate departure from reference conditions. Increaser grasses and shadscale are the primary species present. Biological soil crust and gravel provide continuous ground cover.

Integrity/Diversity - Plant community integrity and native species diversity show a moderate-extreme degree of departure from reference conditions. Decreaser grasses occur in trace amounts, well below expected levels. Sandberg bluegrass and squirreltail are the primary perennial grasses present. Sandberg bluegrass occurs in shrub interspaces; however, squirreltail occurs primarily in shrub understories. Bud sagebrush abundance is less than expected and shadscale abundance is greater than expected.

Biological soil crust cover is similar to reference conditions. Cheatgrass is scattered throughout the community. Annual production is within 80% of expected; however, shrubs and Sandberg bluegrass account for most of the production. Perennial forbs were not recorded, but timing of the assessment may have affected their observability.

Plant Vigor - Plant vigor shows a slight degree of departure from reference conditions. Perennial grasses show good vigor; however, squirreltail mortality is occurring because of drought conditions. Bud sagebrush mortality is common. Seed heads were present at all sites. Recruitment is evident primarily in shadscale.

Noxious/Invasive Plants - Noxious weeds were not observed. Invasive plants show a moderate degree of departure from reference areas. Cheatgrass is present in low levels.

Trend
No trend sites were established in shadscale communities.

Big sagebrush communities

Rangeland Health Evaluation Summary Worksheets
Big sagebrush communities showed a slight-moderate departure from reference conditions. Decreaser grass cover is reduced or absent. Increaser grass and sagebrush cover is similar to or greater than expected.

Integrity/Diversity - Plant community integrity and native species diversity show a moderate degree of departure from reference conditions. Decreaser perennial grasses are greatly reduced or absent and shrub cover is greater than expected.

Grass cover is less than expected compared to reference sites. Decreaser grass species are greatly reduced or absent and have been replaced by increaser grasses. Increaser grasses occur in interspaces at both sites, but squirreltail is primarily restricted to shrub understories at site 05S02W02A. Sagebrush cover is greater than expected at both sites. Rabbitbrush (*Chrysothamnus viscidiflorus*) and horsebrush (*Tetradymia glabrata*) cover is less than expected

at both sites.

Biological soil crust cover is less than expected at 04S02W34 and slightly reduced in interspaces at 05S02W02S. Cheatgrass is rare at both sites. Annual production is within 80% of expected at both sites; however, shrub productivity is the primary component and greater than expected at both sites. Observed forb diversity is similar to reference sites at 05S02W02A and less than expected at 04S02W34. Leguminous species (milkvetch) were observed at 05S02W02A.

Plant Vigor - Plant vigor shows a slight degree of departure from reference conditions. Active pedestalling and exposure of roots has reduced the vigor and caused greater than expected mortality of Sandberg bluegrass. Shrub decadence is evident at both sites and common at 05S02W02A. Seed heads, primarily on squirreltail, are present at both sites. Recruitment was evident on sagebrush at both sites and on grasses at site 05S02W02A.

Noxious/Invasive Plants – A population (<0.1 acre) of Scotch thistle (*Onopordum acanthium*) was reported at 04W02W34 before 1996. The current status of the population is unknown. Invasive species occur in slight departures from reference sites. Cheatgrass is rare throughout the area. Bur buttercup (*Ranunculus testiculatus*) is common in disturbed areas at 04S02W34.

Trend

The general trend in ecological condition was static. Grass cover decreased slightly and shrub cover was static.

NPFT Studies – The frequency of squirreltail decreased from 1987 to 1991 under drought conditions and rest and increased from 1991 to 2002 under winter use and rest. The frequency of Sandberg bluegrass decreased between 1986 and 2002 (Appendix L); however, the overall frequency was similar to reference sites. Frequencies of longleaf phlox declined and then returned to a similar level. Frequencies of phlox were too low for a valid statistical test. The frequency of Wyoming big sagebrush was static

Photo Plots/View Photos - The apparent trend was static for grasses and sagebrush between 1986 and 2002 (Table 6). In the photo plot and view photos, Sandberg bluegrass plants decreased slightly and squirreltail plants increased.

Table 6. Apparent trend in abundance (D = downward, S = static, U = upward) of perennial grasses and shrubs in photo plots and view photos, Wyoming big sagebrush community, pasture 1, Red Mountain Allotment, 1987-2002.

Transect	Range Site	Evaluation Period	Grasses		Shrubs/ Trees	
			Plot	Photos	Plot	Photos
04S02W34	Loamy 8-10	1986-2002	S-U	S-U	S	S

Herbaceous (Burned) Communities

No fires are known to have occurred between 1980 and 2002.

Determinations, Red Mountain (0588) Allotment
Standard 4 is not met in pasture 1 of the Red Mountain allotment with the overall slight-to-moderate departure of biotic integrity within the shadscale community, but a moderate-to-extreme departure of functional/structural groups from reference site conditions due to the loss of deep-rooted bunchgrass species and bud sagebrush. Similarly, an overall slight-to-moderate departure of biotic integrity within the big sagebrush community was recorded, but a moderate-to-extreme departure of functional/structural groups from reference site conditions was documented due to the loss of deep-rooted bunchgrass species. Historic livestock grazing contributed to the loss of deep-rooted perennial bunchgrasses, although recent upward trend in the frequency of squirreltail at the trend site documents progress toward meeting the standard. In the absence of actions to introduce a seed source for the establishment and restoration of deep-rooted perennial bunchgrasses, recovery toward co-dominance of vegetation communities by Thurber's needlegrass and Indian ricegrass in pasture 1 will be held in a state other than reference conditions.

Standard 8: Threatened and Endangered Plants and Animals

Redband Trout

No redband trout are known to occur in this pasture.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment
General Riparian Habitat Approximately 2.3 miles of stream riparian habitat along Bates Creek were assessed for PFC, all of which were rated as FAR (see Standard 2). Conditions along the majority of streams supporting riparian vegetation appear to be at least minimally adequate for dependent migratory birds. Although the herbaceous understory is lacking or dominated by upland or invasive species along some reaches of the assessed stream, woody species display diverse species and age-classes with multiple canopies (cottonwoods and willows) which are providing structurally complex breeding, nesting, and foraging habitat for dependent species. **Focal Special Status Species** ***Greater sage-grouse*** <u>Habitat Characteristics</u> *Habitat Assessments* The majority of pasture 1 is within the breeding and winter seasonal ranges of the Owyhee Front/Triangle local population (Map WDLF-6). The dominant Wyoming big sagebrush ecological sites support breeding (including early brood-rearing) and winter sage-grouse habitat. Although there are no lentic sites in the pasture, Bates Creek and several intermittent washes provide important early brooding-rearing areas. All sage-grouse habitat within the pasture is

considered key habit (Maps WDLF-4 and WDLF-5B).

Breeding Habitat
Five SG HAs were used to assess breeding habitat conditions within pasture 1 (Map WDLF-5B). All SG HAs were located within the Loamy 8-12" ARTRW8/PSSPS-ACTH7 Ecological Site. This ecological site constitutes a majority of the usable sage-grouse habitat (based on cover types/ecological sites) within the pasture (approximately 70 percent of shrub steppe acres; see Table WDLF-17 below), and therefore is generally representative of the conditions that predominate within pasture 1.

Although the most recent breeding SG HA in the pasture was conducted in 2008, a review of the results from three SG HAs conducted in the same ecological site in 2002 (see below) reveal that measurements of most indicators have remained consistent and provide validation for the current rating of sage-grouse breeding habitat conditions within the pasture as Marginal.

- **04S02W25-2008** and **04S02W34-2008 (R011XY001ID)**
  Marginal. Although sagebrush and perennial herbaceous vegetation heights were within the suitable range, most of the primary indicators fell within the marginal or unsuitable range (Table WDLF-15). Perennial grass (SIHY) canopy cover was marginal. Overall, preferred forb species were not particularly diverse or abundant. *Poa secunda* was dominant and indicative of a phase transition (Phase 1.1 to 1.2) within the reference state (State 1) which is probably due to improper historic grazing management. In general, breeding habitat conditions appear to be consistent with previous findings (see below).
- **04S02W25-2002, 04S02W34-2002** and **05S02W02-2002 (R011XY001ID)**
  Marginal. Several of the assessment sites were at the periphery of occupied sage-grouse habitat where sagebrush steppe communities transition into lower elevation salt desert shrub vegetation. Although sagebrush canopy cover was slightly high, the sagebrush component does not appear to be limiting sage-grouse use. Unfortunately, the surveyors did not record plant heights but photos provide evidence that sagebrush height was suitable. Nevertheless, besides SIHY CC, perennial herbaceous vegetation heights were marginal, and perennial forb canopy covers were in the unsuitable range (Table WDLF-15). Forbs were extremely sparse and composed of only two species. *Poa secunda* was the dominant grass species.

Table WDLF-15: Summary of breeding SG HAs[1] in pasture 1 of the Red Mountain allotment (2002 and 2008)

Habitat Indicator	**Ecological Sites[2]**	
	R011XY001ID-2008	**R011XY001ID-2002**
	n=2	**n=3**
Sagebrush Canopy Cover (%)	33 (M)	34 (M)
Sagebrush Height (cm)	39 (S)	(S)[3]
Sagebrush Growth Shape	Mixed (M)	Mixed (M)
Grass and Forb Height (cm)	18 (S)	(M)[3]
Perennial Grass Canopy Cover (%)	9 (M)	18 (S)
Forb Canopy Cover (%)	0 (U)	3 (U)
Preferred Forb Availability	7 spp./common (M)	2 spp./sparse (U)

Overall Site Evaluation	**Marginal**	**Marginal**

[1]Individual habitat indicator suitability ranges are given in parentheses and include Suitable (S), Marginal (M), and Unsuitable (U).
[2]Ecological sites include Loamy 8-12" ARTRW8/PSSPS-ACTH7 (R011XY001ID).
[3]Vegetation heights were not recorded at the two sites assessed in this ecological site in 2002. Ratings are based on examination of assessment photos.

Brood-rearing and Summer Riparian Habitats
Pasture 1 contains several intermittent stream valleys that may support early brood-rearing lotic habitats. Bates Creek is an intermittent stream that was assessed as FAR. Along the upper portions of Bates Creek within pasture woody cover is relatively continuous and structurally diverse. The floodplain is variable; 5-10 m where the drainage constricts, but wider (<45 m) along the lower stretches which has ample open areas that probably support succulent riparian and upland herbaceous vegetation during early spring.

Pasture 1 also contains several intermittent/ephemeral stream valleys that may support early brood-rearing habitat, none have been assessed for PFC primarily because they do not support woody, and in most cases, herbaceous riparian vegetation communities. At best these areas may support succulent vegetation in the early spring.

Pasture 1 does not contain any known spring-associated lentic riparian/wetland areas.

In general, the limited riparian habitats available to and most likely used by sage-grouse (Bates Creeks) are only providing marginal conditions for early brood rearing. The closed canopy of woody cover along Bates Creek and its location within a narrow, steep-sided draw may be limiting sage-grouse use although it is possible that these areas are supporting succulent herbaceous forage in the early spring.

Winter Habitat
Five SG HAs were used to assess winter habitat conditions within pasture 1 (Map WDLF-5B). All SG HAs were located within the Loamy 8-12" ARTRW8/PSSPS-ACTH7 Ecological Site. This ecological site constitutes a majority of the usable sage-grouse habitat (based on cover types/ecological sites) within the pasture (approximately 70 percent of shrub steppe acres; see Table WDLF-17 below), and therefore is generally representative of the conditions that predominate within pasture 1.

Although the most recent winter SG HA in the pasture was conducted in 2008, a review of the results from three SG HAs conducted in the same ecological site in 2002 (see below) reveal that measurements of most indicators have remained consistent and provide validation for the current rating of sage-grouse winter habitat conditions within the pasture as Suitable.

- **04S02W25-2008** and **04S02W34-2008 (R011XY001ID)**
  Suitable. The amount (CC) and height of sagebrush would provide forage above any persistent snow (which is rare at the site's elevation), and provide adequate concealment and thermal cover (Table WDLF-16). In general, winter habitat conditions appear to be consistent with previous findings (see below).
- **04S02W25-2002, 04S02W34-2002** and **05S02W02-2002 (R011XY001ID)**

Suitable. The amount (CC) and height of sagebrush would provide forage above any persistent snow (which is rare at the site's elevation), and provide adequate concealment and thermal cover (Table WDLF-16).

Table WDLF-16: Summary of winter SG HAs[1] primary indicators in pasture 1 of the Red Mountain allotment (2002 and 2008)

Habitat Indicator	**Ecological Sites[2]**	
	R011XY001ID-2008	**R011XY001ID-2002**
	n=2	**n=3**
Sagebrush Canopy Cover (%)	33 (S)	34 (S)
Sagebrush Height (cm)	39 (S)	(S)[3]
Overall Site Evaluation	**Suitable**	**Suitable**

[1]Individual habitat indicator suitability ranges are given in parentheses and include Suitable (S), Marginal (M), and Unsuitable (U).
[2]Ecological sites include Loamy 8-12" ARTRW8/PSSPS-ACTH7 (R011XY001ID).
[3]Vegetation heights were not recorded at the two sites assessed in this ecological site in 2002. Ratings are based on examination of assessment photos.

General Upland Habitat Assessment
Several upland habitats and cover types occur within a variety of ecological sites within pasture 1 (Table WDLF-17).

Table WDLF-17: NRCS Ecological Sites within Red Mountain pasture 1

Habitat Type	**General Cover Type**	**Ecological Site Description**	**Percentage of Allotment**	
			Ecological Site Description	**General Cover Type**
Salt Desert Shrub	Shadscale	Calcareous Loam 7-10" ATCO-PIDE/ACHY-ACTH7	26	26
	Greasewood	Saline Bottom 8-12" SAVE4/LECI4	<1	
Shrub Steppe	Big Sagebrush[1]	Sandy Loam 8-12" ARTRW8/ACHY	13	71
		Loamy 8-12" ARTRW8/PSSPS-ACTH7	50	
		Loamy 10-13" ARTRW8/PSSPS	8	

[1]Approximately 3.5 percent of the pasture is classified as an unknown/no data.
[2]Big sagebrush (*Artemisia tridentata*) cover types include communities dominated by the subspecies Wyoming (*wyomingensis*) and Basin (*tridentata*) and mixed communities of both species.

In general, upland habitat conditions have remained relatively static since the previous assessment (see Standard 4). Although shrub cover has remained consistent and continues to provide adequate woody cover, structure, and forage for shrub-obligate and dependent species, the quality of the herbaceous understory has not improved noticeably. Deep-rooted, tall-statured

perennial bunchgrasses remain sparse or absent although mid-statured squirreltail has increased in frequency. Short-statured bluegrass (*Poa* sp.) is ubiquitous and dominant and invasive cheatgrass has also increased. These understory conditions are limiting habitat quality for many ground dwelling, nesting, and foraging species.

Plants

Special status plants are not known to occur in this pasture. Systematic inventories for special status plants for a small portion of this pasture were conducted in 1996; no plants or specialized habitats were found (Palaia et al. 1996). Incidental surveys for other site-specific projects have yielded no occurrences, though this type of work has been limited.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment
Botany No populations of special status plant species are known to occur in this allotment. There is insufficient information to determine site-specific impacts of livestock grazing on any special status plants that may occur in this allotment. Records show no reported special status plants in this allotment for this reason this standard is not applicable. *Information sources* Elemental Occurrences (EOs) for special status species (SSP) populations is recorded in the Idaho Fish and Wildlife Information System (IFWIS) Species Diversity database (IDFG, 2011). EOs are derived by completion and review of Idaho Rare Plant Observation Reports through the Idaho Natural Heritage Program. Other sources that were used to assess and evaluate the composition and condition of SSP habitats within the Red Mountain allotment include RHAs, photographs, field notes, Plants database (USDA NRCS, 2013), literature search, and information summarized above in Standards in this document. Records show no reported special status plants in this allotment.

Early Spring Use (Red Mountain Pasture 2)

Summary

- flow patterns and occurrence of pedestalled grasses are greater than expected, gravel/rocks provide some protection, but perennial grass cover in interspaces is reduced;
- all 3.54 miles of stream are functioning at risk;
- upland vegetation has a static trend in condition;
- big sagebrush communities have a moderate departure from reference conditions, decreaser grasses are generally absent, increaser grass and sagebrush cover is similar to or greater than expected;

Data Collection

Three rangeland health evaluations were conducted in Wyoming big sagebrush communities between June 18 and June 25, 2002 (Table 7, Map WDLF-2). Two sites (05S02W2B, 05S02W03) were located within or near the historic livestock driveway withdrawal. One trend plot was conducted in a Wyoming big sagebrush/low sagebrush transition community between 1987 and 2002 (Table 7, Map WDLF-3).

Table 7. Summary of upland data collected in pasture 2 (Early Spring Use), Red Mountain Allotment.

Data Type[1]	Allotment	Pasture	Location	Ecological Site	Condition/ Trend[2]
RHE	Red Mountain	2	05S02W02B	Loamy 10-13”	0-
			05S02W03	Loamy 8-10	0-
			05S02W15	Loamy 10-13”/Shallow Claypan 11-13”	0-
NPFT	Red Mountain	2	05S02W15	Loamy 10-13”/Shallow Claypan 11-13”	Static

[1] RHE – Rangeland Health Assessment, NPFT – Nested Plot Frequency Transect
[2] + = none-slight departure from reference conditions, 0 slight-moderate departure from reference conditions, - = moderate departure from reference conditions, -- = moderate-extreme departure from reference conditions

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Additional data were collected at one nested plot frequency transect during 2008 and 2011 in pasture 2 (T 05S, R 02W, Sec 15; see accompanying graph). These data indicate a long-term (all data from 1991 through 2011) upward trend with increasing frequency of squirreltail recorded, especially from 2002 to 2008 and again from 2008 to 2011 when differences were statistically different (Student’s T-test; p-value <0.1). At the same time, frequency of Sandberg bluegrass recorded through all dates remained near 100 percent, although with a decline between 2008 and 2011 that is not statistically significant. Presences of neither Thurber’s needlegrass nor Indian ricegrass, two native bunchgrass species that co-dominate at reference site conditions, has been recorded at the site over this same time-frame. The frequency of cheatgrass recorded since 2002 has increased from 17 percent in 2002, to 62 percent in 2008, to 84 percent in 2011, with all increases statistically significant (Student’s T-test; p-value <0.1) and indicating declining condition with increasing dominance by an annual invasive grass.

While the recorded density of mature big sagebrush has declined since 2002, the density of mature low sagebrush has increased.

Figure VEG-3: Frequency of native perennial bunchgrass species at the trend transect (T. 05S., R. 02W., Sec 15) in pasture 2 of the Red Mountain allotment

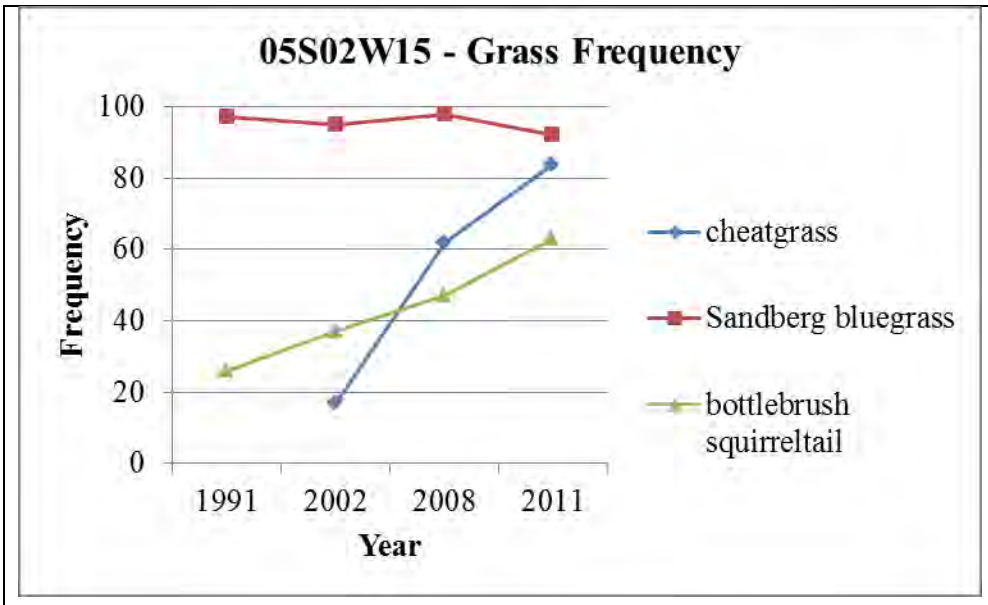
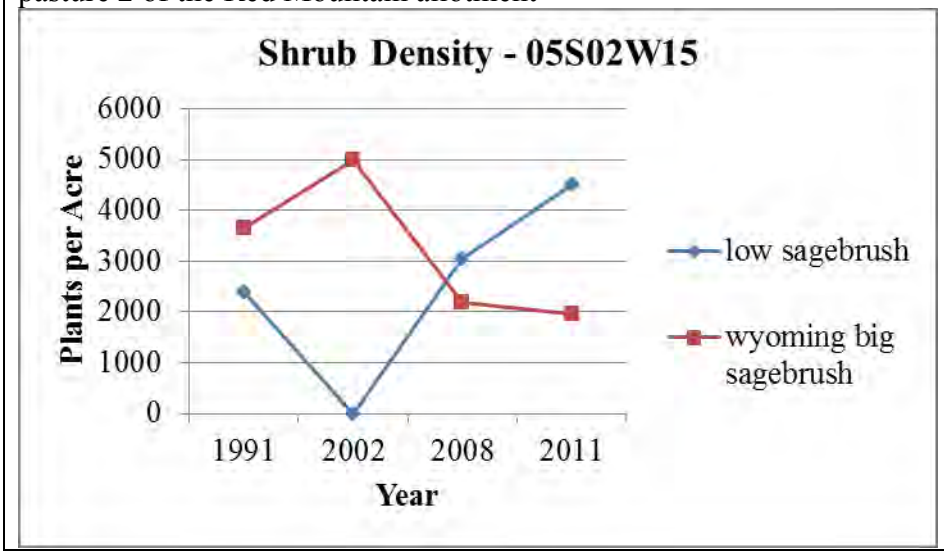


Figure VEG-4: Density of big sagebrush at the trend transect (T. 05S., R. 02W., Sec 15) in pasture 2 of the Red Mountain allotment



Livestock Use

Use in pasture 2 occurs during April each year (Appendix E). The season of use is currently April 1 to 15 under the March 1996 Agreement, and was either early spring (April 1-22) or mid-spring (April 23-May 31) under the 1983 final decision. During 1984 through 1995, early spring and mid-spring use, and rest were rotated among the three pastures in the Red Mountain Allotment. Pasture 2 was rested 42% of the time during that period. Turnout was delayed in years when carryover forage was not available and range readiness criteria were not met. While the current permit does not specify a season of use for this pasture, spring turnout has occurred in it during every year since 1994. The Grazing Agreement, in effect since March 1996, specifies an April 1 through 15 season of use and provides for additional use in late March, contingent

upon improvement in condition. However, use in this pasture generally extends to the end of April.

While no fall or winter use has been authorized in pasture 2 since before the fence between pastures 1 and 2 was completed in 1982, the 1997 final decision formally eliminated fall-winter (dormant season) use from this pasture.

Pasture 2 lies within the Late Spring Use Area as defined by the Boise District Phenology Study. Grazing in this pasture generally occurs prior to the critical growth period for all perennial grass species. In some years, use into the latter part of April could coincide with the critical growth period of at least Sandberg bluegrass. The critical growth period for bluebunch wheatgrass, Indian ricegrass, needle-and-thread, and Idaho fescue occurs during late-May in the Late Spring Use Area. The critical growth period for Thurber needlegrass was not defined by the study, but probably is similar to that of Idaho fescue, although it tends to stay green later. The critical growth period for squirreltail occurs in mid-May. The critical growth period for Sandberg bluegrass occurs during early May.

Total actual use ranged between 88 AUMs in 1987 and 584 AUMs in 1989, and averaged 339 AUMs between 1986 and 2002 (Appendix E). Pasture 2 was rested 29% of the time between 1986 and 2002; however, no rest has occurred since 1993. Extended drought between 1987 and 1992 and beginning again in 1999 depressed growth and reproduction of perennial plants, and permitted use was adjusted accordingly. Actual use data or licensed use, by pasture, is not available before 1986. Nonuse for the Red Mountain Allotment as a whole averaged 1,891 AUMs (70%) from 1986 to 1996, and 1,109 AUMs (49%) from 1997 to 2002. Prior to 1997, all of the permitted use was formally designated as spring use. Cattle numbers are limited to 450 head under the March 1996 Agreement, which indirectly specifies the amount of permitted use allowed in pasture 2.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Table LVST-3: Livestock grazing use in pasture 2 of the Red Mountain allotment reported by the permittee in recent years

Year	Dates of Use	AUMs
2012	4/20-5/9	385
2011	4/18-5/9	445
2010	4/21-5/6	339
2009	4/20-5/20	515
2008	4/21-5/16	429
2007	4/11-5/10	441
2006	4/15-5/1; 11/12-11/25	379
2005	4/20-4/22	45
2004	No Data	No Data
2003	No Data	No Data
2002	3/30-4/24	337
2001	3/21-4/14	301

2000	3/21-4/19	404
1999	3/22-4/27	474
1998	3/21-4/24	435
1997	4/1-4/23	309

These data indicate that grazing use has recently occurred during the early to mid-spring, a treatment differing from the April-only use reported in the 2006 assessment.

Livestock distribution was generally good; however, drainage bottoms and areas adjacent to water sources and along roads received greater use, and badlands, foothills, and canyon sides received less use. Overall use in pasture 2 has been light since 1994. Cattle use is also more concentrated along the upper fence where cattle congregate in spring awaiting the move into pasture 3. Utilization on squirreltail at the trend site was 60%, excluding regrowth, in 2002, and was in the moderate range in recent years for which use pattern mapping is available.

Utilization of squirreltail, the most consistently measured and most common upland perennial grass, was generally light between 1994 and 2000 (Appendix G). Actual use was above average during this period, but precipitation was also above average during 1993 through 1998. Squirreltail utilization was moderate to heavy during 1975 and 1976 and 1987 to 1992. Most of the active use (1,911 AUMs) was imposed each spring in Red Mountain Allotment prior to 1983. Utilization during the 1987-1992 period was also influenced by both poor growing conditions and the amount of actual use in years when it was measured. Squirreltail utilization during 1981-1984, which were good precipitation years, was influenced by higher stocking levels, selection for Sandberg bluegrass and cheatgrass, and by substantial regrowth prior to measurement in 1981 and 1982. Remnant populations of Indian ricegrass and bluebunch wheatgrass occur, and utilization on them was heavy in the late 1970's. In most years, April use allows for some regrowth of perennial grasses following cattle removal.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Table VEG-2: Recorded utilization on key species in pasture 2 of the Red Mountain allotment in recent years

Year	PSSP	FEID	SIHY
1979			
1980			
1981	10		10
1982			22
1983			
1984			48
1985			52
1986			
1987			
1988			
1989			78

1990			
1991			
1992			
1993			
1994			37
1995			25
1996			
1997	19		28
1998			
1999	30		33
2000			50
2001			
2002			
2003			
2004			
2005			
2006			
2007			27
2008			15
2009	32		19
2010			18
2011	18	17	
2012			

Although no data are available for most years, these data indicate that with grazing use, utilization record has seldom exceeded the maximum allowable level of 50 percent established in the Owyhee Resource Management Plan.

Utilization monitoring indicated livestock use levels of riparian vegetation on streams in pasture 2 was nonexistent or not measurable two months after livestock removal (Table 8). The major streams have reliable flow until well after any spring livestock use, and water is available for re-growth of riparian species.

Table 8. Median stubble height and percent shrub utilization for streams in pasture 2, Red Mountain Allotment, 1999-2001.

Stream	Location	Date	Median Stubble Height (inches)	Shrub Utilization
Pickett Cr 002		7/06/01	12	Moderate-heavy
Pickett Cr 003		6/11/01	6	Moderate-heavy
Pickett Cr 004		6/11/01	6	Moderate
Pickett Cr 004		7/07/99	18	Light

Stream	Location	Date	Median Stubble Height (inches)	Shrub Utilization
Pickett	05S02W10 SWSE	7/1/99	14.0	0

Standard 1: Watersheds

Shadscale and low sagebrush communities

No Rangeland Health Evaluation Summary Worksheets or Nested Plot Frequency Transects were conducted in shadscale or low sagebrush communities. These communities are a relatively minor component in the pasture.

Big sagebrush communities

Rangeland Health Evaluation Summary Worksheets
There is a slight-moderate (with many indicators more to the slight end) departure for the rangeland health indicators relating to watershed from those found in reference areas and ecological site guides.

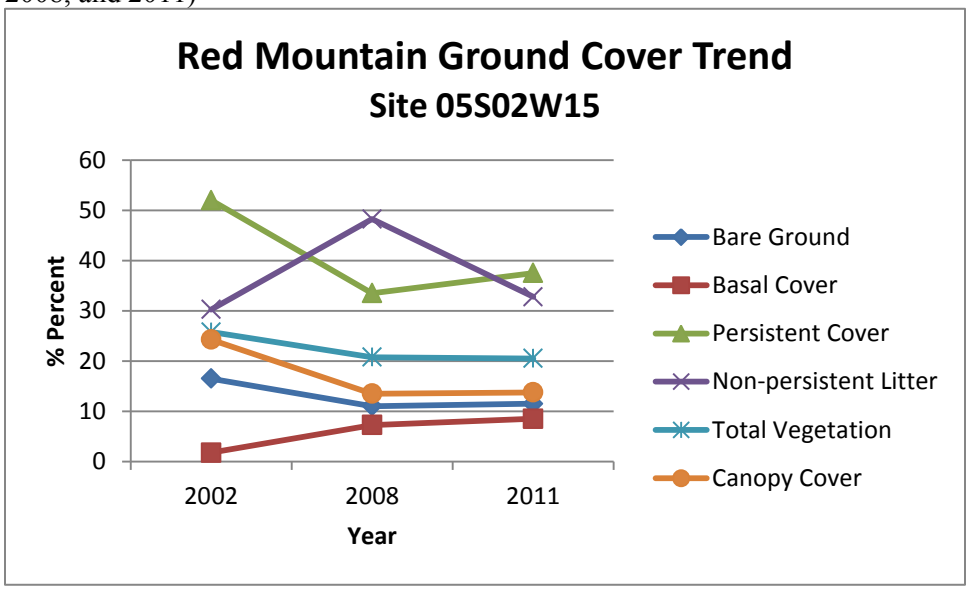
Hydrologic Function - Signs of active surface erosion were evident but many features documented appear to be more a result of older erosional episodes that are not healing very rapidly. Water flow patterns were common with some of short duration and not connected to those that are longer and show connectivity with depositional material in them. These are rated a moderate departure at all three sites (they are still active at site 05S02W02 and increase in degree with slope). At site 05S02W03 the flow paths end in ponded areas that frequent the landscape and have physical crusted surface layers. Pedestalling of bunchgrass is associated with these flow patterns and is rated moderate (site 05S02W03 has some shrubs pedestalled as well as abundant pedestalling of bunchgrasses). Where pedestalling is rated moderate soil loss has occurred primarily in the interspatial areas and this has lowered site productivity.

Soil Surface and Vegetative Function/Cover - The amount of bare ground was not a concern due to the large amounts of gravels that cover the surface at many sites. The biological soil crust component was reduced at all sites. The plant community indicator showed a slight-moderate degree of departure, with most sites being dominated by increaser species and increased shrub density. The main visual feature of the plant community, as it reflects hydrologic function, is that most decreaser plants are now replaced by increaser species and the shrub component is greater than expected. Density of the key bunchgrass species is lower than expected particularly in the interspatial areas (this was most evident at site 05S02W15). Many remnant key bunchgrass species can be found in the protective cover of the shrubs. These plant community changes do not allow for proper moisture capture, storage, and management as compared to reference communities.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment
Ground Cover Trend

Ground cover trend data were collected in pasture 2 at the nested plot frequency transect (05S02W15) in 2002, 2008, and 2011 (see Figure Soil-2). Over the short term, all values reflect static trend with the exception of a non-significant decline in non-persistent litter. Over the long term, bare ground, total vegetation, canopy cover, and persistent cover are decreasing with the latter being significant (Student's T-test; p-value <0.1). Non-persistent litter remains static.

Figure Soil-2: Ground Cover data from trend site in pasture 2 of the Red Mountain allotment (2002, 2008, and 2011)



The site shows a slight downward trend for the majority of cover values over the long term while the most recent years have been quite static. Bare ground shows a decrease between 2002 and 2008 though overall improvements over the recent years are largely absent. An inverse relationship with basal cover can be observed that may have initially helped to reduce bare ground. Non-persistent litter may have played a factor as well but its recent decline is not reflected in the static trend for bare ground since 2008. Shrub density shows a continued presence of sagebrush but reflects on an overall long-term decline based on canopy cover.

Grass frequency shows that shallow-rooted perennial bunchgrasses dominate along with a steep increase in cheatgrass. Overall interpretations of trend data suggest that ground cover conditions reflect a slight downward trend over the long-term since 2002. Despite some improvement in bare ground, its currently static condition is expected to make little progress as biotic function is decreasing due to the absence of deep-rooted native perennials and an increase in invasive annuals.

2013 Field Observations

A field visit in the spring of 2013 (see project file) was made to pasture 2. While some of the disturbances suggest historic grazing, more recent widespread impacts are apparent. Along hill sides, plentiful terracettes, water flow patterns, surface sealing, and bare soils are present. Although some of this is related to inherently erosive soils and south facing dry slopes with reduced vegetation, impacts get increasingly more apparent towards Picket Creek.

A deep gully along the road can be primarily related to the lack of road maintenance yet increased runoff from surrounding slopes that lack intercepting vegetation and ground cover add to the degradation. Hillsides are full of sidetracking trails along with broken and trampled shrubs that are often dying. Along most stretches of road crossing the pasture, pedestaling is evident, interspaces contain connected water flow patterns, and the sage shows high mortality and decadence. Juniper is dotting the landscape with many of them cut. Some gravel is stabilizing surface soils; other patches are bare and show surface sealing that decreases infiltration.

Standard 2: Riparian Areas and Wetlands

Riparian Areas

There are 3.54 miles of Pickett Creek in pasture 2 of the Red Mountain Allotment. There is a total of 14.7 acres of riparian area in this pasture (Map WDLF-4). All segments of Pickett Creek, within pasture 2, were rated as functioning at risk with an upward trend (Appendix N).

Pickett Creek - The stream, within this pasture, is divided into three segments (002, 003, 004). Approximately 3.54 miles of Pickett Creek were rated functioning at risk in 2001 with an upward trend.

The portion of Pickett Creek in pasture 2 (all stream segments) is dominated by a black cottonwood/willow CT. It is a mid seral CT. These sites typically dry out in mid to late season. Roots provide moderate streambank protection. Livestock access is limited. Stubble heights ranged from 6 inches (003, 004) to 12 inches (002) and shrub utilization from wildlife was moderate (004) to moderate-heavy (002, 003) in June and July 2001.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment
In 2008, Pickett Creek segments 003 and 004 were re-assessed in PFC. Although the reaches lacked an herbaceous understory, the stream banks were armored with boulders and large willows. Livestock had access to stream at three small segments of the stream reach and browse appeared to be less than 10 percent. A comprehensive field visit of the allotment was made in March of 2013 and photos and field notes for the reaches of Picket and Hart Creek that traverses pasture 2 were made. The reaches appear to lack deep-rooted riparian vegetation and the vegetation that does occur appears to be broken, trampled, and dying. However, the stream is relatively well-armored with rock.

Springs

Springs do not occur in this pasture.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment
See Table RIPN-1 under Standard 2 for Red Mountain pasture 1 above for a comprehensive display of all the riparian information currently in the BLM riparian database for the Red

Mountain allotment, both that used in the original assessment, as well as newer, supplemental information.

Standard 3: Stream Channel/Floodplain

Pickett Creek - Pickett Creek is functioning at risk with an upward trend relative to the channel/floodplain (Appendix O). Portions of the stream segment in this pasture are over-widened and the width/depth ratio is out of balance with the landforms. This limits floodplain inundation and water storage capabilities.

Pickett Creek is predominantly B4 with a portion of F4 stream channel types. The F4 channel type has low sinuosity and a high width/depth ratio. The F4 portion of the stream has departed from full operating potential (C4) as a result of historic direct channel disturbances. Streambank and channel material is made up of gravel. This stream type generally has unstable banks and contributes a high sediment supply. The B4 stream channel type is found in the upper and lower portions of this stream. Streambank material is gravel and small cobble. Width/depth ratios are high in the B4 portions of this stream. This limits floodplain inundation and water storage capabilities. In places the floodplain and channel characteristics are inadequate to dissipate energy. The system is downcutting and at risk for lateral movement.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment
In 2008, Pickett Creek segments 003 and 004 were re-assessed in PFC. Although the reaches lacked an herbaceous understory, the stream banks were armored with boulders and large willows. Livestock had access to stream at three small segments of the stream reach and browse appeared to be less than 10 percent.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment
See Table RIPN-1 under Standard 2 for Red Mountain pasture 1 above for a comprehensive display of all the riparian information currently in the BLM riparian database Red Mountain allotment, both that used in the original assessment, as well as newer, supplemental information.

Standard 4: Native Plant Communities

Shadscale and low sagebrush communities

No Rangeland Health Evaluation Summary Worksheets or Nested Plot Frequency Transects were conducted in shadscale or low sagebrush communities. These communities are a relatively minor component in the pasture.

Big sagebrush communities

Rangeland Health Evaluation Summary Worksheets

Big sagebrush communities showed a moderate departure from reference conditions. Decreaser grass cover is reduced or absent. Increaser grass and sagebrush cover is similar to or greater than expected.

Integrity/Diversity - Plant community integrity and native species diversity show a moderate degree of departure from reference conditions. Species diversity at 05S02W15 is similar to reference sites; however, dominant species are different from reference conditions at all sites. Decreaser grasses are significantly reduced or absent at sites 05S02W02B and 05S02W03 and restricted to shrub understories at 05S02W15. Occurrence of Sandberg bluegrass and squirreltail is greater than expected. Sandberg bluegrass is the primary perennial grass present in shrub interspaces. Sagebrush cover is similar to reference conditions at 05S02W15, but occurrence is greater than expected at the remaining sites.

Biological soil crust cover is slightly reduced in interspaces at sites 05S02W03 and 05S02W15 and significantly reduced at 05S02W02B. Cheatgrass is common in some disturbed areas at 05S02W03 and rare at the remaining sites. Juniper occurs in very low densities at 05S02W03 and 05S02W15. Annual production is within 80% of expected; however, sagebrush and Sandberg bluegrass account for more than expected at all sites. Observed forb diversity is greatest at 05S02W15 and similar to expected at the remaining sites. Leguminous species (milkvetch) were observed at 05S02W02B and 05S02W15.

Plant Vigor - Plant vigor shows a slight degree of departure from reference conditions. Substantial pedestalling and the resulting exposure of roots have resulted in decreased vigor and mortality of Sandberg bluegrass at all sites. Vigor of decreaser grasses is good at 05S02W15, but reduced 05S02W03 where plucking, pedestalling, and mortality are evident. Sagebrush decadence and mortality is greater than expected at 05S02W02A and similar to expected at the remaining sites. Pedestals on shrubs are evident at 05S02W03. Seed heads are present primarily on grasses under shrub canopies. Evidence of recruitment and varied age classes are evident for grasses and shrubs at sites 05S02W02A and 05S02W03 and for shrubs at 05S02W15.

Noxious/Invasive Plants - A population (<0.1 acre) of Scotch thistle was reported at 05W02W03 before 1996. The current status of the population is unknown. Native and exotic invasive species occur in a moderate departure from reference conditions at sites 05S02W03 and 05S02W15 and a slight-moderate departure at site 05S02W02B. Juniper occurrence is rare at sites 05S02W03 and 05S02W15. Cheatgrass is sporadically common in disturbed areas at 05S02W03 and occurs in limited areas in the remainder of the sites.

Trend

The general trend in ecological condition was static. Increases in squirreltail and low sagebrush had little influence on trend because they are relatively minor components of the community. Frequencies of Sandberg bluegrass and Wyoming big sagebrush, the primary components, were relatively static.

NPFT Studies – The frequency of Sandberg bluegrass fluctuated, but remained similar between 1987 and 2002 (Appendix L). Frequencies of squirreltail, longleaf phlox, and Wyoming big sagebrush were static. Low sagebrush frequency increased between 1987 and 2002; however, frequencies were too low for a valid statistical test.

Photo Plots/ View Photos - The apparent trend was static to upward for grasses and shrubs between 1986 and 2002 (Table 10). Squirreltail cover increased and Sandberg bluegrass cover was static. Vigor was low at the site which probably reflects the influence of the clay content in the soil. Low sagebrush cover increased in the photo plot. Sagebrush cover, primarily Wyoming big sagebrush, was static in the view photos.

Table 10. Apparent trend in abundance (D = downward, S = static, U = upward) of perennial grasses and shrubs in photo plots and view photos, big sagebrush communities, pasture 2, Red Mountain Allotment, 1987-2002.

Transect	Range Site	Evaluation Period	Grasses		Shrubs/ Trees	
			Plot	Photos	Plot	Photos
05S02W15	Loamy 10-13”	1986-2002	U	S-U	U	S-U

Shrub/Tree Density - Western juniper was not encountered at the site.

Herbaceous (Burned) Communities

In 1986, approximately 100 acres burned in 05S02W11. No Rangeland Health Evaluation Summary Worksheets were conducted in the burn.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment
Standard 4 is not met in pasture 2 of the Red Mountain allotment with the overall slight-to-moderate departure of biotic integrity within the big sagebrush communities from reference site conditions recorded, but a slightly greater departure of functional/structural groups from reference site conditions was documented due to the loss of deep-rooted bunchgrass species. Historic livestock grazing contributed to the loss of deep-rooted perennial bunchgrasses, although recent upward trend in the frequency of squirreltail at the trend site documents progress toward meeting the standard. Limited residual deep-rooted bunchgrasses and a very limited seed source for establishment and restoration of deep-rooted perennial bunchgrasses in the vegetation community, precludes recovery toward co-dominance of vegetation communities by bluebunch wheatgrass and Thurber’s needlegrass in pasture 2 in a reasonable time-frame and indicates the vegetation community will be held in a state other than reference conditions.

Standard 8: Threatened and Endangered Plants and Animals

Redband Trout

<u>Redband Trout Habitat Assessments</u>

Redband trout occur in Pickett Creek. Riparian plant communities of Pickett Creek are primarily dominated by early/mid seral or increaser species, which are unable to maintain stable streambanks and channels. Habitat conditions for redband trout are degraded due to the increased width and reduced depth of the stream. The stream is over-widened and channel and floodplain characteristics are inadequate for dissipating stream energy. Altered hydrologic and vegetative characteristics increase the surface area of water that is influenced by solar radiation. Water temperature is raised and habitat suitability is reduced. Additionally, cover provided by deep pools, undercut banks, and overhanging vegetation is poor.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

General Riparian Habitat
In the present assessment, 3.9 miles of stream riparian habitat along Pickett Creek were assessed for PFC. Approximately 2.7 miles were rated as PFC (see Standard 2); otherwise, the remaining information above has not changed (1.2 miles FAR). Conditions along the majority of streams supporting riparian vegetation appear to be at least minimally adequate for dependent migratory birds. Although the herbaceous understory is lacking along some reaches of the assessed streams, woody species display diverse species and age-classes with multiple canopies which are providing structurally complex breeding, nesting, and foraging habitat for dependent species.

Focal Special Status Species
Greater sage-grouse
Habitat Characteristics
Habitat Assessments
Pasture 2 is entirely within the breeding and winter seasonal ranges of the Owyhee Front/Triangle local population (Map WDLF-6). The dominant Wyoming big sagebrush ecological sites support breeding (including early brood-rearing) and winter sage-grouse habitat. Although there are no lentic sites in the pasture, Bates and Pickett Creeks and several intermittent washes provide important early brooding-rearing areas. All sage-grouse habitat within the pasture is considered key habit (Maps WDLF-4 and WDLF-5B).

Breeding Habitat
Four SG HAs were used to assess breeding habitat conditions within pasture 2 (Map WDLF-5B). Three SG HAs were located within the Loamy 8-12" ARTRW8/ACTH7 Ecological Site and one SG HA was located in the Sandy Loam 8-12" ARTRW8/ACHY Ecological Site. These ecological sites constitute a majority of the usable sage-grouse habitat (based on cover types/ecological sites) within the pasture (approximately 75 percent of shrub steppe acres; see Table WDLF-20 below), and therefore are representative of the conditions that predominate within pasture 2.

The most recent breeding SG HA in the pasture was conducted in 2008, a review of the results from three SG HAs conducted in the same and an additional ecological site in 2002 (see below) reveal that measurements of most indicators have remained consistent or have improved slightly. The current rating of sage-grouse breeding habitat conditions within the pasture is Suitable.

- **05S02W15-2008 (R011XY001ID)**

Suitable. Although sagebrush CC was slightly low, perennial bunchgrass (SIHY) CC was adequate. Sagebrush height was adequate, but perennial bunchgrass height was marginal but near suitable heights (Table WDLF-18). Forbs were somewhat diverse and abundant; however, there contribution to perennial vegetation heights was minimal. BRTE is present and might have potential to spread if not properly managed.

- **05S02W15-2002** and **05S02W02-2002 (R011XY001ID)**
  Marginal. Sagebrush CCs were adequate or slightly high, and heights were adequate. However, herbaceous perennial understory vegetation CC and heights were on the low end of marginal (Table WDLF-18). One site (05S02W15) had no deep-rooted bunchgrass CC. Overall forb diversity and abundance was marginal although it was highly variable and ranged from suitable (10 abundant species) to unsuitable (1 sparse species). *Poa secunda* was the dominant grass species.
- **05S02W03-2002 (R011XY014ID)**
  Marginal. Although sagebrush height and forb canopy cover were within the suitable range, most of the primary indicators fell within the marginal or unsuitable range (Table WDLF-18). Although perennial bunchgrass CC was suitable, heights were unsuitable based on photos. Preferred forb species were few and sparse.

Table WDLF-18: Summary of breeding SG HAs[1] in pasture 2 of the Red Mountain allotment (2002 and 2008)

Habitat Indicator	Ecological Sites[2]		
	R011XY001ID-2008	**R011XY001ID-2002**	**R011XY014ID-2002**
	n=1	**n=2**	**n=1**
Sagebrush Canopy Cover (%)	16 (S)	30 (M)	25 (S)
Sagebrush Height (cm)	39 (S)	39 (S)[3]	(S)[3]
Sagebrush Growth Shape	Mixed (M)	Mixed (M)	Spreading (S)[3]
Grass and Forb Height (cm)	10 (M)	5 (M)[3]	(U)[3]
Perennial Grass Canopy Cover (%)	20 (S)	7 (M)	15 (S)
Forb Canopy Cover (%)	18 (S)	6 (S)	3 (M)
Preferred Forb Availability	6 spp./abundant (S)	1-10 spp./sparse-abundant (M)	2 spp./sparse (U)
Overall Site Evaluation	**Suitable**	**Marginal**	**Marginal**

[1]Individual habitat indicator suitability ranges are given in parentheses and include Suitable (S), Marginal (M), and Unsuitable (U).
[2]Ecological sites include Loamy 8-12" ARTRW8/PSSPS-ACTH7 (R011XY001ID) and Sandy Loam 8-12" ARTRW8/ACHY (R011XY014ID).
[3]Vegetation heights were not recorded at the some sites assessed in this ecological site in 2002. Ratings are based on examination of assessment photos.

Brood-rearing and Summer Riparian Habitats

Pasture 2 contains perennial Pickett Creek and several intermittent stream valleys (including Little Hart Creek) that may support early brood-rearing lotic habitats. Pickett Creek varies in geomorphology within the pasture. Although the middle portion is located in a moderately steep-sided valley, a majority of the creek occurs in a more open valley and supports riparian vegetation with a moderately closed canopy and a fair amount of open areas with opportunities for succulent herbaceous vegetation growth in the floodplain. Currently, understory herbaceous riparian species and cover are limited. A majority of Pickett Creek was assessed as PFC. Little Hart Creek is an intermittent stream that has not been assessed for PFC. The lower reach of Little Hart Creek in the northeastern portion of the pasture has intermittent sections of riparian species woody cover as well as sandy washes. The floodplain is variable along the lower stretch but has ample open areas that could support succulent riparian and upland herbaceous vegetation during early spring.

Pasture 2 also contains several intermittent/ephemeral stream valleys that may support early brood-rearing habitat, none have been assessed for PFC primarily because they do not support woody, and in most cases, herbaceous riparian vegetation communities. At best, these areas may support succulent vegetation in the early spring.

Pasture 2 does not contain any known spring-associated lentic riparian/wetland areas.

In general, the limited riparian habitats available to and most likely used by sage-grouse (Pickett and Little Hart Creeks) are providing minimally adequate conditions for early brood rearing. The closed canopy of woody cover and sparse herbaceous understory vegetation along Pickett Creek may be limiting sage-grouse use although it is possible that these areas are supporting succulent herbaceous forage in the early spring.

Winter Habitat

Four SG HAs were used to assess winter habitat conditions within pasture 2 (Map WDLF-5B). Three SG HAs were located within the Loamy 8-12" ARTRW8/ACTH7 Ecological Site and one SG HA was located in the Sandy Loam 8-12" ARTRW8/ACHY Ecological Site. These ecological sites constitute a majority of the usable sage-grouse habitat (based on cover types/ecological sites) within the pasture (approximately 75 percent of shrub steppe acres; see Table WDLF-20 below), and therefore are representative of the conditions that predominate within pasture 2.

The most recent winter SG HA in the pasture was conducted in 2008, a review of the results from three SG HAs conducted in the same and an additional ecological site in 2002 (see below) reveal that measurements of most indicators have remained within suitable ranges. The current rating of sage-grouse winter habitat conditions within the pasture is Suitable.

- **05S02W15-2008 (R011XY001ID)**
  Suitable. The amount (CC) and height of sagebrush would provide forage above any persistent snow (which is rare at the site's elevation), and provide adequate concealment and thermal cover (Table WDLF-19). In general, winter habitat conditions appear to be consistent with previous findings (see below).
- **05S02W15-2002** and **05S02W02-2002 (R011XY001ID)**

Suitable. The amount (CC) and height of sagebrush would provide forage above any persistent snow (which is rare at the site's elevation), and provide adequate concealment and thermal cover (Table WDLF-19).

- **05S02W03-2002 (R011XY014ID)**
  The amount (CC) and height of sagebrush would provide forage above any persistent snow (which is rare at the site's elevation), and provide adequate concealment and thermal cover (Table WDLF-19).

Table WDLF-19: Summary of winter SG HAs[1] primary indicators in pasture 2 of the Red Mountain allotment (2002 and 2008)

Habitat Indicator	**Ecological Sites[2]**		
	R011XY001ID-2008	**R011XY001ID-2002**	**R011XY014ID-2002**
	n=1	**n=2**	**n=1**
Sagebrush Canopy Cover (%)	16 (S)	30 (S)	25 (S)
Sagebrush Height (cm)	39 (S)	39 (S)[3]	(S)[3]
Overall Site Evaluation	**Suitable**	**Suitable**	**Suitable**

[1]Individual habitat indicator suitability ranges are given in parentheses and include Suitable (S), Marginal (M), and Unsuitable (U).
[2]Ecological sites include Loamy 8-12" ARTRW8/PSSPS-ACTH7 (R011XY001ID) and Sandy Loam 8-12" ARTRW8/ACHY (R011XY014ID).
[3]Vegetation heights were not recorded at the some sites assessed in this ecological site in 2002. Ratings are based on examination of assessment photos.

General Upland Habitat Assessment
Several upland habitats and cover types occur within a variety of ecological sites within pasture 2 (Table WDLF-20).

Table WDLF-20: NRCS Ecological Sites within Red Mountain pasture 2

Habitat Type	**General Cover Type**	**Ecological Site Description**	**Percentage of Allotment**	
			Ecological Site Description	**General Cover Type**
Salt Desert Shrub	Shadscale	Calcareous Loam 7-10" ATCO-PIDE/ACHY-ACTH7	13	13
Shrub Steppe	Big Sagebrush[1]	Sandy Loam 8-12" ARTRW8/ACHY	36	80
		Loamy 8-12" ARTRW8/PSSPS-ACTH7	24	
		Loamy 10-13" ARTRW8/PSSPS	20	

	Low Sagebrush	Shallow Claypan 11-13" ARAR8/PSSPS	7	7

[1]Big sagebrush (*Artemisia tridentata*) cover types include communities dominated by the subspecies Wyoming (*wyomingensis*).

In general, upland habitat conditions have remained relatively static since the previous assessment (see Standard 4). Although shrub cover has remained consistent and continues to provide adequate woody cover, structure, and forage for shrub-obligate and dependent species, the quality of the herbaceous understory has improved very little. Deep-rooted, tall-statured perennial bunchgrasses remain sparse or absent although mid-statured squirreltail has increased in frequency. Short-statured bluegrass (*Poa* sp.) is ubiquitous and dominant. Cheatgrass is sporadically common in disturbed areas. These understory conditions are limiting habitat quality for many ground dwelling, nesting, and foraging species.

Plants

Systematic inventories for special status plants have not been conducted. Incidental work for other site-specific projects has yielded no occurrences, though this type of work has been limited.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Botany
No populations of special status plant species are known to occur in this allotment. There is insufficient information to determine site-specific impacts of livestock grazing on any special status plants that may occur in this allotment. Records show no reported special status plants in this allotment for this reason this standard is not applicable.

Information sources
Elemental Occurrences (EOs) for special status species (SSP) populations is recorded in the Idaho Fish and Wildlife Information System (IFWIS) Species Diversity database (IDFG, 2011). EOs are derived by completion and review of Idaho Rare Plant Observation Reports through the Idaho Natural Heritage Program. Other sources that were used to assess and evaluate the composition and condition of SSP habitats within the Red Mountain allotment include RHAs, photographs, field notes, Plants database (USDA NRCS, 2013), literature search, and information summarized above in Standards in this document. Records show no reported special status plants in this allotment.

Mid Spring Use (Red Mountain Pasture 3)

Summary

- some active pedestalling of grasses is apparent, primarily the result of frost heaving and increased overland flows;
- all 5.06 miles of stream inventoried are functioning at risk;
- no springs are located in pasture 3;
- upland vegetation has a static trend in condition;

- decreaser grass species are present as expected although reduced in shrub interspaces at some sites, juniper is a relatively minor component in most areas but is dominant at upper elevations;
- redband trout seasonally inhabit Hart and Pickett creeks, both are rated functioning at risk.

Data Collection

Five rangeland health evaluations were conducted in low sagebrush communities between July 16 and August 28, 2002 (Table 11, Map WDLF-2). One trend plot was conducted in a low sagebrush community between 1985 and 2002 (Table 11, Map WDLF-3).

Table 11. Summary of upland data collected in pasture 3 (Mid Spring Use), Red Mountain Allotment.

Data Type[1]	Allotment	Pasture	Location	Ecological Site	Condition/Trend[2]
RHE	Red Mountain	3	05S02W20	Shallow Claypan 12-16”	+
			05S02W22	Shallow Claypan 11-18	0-
			05S02W27	Shallow Claypan 12-16”	+
			05S02W33	Shallow Claypan 12-16”	0-
			06S02W10	Shallow Claypan 12-16”	+
NPFT	Red Mountain	3	05S02W33	Shallow Claypan 12-16”	Static to upward

[1] RHE – Rangeland Health Assessment, NPFT – Nested Plot Frequency Transect
[2] + = none-slight departure from reference conditions, 0 slight-moderate departure from reference conditions, - = moderate departure from reference conditions, -- = moderate-extreme departure from reference conditions

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment
Additional data were collected during 2008 and 2001at the nested plot frequency transect (T 05S, R 02W, Sec 33; see accompanying graph). Frequency data for perennial bunchgrass species indicate a downward trend in condition with the frequency of Idaho fescue declining consistently in 2008 and 2011 from observation in nearly 100 percent of the plots in 1991 and 2002. Although the decrease in frequency between 2008 and 2011 is not statistically significant, the decrease through both 2008 and 2011 is statistically significant when compared to 2002 data (Student’s T-test; p-value <0.1). A similar downward trend was observed for bluebunch wheatgrass between 2008 and 2011, although from 4 percent frequency in 2008 to 2 percent frequency in 2011, although is not statistically significant. Both Idaho fescue and bluebunch wheatgrass are deep-rooted perennial bunchgrasses that would co-dominate the vegetation communities in pasture 3 at reference site conditions. At the same time, the frequency of Sandberg bluegrass and squirreltail increased. Sandberg bluegrass and squirreltail are shallow and mid-rooted native bunchgrass species respectively that are present as a minor component at reference site conditions. Recorded shrub density through the dates of monitoring are inconclusive with alternating upward and downward trends for low sagebrush with each successive date of data collection.

Figure VEG-5: Frequency of native perennial bunchgrass species at the trend transect (T. 05S., R. 02W., Sec 33) in pasture 3 of the Red Mountain allotment

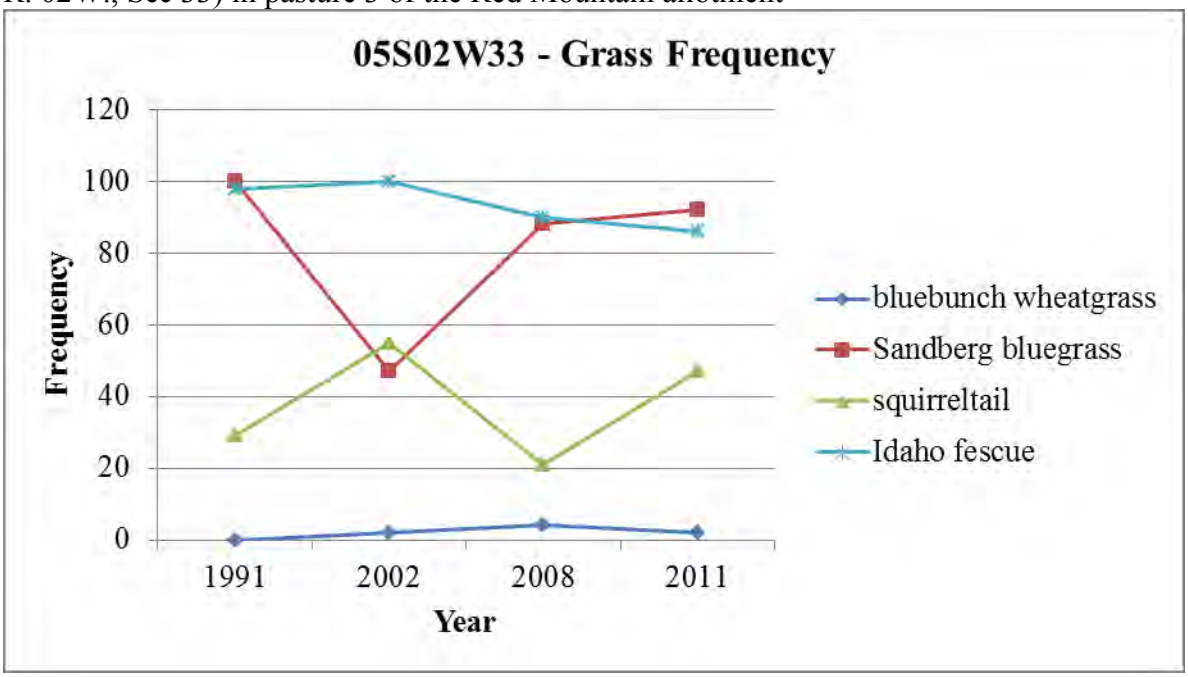
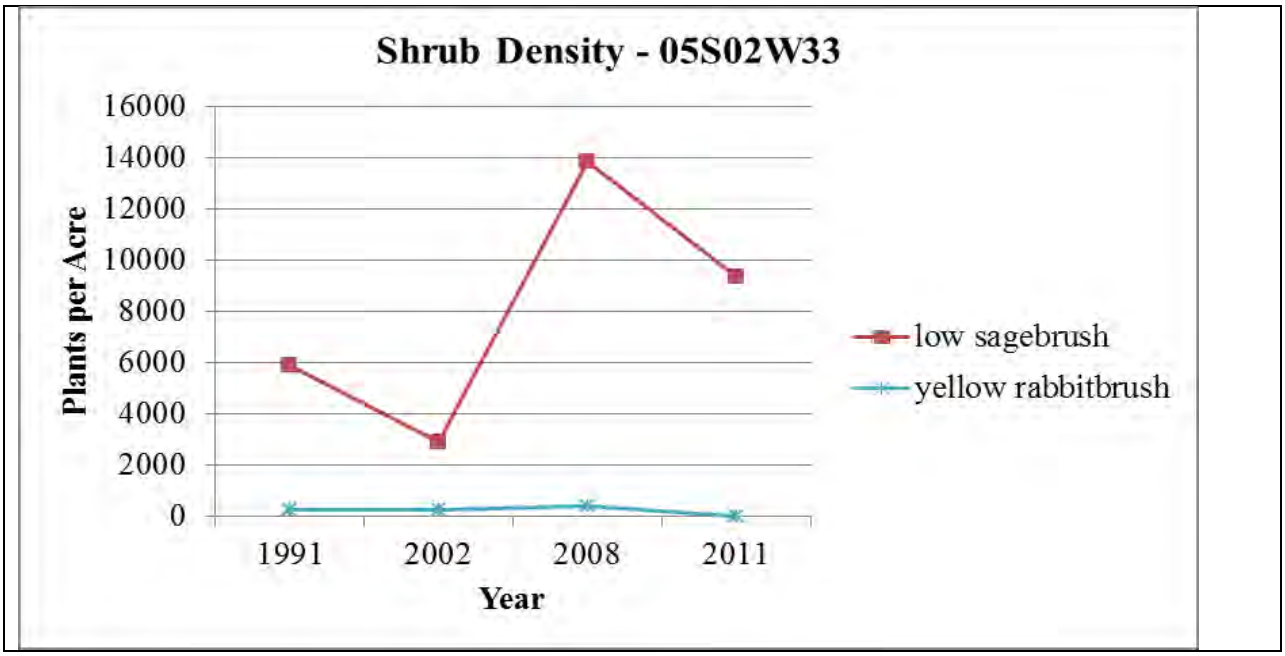


Figure VEG-6: Density of big sagebrush at the trend transect (T. 05S., R. 02W., Sec 33) in pasture 3 of the Red Mountain allotment



Livestock Use

Use in pasture 3 occurs for a one and a half to two month period between mid-April and mid-June (Appendix E) each year. Growing conditions and availability of carryover forage affect the exact timing of turnout into pasture 3 from pasture 2. Pasture 3 is mountainous, particularly the southern end, the direction of livestock drift in spring. The rough terrain affects the rate at which livestock can be found and removed. The gap fencing installed in 1982 to divide pasture 3 into two sub-pastures has not been used in management of the pasture. The original intent was to implement a two-pasture deferred rotation within what is now pasture 3.

The season of use is currently April 16 to May 31 under the March 1996 Agreement, and was either early spring (April 1-22) or mid-spring (April 23-May 31) under the 1983 final decision. During 1984 through 1995, early spring and mid-spring use, and rest were rotated among the three pastures. Pasture 3 was rested 25% of the time during that period. Turnout was delayed in years when carryover forage was not available and range readiness criteria were not met. While the current permit does not specify a season of use for this pasture, grazing during the critical growth period for most perennial grasses has occurred in it during every year since 1993.

Fall use was authorized in pasture 3 during 1984, 1986, and 1994 to 1996. The fall use reduced the length of the active trailing from Boone Peak to the main winter use pasture (pasture 1) in 1994-1996. However, the 1997 final decision formally eliminated fall-winter use from this pasture.

Grazing in the lower (fan terrace) portion of pasture 3 generally occurs during the critical growth period for all perennial grass species. The fan terraces lie within the Late Spring Use Area as defined by the Boise District Phenology Study. The critical growth period for perennial grasses occurs during the boot stage of development. Grazing during that time has the greatest impact

upon vigor and reproduction. The critical growth period for bluebunch wheatgrass, Indian ricegrass, needle-and-thread, and Idaho fescue occurs during late-May in the Late Spring Use Area. The critical growth period for Thurber needlegrass was not defined by the study, but probably is similar to that of Idaho fescue, although it tends to stay green later. The critical growth period for squirreltail occurs in mid-May. The critical growth period for Sandberg bluegrass occurs during early May.

The majority (foothills) portion of pasture 3 lies within the Early Summer Use Area as defined by the Boise District Phenology Study. The critical growth period for bluebunch wheatgrass and Idaho fescue occurs during early to mid-June in the Early Summer Use Area. The critical growth period for Thurber needlegrass was not defined by the study, but probably is similar to that of Idaho fescue, although it tends to stay green later. In some years, grazing may occur during the critical growth period for these species, particularly on warm exposures. The critical growth period for squirreltail occurs during late May. The critical growth period for Sandberg bluegrass occurs primarily during May. Grazing occurs during the critical growth period in most years for those species.

Total actual use ranged between 156 AUMs in 1987 and 1,025 AUMs in 1991, and averaged 586 AUMs between 1986 and 2002 (Appendix E). Actual use data or licensed use, by pasture, is not available before 1986. Pasture 3 was rested in 1985, 1989, and 1992. Extended drought between 1987 and 1992 and beginning again in 1999 depressed growth and reproduction of perennial plants, and permitted use was adjusted accordingly. Nonuse for the Red Mountain Allotment as a whole averaged 1,891 AUMs (70%) from 1986 to 1996, and 1,109 AUMs (49%) from 1997 to 2002. Prior to 1997, all of the permitted use was formally designated as spring use. Cattle numbers are limited to 450 head under the March 1996 Agreement, which indirectly specifies the amount of permitted use allowed in pasture 3.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Table LVST-4: Livestock grazing use in pasture 3 of the Red Mountain allotment reported by the permittee in recent years

Year	Dates of Use	AUMs
2012	5/8-6/1; 12/8-2/28	552
2011	5/9-5/30; 11/1-12/30	788
2010	5/6-6/3; 11/1-12/10	829
2009	5/20-6/1; 10/26-12/5	711
2008	5/16-6/3; 10/25-12/17	782
2007	5/10-6/1; 10/15-12/8	801
2006	5/1-11/11	350
2005	4/22-10/20	653
2004	Bad Data	Bad Data
2003	No Data	No Data
2002	4/24-6/5	543
2001	4/14-6/9	688

2000	4/17-6/10	653
1999	4/27-6/10	517
1998	4/24-6/20	640
1997	4/22-6/3	534

These data indicate that grazing use has recently occurred during the active growing season annually, a treatment consistent with the period of use described in the 2006 assessment. In addition, and as noted in the 2013 grazing schematic, fall trailing of cattle returning from allotments to the west of Red Mountain to base property occurs through pasture 3. The permittee identified in the 2013 schematic that as cattle come down to the pastures 2/3 fence and congregate, they are taken home.

Livestock distribution in pasture 3 tends to reflect topography, road access, seasonal movement patterns, and proximity to water. The level fan terrace, toeslopes, and associated drainages at the lower end of the pasture receive much of the use, and utilization can also be heavy at the south end of the pasture, where cattle congregate at the end of the use period. The main road access from north to south is along the former route of the Stock Driveway. Utilization is locally heavy on ridgetops and in basins along that road, while adjoining steep mountain slopes receive none to light use. The permittee salts the high ridges and rides to draw cattle away from the fan terrace at the lower end of the pasture. Overall use in pasture 3 has not been determined, but would probably be slight to light based upon the large areas that receive little use. Utilization on Idaho fescue at the included trend site was light, excluding regrowth, in 2002, and has been slight to light in recent years for which use pattern mapping is available. In 2002, utilization was 60% on squirreltail and 6% on Sandberg bluegrass.

Utilization of Idaho fescue, the most consistently measured grass, was generally slight to light between 1983 and 1999 in pasture 3 (Appendix G). Utilization levels do not show any clear-cut relationship with stocking rates and growing conditions during that period. Idaho fescue is primarily found on cool exposures and at higher elevations, which have a longer active growth period for recovery after spring grazing. Bluebunch wheatgrass, with fewer observations, showed similar use levels to Idaho fescue. Bluebunch wheatgrass is more common on warm exposures where the active growth period after spring grazing is shorter. However, the rest rotation and large amounts of nonuse between 1984 and 1996 did help promote plant vigor and production compared to the previous management. In such mountainous terrain, the location of a limited number of measurements can influence the average. For example, the moderate use of Idaho fescue occurred in 1999 on the ridgetop along the southern boundary fence.

Utilization on bluebunch wheatgrass and Idaho fescue was greater prior to 1983 (Appendix G) when most of the active use (1,911 AUMs) was imposed each spring in the Red Mountain Allotment.

Utilization of squirreltail was consistently moderate between 1976 and 1997, even during good moisture years (Appendix G). No particular relationship to stocking rate is evident. Cattle appear to prefer squirreltail to Idaho fescue. In most years, April and May use allows for some regrowth of perennial grasses following cattle removal.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Table VEG-3: Recorded utilization on key species in pasture 3 of the Red Mountain allotment in recent years

Year	PSSP	FEID	SIHY
1979			
1980			
1981	31	27	21
1982	48	45	49
1983	13	16	
1984			
1985			61
1986		28	
1987		17	
1988			
1989			
1990			
1991			
1992	3		
1993			
1994			34
1995			
1996			
1997			50
1998			
1999		55	
2000			
2001			
2002			
2003			
2004			
2005			
2006			
2007		56	40
2008	12		
2009	21		28
2010	9		
2011			
2012	15		

Although no data are available for most years, these data indicate that with grazing use,

utilization record has seldom exceeded the maximum allowable level of 50 percent established in the Owyhee Resource Management Plan.

Utilization monitoring indicated that livestock use levels of riparian vegetation on streams in pasture 3 was moderate or not measurable a month after livestock removal (Table 12). Young willow and cottonwood plants were evident and were not browsed.

Table 12. Median stubble height and percent shrub utilization for streams in pasture 3, Red Mountain Allotment, 1999-2001.

Stream	Allotment (Pasture)	Date	Median Stubble Height (inches)	% Shrub Utilization
Hart 005	588 (3)	5/13/01	5	
Hart 006	588 (3)	5/13/01	5	
Pickett 005	588(3) 05S02W15 NENW	7/7/99	18	1
Hart 005	588(3)	7/1/99	15	5
Browns 012	588 (3)	6/5/01	4	

Standard 1: Watersheds

Low sagebrush communities

Rangeland Health Evaluation Summary Worksheets

The worksheets show that there is a slight-moderate (with many indicators more to the slight end) departure for the rangeland health indicators relating to watershed from those found in reference areas and ecological site guides.

Hydrologic Function - Signs of active surface erosion are evident at all sites with some features documented appearing to be more a result of older erosional episodes. Water flow patterns were common with most of short duration and little connectivity. Pedestalling of bunchgrass (primarily Sandberg bluegrass) is associated with these flow patterns and interspatial areas and some terracettes were noted on some of the more sloping areas (particularly at site 05S02W22). Frost heaving is partially responsible for some of the pedestal formation, but this action has been accentuated by increased overland flow resulting in a more active erosional processes.

Soil Surface and Vegetative Function/Cover - The abundance of surface rock protecting the soil from erosional forces is common at many of these sites. The plant community indicator showed a slight-moderate degree of departure from reference areas and site guides at all sites. The main visual feature of the plant community, as it reflects hydrologic function, is one where some of the decreaser plants are now replaced by increaser species and there is an increase in the shrub component from reference conditions. Density of the key bunchgrass species is also lower than expected, particularly in the interspatial areas. Biological soil crusts are generally represented at many sites. Site 05S02W20 is the site closest to reference conditions while sites 05S02W33 and 05S02W22 deviate the farthest from reference conditions. Western juniper is encroaching on all these sites to various degrees but not at a level where it is affecting hydrologic

function. In general, the plant community as it influences the capture, storage, and management of moisture is functioning close to what is expected with areas (particularly the sloping ones) where function is weaker.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Ground Cover Trend

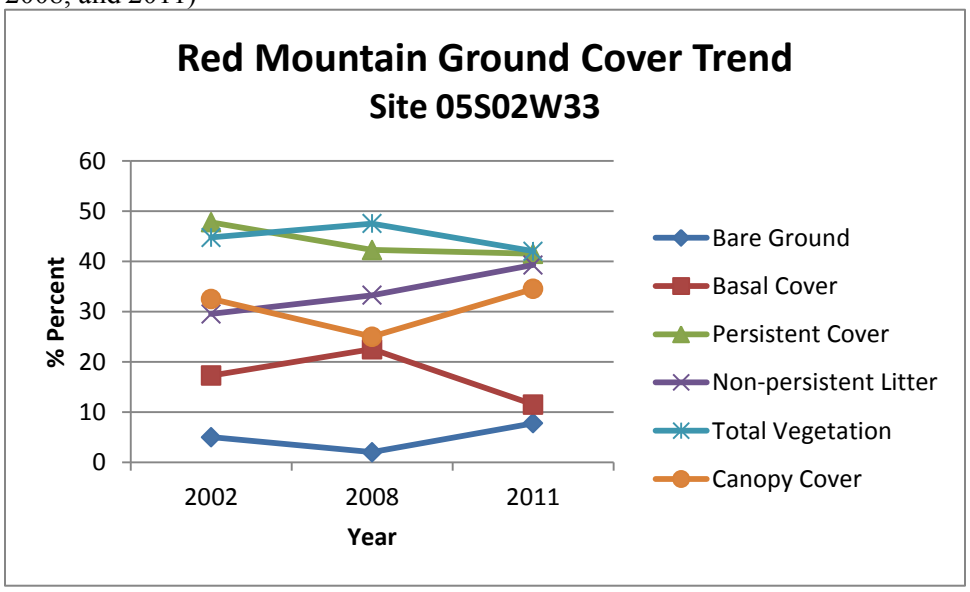
Ground cover trend data were collected in pasture 3 at the nested plot frequency transect (05S02W33) in 2002, 2008, and 2011 (Table Soil-1 and Figure Soil-3). Over the long term, findings reflect a static to downward trend for all values except for a significant increase in non-persistent litter. Short-term values show a significant increase in bare ground, non-persistent litter, and canopy cover while basal cover and total vegetation are decreasing with latter being significant.

Table Soil-1: Ground Cover data from trend site for pasture 3 of the Red Mountain allotment (2002, 2008, 2011)

Ground Cover Type	Site 05S02W33	
	Short-term	Long-term
Bare Ground	**I**[s]	**S**
Basal Vegetation	**D**[s]	**D**[s]
Rock, gravel, biological crust & persistent litter	**S**	**D**
Non-persistent litter	**I**[s]	**I**[s]
Total Vegetation	**D**	**S**
Canopy Cover	**I**[s]	**S**

[s]values are statistically significant (Student's T-test; p-value <0.1)
I=Increase, D=Decrease, S=Remains the same

Figure Soil-3: Ground Cover data from trend site in pasture 3 of the Red Mountain allotment (2002, 2008, and 2011)



The site shows a long-term static to slight downward trend between 2002 and 2011. After a brief

decline, bare ground has been on the increase in the past years despite some short-term improvements in non-persistent litter, canopy cover, and unchanged persistent cover since 2008. However, a decline in basal cover may have influenced a rise in bare ground due to its inverse relationship though bare ground remains well below the range (40 to 50 percent) of this Shallow Claypan 12-16" ecological site. Shrub density (see above) has been declining which does not correspond with a recent increase in canopy cover.

Grass frequency cover (see above) shows that deep-rooted cool season perennial bunchgrasses are represented though shallow-rooted bunchgrasses maintain a strong and increasing presence. Overall interpretations of trend data suggest that ground cover conditions reflect a slight downward trend over the long-term since 2002 with bare ground slightly increasing within otherwise well represented ground cover values that reflect biotic conditions that contain deep-rooted perennial bunchgrass that are on the decline.

Big sagebrush communities

No Rangeland Health Evaluation Summary Worksheets or Nested Plot Frequency Transects were conducted in big sagebrush communities. These communities are a relatively minor component in the pasture.

Standard 2: Riparian Areas and Wetlands

Riparian Areas

Portions of Pickett (0.99 miles), Hart (2.33 miles), and Browns (1.74 miles) creeks flow through pasture 3. There is a total of 5.06 stream miles and 13 acres of riparian area in pasture 3 (Map WDLF-4). Most of these stream reaches are headwater areas. Approximately 5.06 miles of stream in pasture 3 are functioning at risk (Appendix N).

Pickett Creek - Pickett Creek (005) in pasture 3 is functioning at risk with an upward trend. Vegetation has shifted from deep rooted, stabilizing hydric species, such as *Carex* and *Juncus* spp., to species more suited to drier sites with less stabilizing ability. The riparian overstory is dominated by black cottonwood. The shrub understory is composed of arroyo willow and yellow willow. Major herbaceous undergrowth species include cheatgrass and Kentucky bluegrass and a mix of forbs. The dominant community type is black cottonwood/willow CT, which is early to mid seral and relatively stable (Manning and Padgett, 1995). Stubble heights were 18 inches in 1999 and no use on browse occurred.

Hart Creek - Approximately 1.33 miles of Hart Creek flows through the Red Mountain Allotment on public lands. Both segments of Hart Creek (005, 006) are functioning at risk with an upward trend. Vegetation has shifted from deep rooted, stabilizing hydric species, such as *Juncus* spp., to species more suited to drier sites with less stabilizing ability. The dominant riparian overstory vegetation in both segments is Woods rose and arroyo willow, with an understory of cheatgrass. The dominant CT in both segments is arroyo willow/Woods rose CT and is late seral (Manning and Padgett 1995). This CT is associated with marginally riparian communities. The surface soils are relatively dry and support only scattered herbaceous species.

Stubble heights were 5 inches in 2001 and wildlife utilization of shrubs was minimal (005) to moderate (006).

Browns Creek - The 1.74 miles segment of Browns Creek in pasture 3 of the Red Mountain Allotment is functioning at risk with no apparent trend, because the root masses of plants in the segment have reduced stabilizing ability. The riparian overstory vegetation is dominated by juniper (*Juniperus occidentalis*), Woods rose, and arroyo willow, with an understory of cheatgrass, Kentucky bluegrass, and a mix of forbs. The dominant community types are arroyo willow/Woods rose CT and juniper disclimax type (DT).

The arroyo willow/Woods rose CT is late seral (Manning and Padgett 1995). This CT is associated with marginally riparian communities. The surface soils are relatively dry and support only scattered herbaceous species.

A disclimax community type occurs when recurring disturbances, such as fire suppression, exert the predominant influence in maintaining the structure and composition of the steady-state vegetation (Hansen et.al., 1995). The juniper DT has a narrow band of willow species in the riparian zone with a dominant juniper overstory. The existing vegetative root mass has poor stabilizing ability.

Willows in both the arroyo willow/Woods rose CT and the juniper DT are heavily browsed by wildlife and have a club shape or umbrella-shape growth forms. Root mass from this growth form of willow is reduced. Stubble height was 4 inches in 2001.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment
In 2008, the reach of Browns Creek and both reaches of Hart Creek that traverse pasture 3 of the Red Mountain allotment were re-assessed in PFC. Browns Creek had an abundance of willows, woody debris, and a cobbled stream channel stabilizing and protecting the riparian area against erosion during high flows. Hart Creek is constrained in a canyon and was armored with bedrock. The assessment identified concern regarding the incision of the lower reach of the stream.

<u>Springs</u>
No springs are located in pasture 3.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment
See Table RIPN-1 under Standard 2 for Red Mountain pasture 1 above for a comprehensive display of all the riparian information currently in the BLM riparian database Red Mountain allotment, both that used in the original assessment, as well as newer, supplemental information.

Standard 3: Stream Channel/Floodplain

Pickett Creek - Pickett Creek is functioning at risk with upward trend relative to the channel/floodplain. Portions of this stream segment are over-widened and the width/depth ratio is out of balance with the landforms. This limits floodplain inundation and water storage capabilities.

The width/depth ratios on Pickett Creek are high for a predominantly B4 stream type. This limits floodplain inundation and water storage capabilities. In places the floodplain and channel characteristics are inadequate to dissipate energy. Streambank material is gravel and small cobble. The system is not downcutting, but is at risk for lateral movement.

Hart Creek - Hart Creek (005, 006) is functioning at risk with upward trend relative to the channel/floodplain. Stream width/depth ratios are out of balance with the landforms. Floodplain inundation and water storage capabilities are limited.

The primary stream type in Hart Creek is F4b and is characterized by low sinuosity and high width/depth ratios. Streambank and channel material are made up of gravel. This stream type generally has unstable banks and contributes a high sediment supply. The F4 channel is a departure from full operating condition (C4) in this landform as a result of historic direct channel disturbances, such as a high flow event on a reduced root mass.

Browns Creek - The channel/floodplain of Browns Creek is functioning at risk with no apparent trend. The floodplain is poorly developed and stream width/depth ratios are out of balance with the landform. Water storage capabilities are limited. Overall, the ability of streambanks to dissipate stream energy is reduced and floodplain connectivity is limited.

Browns Creek is primarily a B4 stream type. This stream type typically is relatively stable and not a high sediment supply system. Streambank and channel material is gravel.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment
In 2008, the reach of Browns Creek and both reaches of Hart Creek that traverse pasture 3 of the Red Mountain allotment were re-assessed in PFC. Browns Creek had an abundance of willows, woody debris, and a cobbled stream channel stabilizing and protecting the riparian area against erosion during high flows. Hart Creek is constrained in a canyon and was armored with bedrock. The assessment identified concern regarding the incision of the lower reach of the stream.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment
See Table RIPN-1 under Standard 2 for Red Mountain pasture 1 above for a comprehensive display of all the riparian information currently in the BLM riparian database Red Mountain allotment, both that used in the original assessment, as well as newer, supplemental information.

Standard 4: Native Plant Communities

Low sagebrush communities

Rangeland Health Evaluation Summary Worksheets
Low sagebrush communities showed a slight departure from reference conditions. Bunchgrass cover and vigor are similar to expected; however, decreaser grass cover is reduced in some interspatial areas. Invasive species are present at all sites, but are a relatively minor component. Gravel, and to a lesser degree rock, cover was a significant component at all sites. Locations along the stock driveway and on fan terraces and foothill toe-slopes are the most degraded

Integrity/ Diversity - Plant community integrity and native species diversity show a moderate-extreme degree of departure from reference conditions at site 05S02W22, a slight-moderate degree of departure at 05S02W33, and a none-slight degree of departure at the remaining sites. The occurrence of decreaser grasses is similar to expected at all sites except 05S02W22 where they are absent from the community. Bluebunch wheatgrass is absent at 06S02W10; however, overall decreaser cover is as expected. Increaser grass cover, primarily Sandberg bluegrass, is greater than expected at 05S02W22, 05S02W33, and 06S02W10. Occurrence of bunchgrasses in shrub interspaces is similar to expected at all sites; however, Sandberg bluegrass is the dominant species at sites 05S02W22, 05S02W27, and 05S02W33. Low sagebrush cover is greater than expected at site 05S02W22 and 05S02W33 and as expected in the remaining sites.

Biological soil crust cover is similar to expected at all sites except 05S02W22 where it is slightly reduced in interspatial areas. Cheatgrass is present in low levels, primarily in disturbed areas, at sites 05S02W22, 05S02W27, and 05S02W33. Western juniper is widely scattered at all sites. Annual production is within 80% of expected at all sites; however, low sagebrush and Sandberg bluegrass provide more of the production than expected at 05S02W22. Observed perennial forb diversity is greatest at 05S02W33, lowest at 06S02W10, and similar to reference conditions at the remaining sites. Timing of the evaluations may have affected observability of forbs. Leguminous species (lupine, milkvetch) are present at all sites except 05S02W22.

Plant Vigor - Plant vigor shows a none-slight degree of departure from reference conditions at all sites. Vigor is similar to reference conditions for most species. Vigor of Sandberg bluegrass is reduced and mortality is greater than expected at sites where active pedestalling has exposed roots (05S02W22, 05S02W33). Seed heads are present on perennial grasses at all sites, but limited to plants protected by shrubs at sites 05S02W22, 05S02W33, and 06S02W10. Recruitment of shrubs is evident at all sites. Recruitment of grasses is evident at 05S02W20, 05S02W27, and, to a lesser degree, 05S02W33.

Noxious/Invasive Plants - Noxious weeds were not observed. Invasive plants show a slight-moderate degree of departure from reference areas at 06S02W10 and a moderate degree of departure at the remaining sites. Cheatgrass is not present at 05S02W20 and occurs primarily in disturbed areas at the remaining sites. Juniper is scattered to common in isolated areas at 05S02W20 and is widely scattered at the remaining sites. Limited juniper recruitment is evident at 05S02W20 and 05S02W27. Juniper woodlands are dominant in higher elevations of the pasture (no evaluations were conducted in these areas).

Trend

The general trend in ecological condition was static to upward. Both Idaho fescue and low sagebrush frequency increased; however, size and seed production of fescue declined, because of drought conditions in 2002. The site is near potential. The site is on a north exposure which may allow for regrowth after livestock use during favorable precipitation years.

NPFT Studies - Frequencies of Idaho fescue and squirreltail increased between 1991 and 2002 (Appendix L). The frequency of Sandberg bluegrass decreased. The frequency of longleaf phlox increased. The frequency of low sagebrush increased and the frequency of rabbitbrush was static.

Photo Plots/ View Photos - The apparent trend was static for grasses and static to upward for shrubs between 1985 and 2002 (Table 14). In the photo plot, Idaho fescue and low sagebrush abundance increased, but vigor of individual plants decreased. In the view photos, Idaho fescue cover and vigor was static to downward, rabbitbrush declined, and vigor of low sagebrush increased.

Table 14. Apparent trend in abundance (D = downward, S = static, U = upward) of perennial grasses and shrubs in photo plots and view photos, low sagebrush communities, pasture 3, Red Mountain Allotment, 1985-2002.

Transect	Range Site	Evaluation Period	Grasses		Shrubs/ Trees	
			Plot	Photos	Plot	Photos
05S02W33	Shallow Claypan 12-16”	1985-2001	S	S-D	S	S

Shrub/Tree Density – One western juniper became established at the trend site and a few became established adjacent to the site; however, overall occurrence in the community was very low.

Big sagebrush communities

No Rangeland Health Evaluation Summary Worksheets or Nested Plot Frequency Transects were conducted in big sagebrush communities. These communities are a relatively minor component in the pasture.

Herbaceous (Burned) Communities

In 1987, a small fire (< 1 acre) burned in 05S02W15. No Rangeland Health Evaluation Summary Worksheets were conducted in the burn.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment
Standard 4 is not met in pasture 3 of the Red Mountain allotment with the overall slight-to-moderate departure from reference site conditions recorded for biotic integrity within the low sagebrush communities, but a moderate-to-extreme departure of functional/structural groups from reference site conditions at one of four assessment sites. The departure of

functional/structural groups from reference site conditions is due to the loss of deep-rooted bunchgrass species and downward trend recorded at the trend site that is collocated with a second assessment site. The remaining two assessment sites are located on ridges adjacent to fences and are less representative of pasture-wide vegetation community biotic conditions.

Historic livestock grazing contributed to the loss of deep-rooted perennial bunchgrasses, while recent downward trend in the frequency of Idaho fescue and bluebunch wheatgrass at the trend site documents current livestock grazing that occurs during the active growing season for native perennial bunchgrasses (May 1 to June 30) as an additional causal factor. Scattered juniper uncontrolled by natural fire regimes has the potential to contribute to the failure to meet Standard 4 in the future. Residual deep-rooted bunchgrasses and the resulting seed source for establishment of additional plants can provide opportunity for recovery toward reference site conditions with co-dominance of vegetation communities by Idaho fescue and bluebunch wheatgrass in pasture 3.

Standard 8: Threatened and Endangered Plants and Animals

Redband Trout

Redband Trout Habitat Assessments

Hart and Pickett creeks have redband trout. Riparian plant communities of Pickett Creek are primarily dominated by early/mid seral or increaser species, which are unable to maintain stable streambanks and channels. Both streams are over-widened and channel and floodplain characteristics are inadequate for dissipating stream energy. Altered hydrologic and vegetative characteristics increase the surface area of water that is influenced by solar radiation. Water temperature is raised and habitat suitability is reduced. Additionally, cover provided by deep pools, undercut banks, and overhanging vegetation is poor.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

General Riparian Habitat

Approximately 5.0 miles of stream riparian habitat along Pickett, Browns, and Hart Creeks were assessed for PFC. The reach along Picket Creek was rated as FAR, while the Browns and Hart Creeks reaches were assessed in PFC (see Standard 2). Conditions along the majority of streams supporting riparian vegetation appear to be at least minimally adequate for dependent migratory birds. Although the herbaceous understory is lacking or dominated by upland or invasive species along some reaches of the assessed stream, woody species display diverse species and age-classes with multiple canopies (cottonwoods and willows) which are providing structurally complex breeding, nesting, and foraging habitat for dependent species.

Focal Special Status Species

Greater sage-grouse

Habitat Characteristics

Habitat Assessments

Pasture 3 is entirely within the breeding seasonal ranges of the Owyhee Front/Triangle local population (Map WDLF-6). The western or higher elevation (generally >4,500 feet) portion of the allotment is within summer range, and the eastern or lower elevation (generally <5,500 feet) portion of the allotment is within the winter seasonal range (Map WDLF-6). The dominant big and low sagebrush ecological sites support breeding (including early brood-rearing), upland summer, and winter sage-grouse habitat. Although there are no lentic sites in the pasture, Pickett, Hart, and Browns Creeks and several intermittent streams (including Little Hart Creek) provide important early brooding-rearing and summer riparian habitat areas. The majority of pasture 3 is key habitat; however, the higher elevation portions of the pasture are classified as juniper encroachment areas (Maps WDLF-4 and WDLF-5).

Breeding Habitat

Three SG HAs were used to assess breeding habitat conditions within pasture 3 (Map WDLF-5B). Two SG HAs were located within the Loamy 8-12" ARTRW8/PSSPS-ACTH7 Ecological Site and one SG HA was located in the Loamy 13-16" ARTRV/PSSPS-FEID Ecological Site. Big sagebrush ecological sites constitute a substantial portion of the usable sage-grouse habitat (based on cover types/ecological sites) within the pasture (approximately 65 percent of big sagebrush acres; see Table WDLF-22 below), and therefore are representative of the conditions in the preferred nesting habitat type that predominates within pasture 3.

Although low sagebrush ecological sites comprise the majority of usable sage-grouse habitat (although not preferred for nesting) within the pasture (approximately 82% of shrub steppe acres; see Table WDLF-22 below), no SG HA were conducted in this habitat.

The most recent breeding SG HA in the pasture was conducted in 2012; however, the assessment was not conducted at the appropriate time of year. Nevertheless, measurements of most indicators have remained consistent with 2008 SG HA conducted in the Wyoming big sagebrush ecological site and validate the Marginal rating. However, conditions within the mountain big sagebrush ecological site are Suitable for sage-grouse breeding. Although mountain big sagebrush habitats may be providing many components for suitable nesting habitat, sagebrush canopy covers are high and may be limiting sage-grouse use. In combination with the inadequate conditions in Wyoming big sagebrush habitats, the overall rating for breeding habitat within the pasture is Marginal.

- **05S02W15-2008 (R011XY001ID)**
  Marginal. Although sagebrush and perennial herbaceous vegetation heights were within the suitable range, most of the primary indicators fell within the marginal or unsuitable range (Table WDLF-21). Perennial grass canopy cover was marginal. Preferred forb species were sparse with low diverstiy. *Poa secunda* was dominant and indicative of a phase transition (Phase 1.1 to 1.2) within the reference state (State 1) which is probably due to improper historic grazing management.
- **05S02W26-2012 (R011XY001ID)**
  Marginal (*provisionally*). Although assessment was not conducted at the appropriate time of year, the majority of primary indicators (perennial herbaceous vegetation CCs and height, lack of forb diversity or abundance) and several important supplementary indicators (perennial grass height) fell within the marginal or unsuitable range and provisionally

would merit a marginal rating (Table WLDFL-21; Figure WDLF-1). Sagebrush CC is slightly high but height is adequate. However, the mixed growth form in combination with short perennial herbaceous understory may not be providing adequate nesting cover. There is a moderate level of uncertainty regarding whether perennial herbaceous vegetation components (bunchgrasses and forbs) would be more suitable during the spring. Nevertheless, the data displays a BRTE invasion which limits suitability. Some JUOC encroachment is occurring within this ecological site which may develop into a larger issue in the future in the absence of management actions. In general, breeding habitat conditions within this ecological site appear to be consistent with previous findings (see above).

- **06S02W09-2012 (R025XY011ID)**
  Suitable (*provisionally*). Although assessment was not conducted at the appropriate time of year and several primary and supplementary indicators fell within the marginal range (sagebrush CC, perennial grass CC and height), the site would provisionally merit a rating at the lower end of suitable (Table WLDFL-21; Figure WDLF-2). Sagebrush height and form are probably providing adequate nesting cover despite relatively low perennial herbaceous understory heights; high shrub CC may also be providing additional nesting cover although this component may itself be limiting the herbaceous potential of the site. Forb diversity and abundance are adequate and would be expected to be similar earlier in the spring when soil moisture is more abundant and available. The data displays a BRTE invasion which limits suitability. JUOC encroachment is also occurring at the higher and mid-elevations in the pasture. Litter (probably due to BRTE) also may be building up and creating a higher risk of wildfire spread.

Table WDLF-21: Summary of breeding SG HAs[1] in pasture 3 of the Red Mountain allotment (2008 and 2012)

Habitat Indicator	**Ecological Sites[2]**		
	R025XY011ID-2012	**R011XY001ID-2012**	**R011XY001ID-2008**
	n=1	**n=1**	**n=1**
Sagebrush Canopy Cover (%)	66 (M)	30 (M)	33 (M)
Sagebrush Height (cm)	76 (S)	72 (S)	61 (S)
Sagebrush Growth Shape	Spreading (S)	Mixed (M)	Mixed (M)
Grass and Forb Height (cm)	15 (M)	14 (M)	35 (S)
Perennial Grass Canopy Cover (%)	14 (M)	4 (U)	8 (M)
Forb Canopy Cover (%)	10 (S)	0 (U)	22 (S)
Preferred Forb	9 sp./abundant (S)	6 sp./sparse (U)	4 sp./sparse (U)

Availability			
Overall Site Evaluation	**Suitable**	**Marginal**	**Marginal**

[1]Individual habitat indicator suitability ranges are given in parentheses and include Suitable (S), Marginal (M), and Unsuitable (U).
[2]Ecological sites include Loamy 8-12" ARTRW8/PSSPS-ACTH7 (R011XY001ID) and Loamy 13-16" ARTRV/PSSPS-FEID (R025XY011ID).

Brood-rearing and Summer Riparian Habitats
Pasture 3 contains several perennial and intermittent/ephemeral stream valleys that may support early and late brood-rearing habitat of which Pickett, Browns, and Hart Creeks have been assessed for PFC (see Standard 2). The majority of streams were rated FAR. In general, most reaches maintain representative riparian shrub/tree communities, but riparian graminoids appear to be underrepresented while upland and invasive species dominate. Due to their location in deep, steep-sided valleys and canyons with relatively narrow floodplains, rather closed canopies which include dense stands of juniper, limited openings were herbaceous vegetation has greater production potential, and a general lack of herbaceous understory forage, most of the streams are only providing marginal habitat for sage-grouse and their broods.

Pasture 3 also contains several intermittent/ephemeral stream valleys that may support early brood-rearing habitat; none have been assessed for PFC primarily because they do not support woody, and in most cases, herbaceous riparian vegetation communities. At best these areas may support succulent vegetation in the early spring.

Pasture 3 does not contain any known spring-associated lentic riparian/wetland areas.

In general, the limited riparian habitats available to and most likely used by sage-grouse are only providing marginal conditions for early brood rearing. The closed canopy of woody cover and dense juniper stands along creeks may be limiting sage-grouse use although it is possible that some of these areas where openings occur are supporting succulent herbaceous forage in the early spring.

Upland Summer Habitat
Two SG HAs were used to assess upland summer habitat conditions within pasture 3 (Map WDLF-5B). One SG HAs was located within the Loamy 8-12" ARTRW8/PSSPS-ACTH7 Ecological Site and one SG HA was located in the Loamy 13-16" ARTRV/PSSPS-FEID Ecological Site. Big sagebrush ecological sites constitute a substantial portion of the usable sage-grouse habitat (based on cover types/ecological sites) within the pasture (approximately65% of big sagebrush acres; see Table WDLF-22 below), and therefore are generally representative of the conditions in upland summer habitats within pasture 3. Because sage-grouse in the local population tend to use mountain big sagebrush site for upland summer habitat, and the mountain big sagebrush ecological site comprises the majority of big sagebrush habitat within the pasture, upland summer habitat conditions within the pasture are Suitable overall.

- **05S02W26-2012 (R011XY001ID)**
  Marginal. Upland summer habitat in this ecological site within the pasture is rated marginal

because the majority of primary indicators (perennial herbaceous vegetation CCs, lack of forb diversity or abundance) and several important supplementary indicators (annual grass CC) fell within the marginal or unsuitable range (Figure WDLF-3). Forb diversity and abundance is not adequately providing forage for sage-grouse. Sagebrush height and CC may be providing a moderate amount of concealment cover. Nevertheless, the data displays a BRTE invasion which limits suitability. Some JUOC encroachment is occurring within this ecological site which may develop into a larger issue in the future in the absence of management actions.

- **06S02W09-2012 (R025XY011ID)**
  Suitable. Upland summer habitat in this ecological site is rated on the lower end of suitable because the vast majority of primary and supplementary indicators fall within the suitable ranges (Figure WDLF-4). Forbs are especially diverse and abundant. High sagebrush C is probably not limiting use by sage-grouse, but may be inhibiting herbaceous vegetation potential in combination with a moderate BRTE invasion. JUOC encroachment is also occurring at the higher and mid-elevations in the pasture. Litter (probably due to BRTE) also may be building up and creating a higher risk of wildfire spread.

Winter Habitat
Two SG HAs were used to assess winter habitat conditions within pasture 3 (Map WDLF-5). One SG HAs was located within the Loamy 8-12" ARTRW8/PSSPS-ACTH7 Ecological Site and one SG HA was located in the Loamy 13-16" ARTRV/PSSPS-FEID Ecological Site. Big sagebrush ecological sites constitute a substantial portion of the usable sage-grouse habitat (based on cover types/ecological sites) within the pasture (approximately 65 percent of big sagebrush acres; see Table WDLF-22 below), and therefore are generally representative of the conditions in winter habitats within pasture 3. Winter habitat conditions within the pasture are Suitable.

- **05S02W26-2012 (R011XY001ID)**
  Suitable. Overall the ecological site is rated as suitable winter habitat because all the primary and supplementary indicators fell within the suitable range (Figure WDLF-5). In general sagebrush CC and height is providing adequate forage and concealment and thermal cover even under conditions with above average persistent snow accumulation levels.
- **06S02W09-2012 (R025XY011ID)**
  Suitable. Overall this ecological site is rated as suitable winter habitat because all the primary and supplementary indicators fall within the suitable range (Figure WDLF-6). In general sagebrush CC and height is providing adequate forage and concealment and thermal cover above persistent snow under typical conditions. JUOC encroachment may be limiting sage-grouse use in some parts of the pasture.

Redband Trout
A recent range wide status update redband trout reveals that redband trout are no longer considered occupying Hart Creek ((May, Writer, & Albeke, 2012); pers. comm. J.Kozfkay, IDFG fisheries biologist, 2013).

General Upland Habitat Assessment
Several upland habitats and cover types occur within a variety of ecological sites within pasture 3 (Table WDLF-22).

Table WDLF-22: NRCS Ecological Sites within Red Mountain pasture 3

Habitat Type	General Cover Type	Ecological Site Description	Percentage of Allotment	
			Ecological Site Description	General Cover Type
Shrub Steppe	Big Sagebrush[2]	Sandy Loam 8-12" ARTRW8/ACHY	2	7
		Loamy 8-12" ARTRW8/PSSPS-ACTH7	1	
		Loamy 10-13" ARTRW8/PSSPS	<1	
		Loamy 11-13" ARTRT/PSSPS	4	
	Mountain Big Sagebrush	Loamy 13-16" ARTRV/PSSPS-FEID	10	10
	Low Sagebrush	Shallow Claypan 11-13" ARAR8/PSSPS	16	79
		Shallow Claypan 12-16" ARAR8/FEID	63	
Mountain Shrub	Mountain Mahogany	Mahogany Savanna 16-22" CELE3-SYOR2/FEID-ACHNA	1	1
Forest	Douglas-fir	Douglas-fir Snowberry 22+" PSMG/SYOR2	1	1

[1]Approximately 2.2 percent of the pasture is classified as an unknown/no data.
[2]Big sagebrush (*Artemisia tridentata*) cover types include communities dominated by the subspecies Wyoming (*wyomingensis*).

In general, upland habitat conditions have not improved since the previous assessment. Although shrub cover has remained consistent and continues to provide adequate woody cover, structure, and forage for shrub-obligate and dependent species, the quality of the herbaceous understory has generally remained static or declined. Herbaceous understory conditions in sagebrush communities continue to limit habitat quality for sage-grouse and other upland species, and are not providing adequate habitat conditions for ground dwelling, nesting, and foraging species. Although understory conditions in mountain big sagebrush sites are slightly better than Wyoming big sagebrush sites, the conversion of shrub steppe habitats to juniper woodlands is affecting habitat suitability for obligate and dependent species.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Figure WDLF-1: Summary of breeding SG HA in pasture 3 of Red Mountain allotment in the

Loamy 8-12" ARTRW8/PSSPS-ACTH7 Ecological Site (2012)

Form H-3	Sage-grouse Habitat Suitability Worksheet –		BREEDING	0588-03-05S02W26-2012 R011XY001ID			
Date:	7/27/2012	County:	Owyhee	State:	Idaho	Subpopulation:	NC NV/ SE OR/ SW ID
Evaluators:	Evans, Roseman					Home Range Name:	Owyhee Front/Triangle
Legal Description:	T05SR02WS26QNWQQSE		Allotment-Pasture Names:	Red Mountain-Red Mountain		Associated Leks:	2O548, 2O505, 2O196, 2O642
Land Cover Type:	ARTRW/POSE					Ecological Site:	Loamy 8-12 ARTRW8/PSSPS-ACTH7
Number of Transects:	1	Area Sampled (ha):	20			Site Info:	Arid
List UTM Coordinates:							
Starting (NAD83)	537295E	4756671N					
Ending (NAD 83)	4756682N	537343E					

Habitat Indicator Suitability Range (Primary)

Habitat Indicator	χ	Suitable	✓	Marginal	✓	Unsuitable	✓
Sagebrush Canopy Cover (mean)	30.0	15-25%		5-<15% or >25%	X	<5%	
Sagebrush Height Mesic Site (mean) Arid Site (mean)	71.5	40-80 cm 30-80 cm	X	20-<40 cm or >80 cm 20-<30 cm or >80 cm		<20 cm <20 cm	
Predominant Sagebrush Shape (mode)	Mixed	Spreading		Mix of Spreading and Columnar	X	Columnar	
Perennial Grass and Forb Height (mean)	14.0	≥18 cm		10-18 cm	X	<10 cm	
Perennial Grass Canopy Cover Mesic Site (mean) Arid Site (mean)	4.0	≥15% ≥10%		5-<15% 5-<10%		<5% <5%	X
Perennial Forb Canopy Cover Mesic Site (mean) Arid Site (mean)	0.0	≥10% ≥5%		5-<10% 3-<5%		<5% <3%	X
Preferred Forb Availability (relative to site potential)	Sparse	Preferred forbs are common with several species present		Preferred forbs are common but only a few species are present		Preferred forbs are rare	X
Number of Preferred Forb Species (*n*)	6.0						6 sp. total

Habitat Indicator Suitability Range (Supplemental)

Habitat Indicator	χ	Suitability	Rationale
Other Shrub Canopy Cover (mean)	2.0	Suitable	Appropriate based Ecological Site potential
Other Shrub Height (mean)	59.0	Suitable	Appropriate based Ecological Site potential
Sagebrush and Other Shrub Canopy Cover (mean)	32.0	Suitable	Suitable breeding habitat should have total shrub CC ≤42%
Sagebrush and Other Shrub Height (mean)	70.8	Suitable	Suitable breeding habitat should have shrub heights between 40-80 cm
Perennial Grass Height (excluding Poa spp.) (mean)	14.0	Marginal	Suitable breeding habitat should have perennial grass heights ≥18 cm
Poa Spp. Canopy Cover (mean)	22.0	Suitable	Appropriate based Ecological Site potential
Annual Grass Canopy Cover (mean)	20.0	Marginal	High BRTE cover indicative of invasive weed issue; typically at the expense of deep-rooted, tall-structured bunchgrasses; increased risk of wildfire and irreversible potential community State shift
Annual Forb Canopy Cover (mean)	0.0	Suitable	Appropriate based Ecological Site potential
Bare Ground Canopy Cover (relative to site potential) (mean)	22.0	Marginal	Lower than expected based on ESD; bare ground should range between 30-40%; possibly indicative of fine fuel (litter) build-up due to BRTE

Does ecological site potential limit suitability potential?	YES	NO
		X

Drought Condition:	Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist	Extremely Moist
			X				

Evidence of sage-grouse use?	Unknown-not noted
Evidence of recent livestock use?	Heavy use noted

Rationale for Overall Suitability Rating: Although assessment was not conducted at the appropriate time of year, the majority of primary indicators (perennial herbaceous vegetation CCs and height, lack of forb diversity or abundance) and several important supplementary indicators (perennial grass height) fell within the marginal or unsuitable range and provisionally would merit a marginal rating. Sagebrush CC is slightly high but height is adequate. However, the mixed growth form in combination with short perennial herbaceous understory may not be providing adequate nesting cover. There is a moderate level of uncertainty regarding whether perennial herbaceous vegetation components (bunchgrasses and forbs) would be more suitable during the spring. Nevertheless, the data displays a BRTE invasion which limits suitability. Some JUOC encroachment is occurring within this ecological site which may develop into a larger issue in the future in the absence of management actions.

	Suitable	Marginal	Unsuitable
Site-Scale Suitability		P	

Figure WDLF-2: Summary of breeding SG HA in pasture 3 of Red Mountain allotment in the Loamy 13-16" ARTRV/PSSPS-FEID Ecological Site (2012)

Form H-3	Sage-grouse Habitat Suitability Worksheet –		BREEDING	0588-03-06S02W09-2012 R025XY011ID			
Date:	7/26/2012	County:	Owyhee	State:	Idaho	Subpopulation:	NC NV/ SE OR/ SW ID
Evaluators:	Jost, Roseman					Home Range Name:	Owyhee Front/Triangle
Legal Description:	T06SR02WS09QNEQQNE		Allotment-Pasture Names:	Red Mountain-Red Mountain		Associated Leks:	2O548, 2O505, 2O196, 2O642
Land Cover Type:	ARTRV/SIHY					Ecological Site:	Loamy 13-16 ARTRV/PSSPS-FEID
Number of Transects:	1	Area Sampled (ha):	2			Site Info:	Mesic
List UTM Coordinates:							
Starting (NAD83)	534879E	4752194N					
Ending (NAD 83)	4752228N	534841E					

Habitat Indicator Suitability Range (Primary)

Habitat Indicator	x	Suitable	✓	Marginal	✓	Unsuitable	✓
Sagebrush Canopy Cover (mean)	**66.0**	15-25%		5-<15% or >25%	X	<5%	
Sagebrush Height Mesic Site (mean) Arid Site (mean)	**76.2**	40-80 cm 30-80 cm	X	20-<40 cm or >80 cm 20-<30 cm or >80 cm		<20 cm <20 cm	
Predominant Sagebrush Shape (mode)	**Spreading**	Spreading	X	Mix of Spreading and Columnar		Columnar	
Perennial Grass and Forb Height (mean)	**15.1**	≥18 cm		10-18 cm	X	<10 cm	
Perennial Grass Canopy Cover Mesic Site (mean) Arid Site (mean)	**14.0**	≥15% ≥10%		5-<15% 5-<10%	X	<5% <5%	
Perennial Forb Canopy Cover Mesic Site (mean) Arid Site (mean)	**10.0**	≥10% ≥5%	X	5-<10% 3-<5%		<5% <3%	
Preferred Forb Availability (relative to site potential)	**Abundant**	Preferred forbs are common with several species present	X	Preferred forbs are common but only a few species are present		Preferred forbs are rare	
Number of Preferred Forb Species (*n*)	**9.0**		9 sp. total				

Habitat Indicator Suitability Range (Supplemental)

Habitat Indicator	x	Suitability	Rationale
Other Shrub Canopy Cover (mean)	**10.0**	Suitable	Appropriate based on Ecological Site potential
Other Shrub Height (mean)	**42.4**	Suitable	Appropriate based on Ecological Site potential
Sagebrush and Other Shrub Canopy Cover (mean)	**76.0**	Marginal	Suitable breeding habitat should have shrub CC ≤42 %; much higher representation than expected at HCPC reference conditions
Sagebrush and Other Shrub Height (mean)	**71.7**	Suitable	Suitable breeding habitat should have shrub heights between 40-80 cm
Perennial Grass Height (excluding Poa spp.) (mean)	**12.1**	Marginal	Suitable breeding habitat should have perennial grass heights ≥18 cm
Poa Spp. Canopy Cover (mean)	**6.0**	Suitable	Appropriate based on Ecological Site potential
Annual Grass Canopy Cover (mean)	**24.0**	Marginal	High BRTE cover indicative of invasive weed issue; increase risk of wildfire spread; typically at the expense of deep-rooted , tall-structured bunchgrasses
Annual Forb Canopy Cover (mean)	**0.0**	Suitable	Appropriate based on Ecological Site potential
Bare Ground Canopy Cover (relative to site potential) (mean)	**0.0**	Marginal	Much lower than expected based on ESD; bare ground should range between 25-45%; indicative of fine fuel (litter) build-up due to BRTE, and an increase in wildfire spread potential

Does ecological site potential limit suitability potential?	YES	NO
		X

Drought Condition:	Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist	Extremely Moist
			X				

Evidence of sage-grouse use?	Unknown-not noted
Evidence of recent livestock use?	Unknown-not noted

Rationale for Overall Suitability Rating:	Although assessment was not conducted at the appropriate time of year and several primary and supplementary indicators fell within the marginal range (sagebrush CC, perennial grass CC and height), the site would provisionally merit a rating at the lower end of suitable. Sagebrush height and form are probably providing adequate nesting cover despite relatively low perennial herbaceous understory heights; high shrub CC may also be providing additional nesting cover although this component may itself be limiting the herbaceous potential of the site. Forb diversity and abundance are adequate and would be expected to be similar earlier in the spring when soil moisture is more abundant and available. The data displays a BRTE invasion which limits suitability. JUOC encroachment is also occurring at the higher and mid-elevations in the pasture. Litter (probably due to BRTE) also may be building up and creating a higher risk of wildfire spread.

	Suitable	Marginal	Unsuitable
Site-Scale Suitability	P		

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Figure WDLF-3: Summary of upland summer SG HA in pasture 3 of Red Mountain allotment in the Loamy 8-12" ARTRW8/PSSPS-ACTH7 Ecological Site (2012)

Form H-4	Sage-grouse Habitat Suitability Worksheet –		UPLAND SUMMER	0588-03-05S02W26-2012	R011XY001ID		
Date:	7/27/2012	County:	Owyhee	State:	Idaho	Subpopulation:	NC NV/ SE OR/ SW ID
Evaluators:	Evans, Roseman					Home Range Name:	Owyhee Front/Triangle
Legal Description:	T05SR02WS26QNWQQSE		Allotment-Pasture Names:	Red Mountain-Red Mountain		Associated Leks:	2O548, 2O505, 2O196, 2O642
Land Cover Type:	ARTRW/POSE					Ecological Site:	Loamy 8-12 ARTRW8/PSSPS-ACTH7
Number of Transects:	1	Area Sampled (ha):	20			Site Info:	Arid
List UTM Coordinates:							
Starting (NAD83)	537295E	4756671N					
Ending (NAD 83)	4756682N	537343E					

Habitat Indicator Suitability Range (Primary)

Habitat Indicator	χ	Suitable	✓	Marginal	✓	Unsuitable	✓
Sagebrush Canopy Cover (mean)	30.0	10-25%		5-<10% or >25%	X	<5%	
Sagebrush Height (mean)	71.5	40-80 cm	X	20-<40 cm or >80 cm		<20 cm	
Perennial Grass and Forb Canopy Cover (mean)	4.0	≥15%		5-15%		<5%	X
Preferred Forb Availability (relative to site potential)		Preferred forbs are common with several species present		Preferred forbs are common but only a few species are present		Preferred forbs are rare	X
Number of Preferred Forb Species (*n*)	6.0						6 sp. total

Habitat Indicator Suitability Range (Supplemental)

Habitat Indicator	χ	Suitability	Rationale
Predominant Sagebrush Shape (mode)	Mixed	Marginal	Mix of sagebrush growth forms in combination with a lack of herbaceous understory cover may not be providing adequate concealment cover
Perennial Grass and Forb Height (mean)	14.0	Suitable	Suitable upland summer habitat should have perennial herbaceous vegetation heights ≥10 cm
Perennial Grass Canopy Cover (mean)	4.0	Marginal	Suitable upland summer habitat should have perennial grass CC ≥10%
Perennial Forb Canopy Cover (mean)	0.0	Marginal	Suitable upland summer habitat should have perennial forb CC ≥10%; belt transect reveals some perennial forb representation
Other Shrub Canopy Cover (mean)	2.0	Suitable	Appropriate based on Ecological Site potential
Other Shrub Height (mean)	59.0	Suitable	Appropriate based on Ecological Site potential
Sagebrush and Other Shrub Canopy Cover (mean)	32.0	Suitable	Sagebrush and other shrubs are providing horizontal concealment cover
Sagebrush and Other Shrub Height (mean)	70.8	Suitable	Suitable upland summer habitat should have shrub heights between 40-80 cm
Perennial Grass Height (excluding Poa spp.) (mean)	14.0	Suitable	Suitable upland summer habitat should have perennial grass heights ≥10 cm
Poa Spp. Canopy Cover (mean)	22.0	Suitable	Appropriate based on Ecological Site potential
Annual Grass Canopy Cover (mean)	20.0	Marginal	High BRTE cover indicative of invasive weed issue; typically at the expense of deep-rooted, tall-structured bunchgrasses; increased risk of wildfire and irreversible potential community State shift
Annual Forb Canopy Cover (mean)	0.0	Suitable	Appropriate based on Ecological Site potential
Bare Ground Canopy Cover (relative to site potential) (mean)	22.0	Marginal	Lower than expected based on ESD; bare ground should range between 30-40%; possibly indicative of fine fuel (litter) build-up due to BRTE

Does ecological site potential limit suitability potential?	YES	NO
		X

Drought Condition:	Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist	Extremely Moist
			X				

Evidence of sage-grouse use?	Unknown-not noted
Evidence of recent livestock use?	Heavy use noted

Rationale for Overall Suitability Rating:	Upland summer habitat in this ecological site within the pasture is rated marginal because the majority of primary indicators (perennial herbaceous vegetation CCs, lack of forb diversity or abundance) and several important supplementary indicators (annual grass CC) fell within the marginal or unsuitable range. Forb diversity and abundance is not adequately providing forage for sage-grouse. Sagebrush height and CC may be providing a moderate amount of concealment cover. Nevertheless, the data displays a BRTE invasion which limits suitability. Some JUOC encroachment is occurring within this ecological site which may develop into a larger issue in the future in the absence of management actions.

	Suitable	Marginal	Unsuitable
Site-Scale Suitability		X	

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Figure WDLF-4: Summary of upland summer SG HA in pasture 3 of Red Mountain allotment

in the Loamy 13-16" ARTRV/PSSPS-FEID Ecological Site (2012)

Form H-4 Sage-grouse Habitat Suitability Worksheet – **UPLAND SUMMER** **0588-03-06S02W09-2012 R025XY011ID**

Date:	7/26/2012	**County:**	Owyhee	**State:**	Idaho	**Subpopulation:**	NC NV/ SE OR/ SW ID
Evaluators:	Jost, Roseman					**Home Range Name:**	Owyhee Front/Triangle
Legal Description:	T06SR02WS09QNEQQNE		**Allotment-Pasture Names:**	Red Mountain-Red Mountain		**Associated Leks:**	2O548, 2O505, 2O196, 2O642
Land Cover Type:	ARTRV/SIHY					**Ecological Site:**	Loamy 13-16 ARTRV/PSSPS-FEID
Number of Transects:	1	**Area Sampled (ha):**	2			**Site Info:**	Mesic
List UTM Coordinates:							
Starting (NAD83)	534879E	4752194N					
Ending (NAD 83)	4752228N	534841E					

Habitat Indicator Suitability Range (Primary)

Habitat Indicator	**x**	**Suitable**	**✓**	**Marginal**	**✓**	**Unsuitable**	**✓**
Sagebrush Canopy Cover (mean)	**66.0**	10-25%		5-<10% or >25%	X	<5%	
Sagebrush Height (mean)	**76.2**	40-80 cm	X	20-<40 cm or >80 cm		<20 cm	
Perennial Grass and Forb Canopy Cover (mean)	**24.0**	≥15%	X	5-15%		<5%	
Preferred Forb Availability (relative to site potential)	**Abundant**	Preferred forbs are common with several species present	X	Preferred forbs are common but only a few species are present		Preferred forbs are rare	
Number of Preferred Forb Species (*n*)	**9.0**		9 sp. total				

Habitat Indicator Suitability Range (Supplemental)

Habitat Indicator	**x**	**Suitability**	**Rationale**
Predominant Sagebrush Shape (mode)	**Spreading**	Suitable	Spreading sagebrush growth form provides adequate concealment cover
Perennial Grass and Forb Height (mean)	**15.1**	Suitable	Suitable upland summer habitat should have perennial herbaceous vegetation heights ≥10 cm
Perennial Grass Canopy Cover (mean)	**14.0**	Suitable	Suitable upland summer habitat should have perennial grass CC ≥10%
Perennial Forb Canopy Cover (mean)	**10.0**	Suitable	Suitable upland summer habitat should have perennial forb CC ≥10%
Other Shrub Canopy Cover (mean)	**10.0**	Suitable	Appropriate based on Ecological Site potential
Other Shrub Height (mean)	**42.4**	Suitable	Appropriate based on Ecological Site potential
Sagebrush and Other Shrub Canopy Cover (mean)	**76.0**	Marginal	Sagebrush and other shrubs are providing excessive horizontal concealment cover; much higher representation than expected at HCPC reference conditions
Sagebrush and Other Shrub Height (mean)	**71.7**	Suitable	Suitable upland summer habitat should have shrub heights between 40-80 cm
Perennial Grass Height (excluding Poa spp.) (mean)	**12.1**	Suitable	Suitable upland summer habitat should have perennial grass heights ≥10 cm
Poa Spp. Canopy Cover (mean)	**6.0**	Suitable	Appropriate based on Ecological Site potential
Annual Grass Canopy Cover (mean)	**24.0**	Marginal	High BRTE cover indicative of invasive weed issue; increase risk of wildfire spread; typically at the expense of deep-rooted , tall-structured bunchgrasses
Annual Forb Canopy Cover (mean)	**0.0**	Suitable	Appropriate based on Ecological Site potential
Bare Ground Canopy Cover (relative to site potential) (mean)	**0.0**	Marginal	Much lower than expected based on ESD; bare ground should range between 25-45%; indicative of fine fuel (litter) build-up due to BRTE, and an increase in wildfire spread potential

Does ecological site potential limit suitability potential?	**YES**	**NO**
		X

Drought Condition:	**Extreme Drought**	**Severe Drought**	**Moderate Drought**	**Mid-Range**	**Moderately Moist**	**Very Moist**	**Extremely Moist**
			X				

Evidence of sage-grouse use?	Unknown-not noted
Evidence of recent livestock use?	Unknown-not noted

Rationale for Overall Suitability Rating: Upland summer habitat in this ecological site is rated on the lower end of suitable because the vast majority of primary and supplementary indicators fall within the suitable ranges. Forbs are especially diverse and abundant. High sagebrush C is probably not limiting use by sage-grouse, but may be inhibiting herbaceous vegetation potential in combination with a moderate BRTE invasion. JUOC encroachment is also occurring at the higher and mid-elevations in the pasture. Litter (probably due to BRTE) also may be building up and creating a higher risk of wildfire spread.

	Suitable	**Marginal**	**Unsuitable**
Site-Scale Suitability	X		

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Figure WDLF-5: Summary of winter SG HA in pasture 3 of Red Mountain allotment in the

Loamy 8-12” ARTRW8/PSSPS-ACTH7 Ecological Site (2012)

Form H-6	Sage-grouse Habitat Suitability Worksheet –	WINTER	0588-03-05S02W26-2012 R011XY001ID		
Date:	7/27/2012	County: Owyhee	State: Idaho	Subpopulation:	NC NV/ SE OR/ SW ID
Evaluators:	Evans, Roseman			Home Range Name:	Owyhee Front/Triangle
Legal Description:	T05SR02WS26QNWQQSE	Allotment-Pasture Names:	Red Mountain-Red Mountain	Associated Leks:	2O548, 2O505, 2O196, 2O642
Land Cover Type:	ARTRW/POSE			Ecological Site:	Loamy 8-12 ARTRW8/PSSPS-ACTH7
Number of Transects:	1	Area Sampled (ha):	20	Site Info:	Arid
List UTM Coordinates:					
Starting (NAD83)	537295E	4756671N			
Ending (NAD 83)	4756682N	537343E			

Habitat Indicator Suitability Range (Primary)

Habitat Indicator	X	Suitable	✓	Marginal	✓	Unsuitable	✓
Sagebrush Canopy Cover (mean)	30.0	>10%	X	5-10%		<5%	
Sagebrush Height above Snow 0 cm snow (annual mean) 15 cm snow (annual mean) 30 cm snow (annual mean)	71.5	>25 cm >40 cm >55 cm	X	10-25 cm 25-40 cm 40-55 cm		<10 cm <25 cm <40 cm	

Habitat Indicator Suitability Range (Supplemental)

Habitat Indicator	X	Suitability	Rationale
Predominant Sagebrush Shape (mode)	Mixed	Suitable	Mix of sagebrush forms is not a limiting factor as availability of forage is more important and sagebrush CC is providing effective concealment cover
Other Shrub Canopy Cover (mean)	2.0	Suitable	Appropriate based on Ecological Site potential
Other Shrub Height (mean)	59.0	Suitable	Appropriate based on Ecological Site potential
Sagebrush and Other Shrub Canopy Cover (mean)	32.0	Suitable	Sagebrush and other shrubs are providing adequate concealment and thermal cover
Sagebrush and Other Shrub Height (mean)	70.8	Suitable	Sagebrush height is providing available forage and in combination with other shrubs adequate concealment and thermal cover

Does ecological site potential limit suitability potential?	YES	NO
		X

Drought Condition:	Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist	Extremely Moist
			X				

Evidence of sage-grouse use?	Unknown-not noted
Evidence of recent livestock use?	Heavy use noted

Rationale for Overall Suitability Rating:	Overall the ecological site is rated as suitable winter habitat because all the primary and supplementary indicators fell within the suitable range. In general sagebrush CC and height is providing adequate forage and concealment and thermal cover even under conditions with above average persistent snow accumulation levels.

	Suitable	Marginal	Unsuitable
Site-Scale Suitability	X		

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Figure WDLF-6: Summary of winter SG HA in pasture 3 of Red Mountain allotment in the Loamy 13-16” ARTRV/PSSPS-FEID Ecological Site (2012)

Form H-6	Sage-grouse Habitat Suitability Worksheet –		WINTER	0588-03-06S02W09-2012	R025XY011ID		
Date:	7/26/2012	County:	Owyhee	State:	Idaho	Subpopulation:	NC NV/ SE OR/ SW ID
Evaluators:	Jost, Roseman					Home Range Name:	Owyhee Front/Triangle
Legal Description:	T06SR02WS09QNEQQNE		Allotment-Pasture Names:	Red Mountain-Red Mountain		Associated Leks:	2O548, 2O505, 2O196, 2O642
Land Cover Type:	ARTRV/SIHY					Ecological Site:	Loamy 13-16 ARTRV/PSSPS-FEID
Number of Transects:	1	Area Sampled (ha):	2			Site Info:	Mesic
List UTM Coordinates:							
Starting (NAD83)	534879E	4752194N					
Ending (NAD 83)	4752228N	534841E					

Habitat Indicator Suitability Range (Primary)

Habitat Indicator	χ	Suitable	✓	Marginal	✓	Unsuitable	✓
Sagebrush Canopy Cover (mean)	66.0	>10%	X	5-10%		<5%	
Sagebrush Height above Snow 0 cm snow (annual mean) 15 cm snow (annual mean) 30 cm snow (annual mean)	76.2	>25 cm >40 cm >55 cm	X	10-25 cm 25-40 cm 40-55 cm		<10 cm <25 cm <40 cm	

Habitat Indicator Suitability Range (Supplemental)

Habitat Indicator	χ	Suitability	Rationale
Predominant Sagebrush Shape (mode)	Spreading	Suitable	Spreading sagebrush growth form is providing effective concealment cover
Other Shrub Canopy Cover (mean)	10.0	Suitable	Appropriate based on Ecological Site potential
Other Shrub Height (mean)	42.4	Suitable	Appropriate based on Ecological Site potential
Sagebrush and Other Shrub Canopy Cover (mean)	76.0	Suitable	Total shrub CC is providing concealment and thermal cover
Sagebrush and Other Shrub Height (mean)	71.7	Suitable	Sagebrush and other shrub height is providing available forage and adequate concealment and thermal cover

Does ecological site potential limit suitability potential?	YES	NO
		X

Drought Condition:	Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist	Extremely Moist
			X				

Evidence of sage-grouse use?	Unknown-not noted
Evidence of recent livestock use?	Unknown-not noted

Rationale for Overall Suitability Rating:	Overall this ecological site is rated as suitable winter habitat because all the primary and supplementary indicators fall within the suitable range. In general sagebrush CC and height is providing adequate forage and concealment and thermal cover above persistent snow under typical conditions. JUOC encroachment may be limiting sage-grouse use in some parts of the pasture.

	Suitable	Marginal	Unsuitable
Site-Scale Suitability	X		

Plants

Special status plants are not known to occur in this pasture. Systematic inventories for special status plants have not been conducted. Incidental work for other site-specific projects has yielded no occurrences, though this type of work has been limited.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment
Botany No populations of special status plant species are known to occur in this allotment. There is insufficient information to determine site-specific impacts of livestock grazing on any special status plants that may occur in this allotment. Records show no reported special status plants in this allotment for this reason this standard is not applicable. *Information sources* Elemental Occurrences (EOs) for special status species (SSP) populations is recorded in the

Idaho Fish and Wildlife Information System (IFWIS) Species Diversity database (IDFG, 2011). EOs are derived by completion and review of Idaho Rare Plant Observation Reports through the Idaho Natural Heritage Program. Other sources that were used to assess and evaluate the composition and condition of SSP habitats within the Red Mountain allotment include RHAs, photographs, field notes, Plants database (USDA NRCS, 2013), literature search, and information summarized above in Standards in this document. Records show no reported special status plants in this allotment.

Late Spring Use (Bridge Creek; Quicksilver FFR Pastures 2 and 3)

Summary

- active erosion is evident in some areas of the Bridge Creek Allotment where interspatial bunchgrasses are reduced, decreaser grasses in shrub interspaces are reduced in some areas of the Quicksilver FFR Allotment;
- 1.63 miles of Bridge Creek are functioning at risk;
- upland vegetation has a static to downward trend in condition in the Bridge Creek Allotment;
- occurrence of decreaser grasses is less than expected and shrub cover is generally greater than expected, juniper cover is influencing understory species composition;
- habitat conditions are unsatisfactory for redband trout in Bridge and North Fork Boulder creeks.

Data Collection

Five rangeland health evaluations were conducted in big sagebrush communities between August 28 and October 22, 2002 (Table 15, Map WDLF-2). One trend plot was conducted in a big sagebrush/mountain mahogany community between 1991 and 2002 (Table 15, Map WDLF-3).

Table 15. Summary of upland data collected in Late Spring Use pastures, Bridge Creek and Quicksilver FFR allotments.

Data Type[1]	Allotment	Pasture	Location	Ecological Site	Condition/Trend[2]
RHE	Bridge Creek	1	06202W05	Granitic 13-16	-
			06S02W18	Granitic 13-16	-
			06S03W24	Loamy 13-16”	-
	Quicksilver FFR	2	06S03W21	Loamy Upland 12-16	+
		3	06S03W15	Granitic 13-16	0
NPFT	Bridge Creek	1	06S02W18	Mahogany Thicket 16-20	Inconclusive

[1] RHE – Rangeland Health Assessment, NPFT – Nested Plot Frequency Transect
[2] + = none-slight departure from reference conditions, 0 slight-moderate departure from reference conditions, - = moderate departure from reference conditions, -- = moderate-extreme departure from reference conditions

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590) and Quicksilver FFR (0483) Allotments

Bridge Creek Allotment

Additional data were collected during 2008 and 2011at the nested plot frequency transect (T 06S, R 02W, Sec 18; see accompanying graph). Frequency data for perennial bunchgrass species indicate an upward trend in condition with the frequency of bluebunch wheatgrass, Idaho fescue, and squirreltail increasing between 2008 and 2011, following an indication of declining trend for each species prior to 2008. Although not indicative of upward trend, the frequency of Sandberg bluegrass has also increased between 2008 and 2011, as well as between 2002 and 2008. The declining frequency of stipa, a native deep-rooted perennial bunchgrass, recorded since 2002 is not consistent with data for other desirable bunchgrasses. Recent change in native bunchgrass frequency recorded is only statistically significant (Student's T-test; p-value <0.1) in the increase of bluebunch wheatgrass between 2008 and 2011.

These trend data indicate that the ORMP objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas has been met in the Bridge Creek allotment, with its upward trend (ORMP-FEIS Table VEGE-2; Bridge Creek allotment was 35 percent early seral, 50 percent mid-seral, and 15 percent late-seral).

Recorded shrub density identifies fewer native shrubs between 1991 and 2002, with that downward trend for low sagebrush continuing through 2008. That downward trend occurred when no wildfire was recorded within the allotment. Densities of low sagebrush, snowberry, and curleaf mountain mahogany have remained static at a reduced number between 2008 and 2001.

Figure VEG-7: Frequency of native perennial bunchgrass species at the trend transect (T. 06S., R. 02W., Sec 18) in pasture 1 of the Bridge Creek allotment

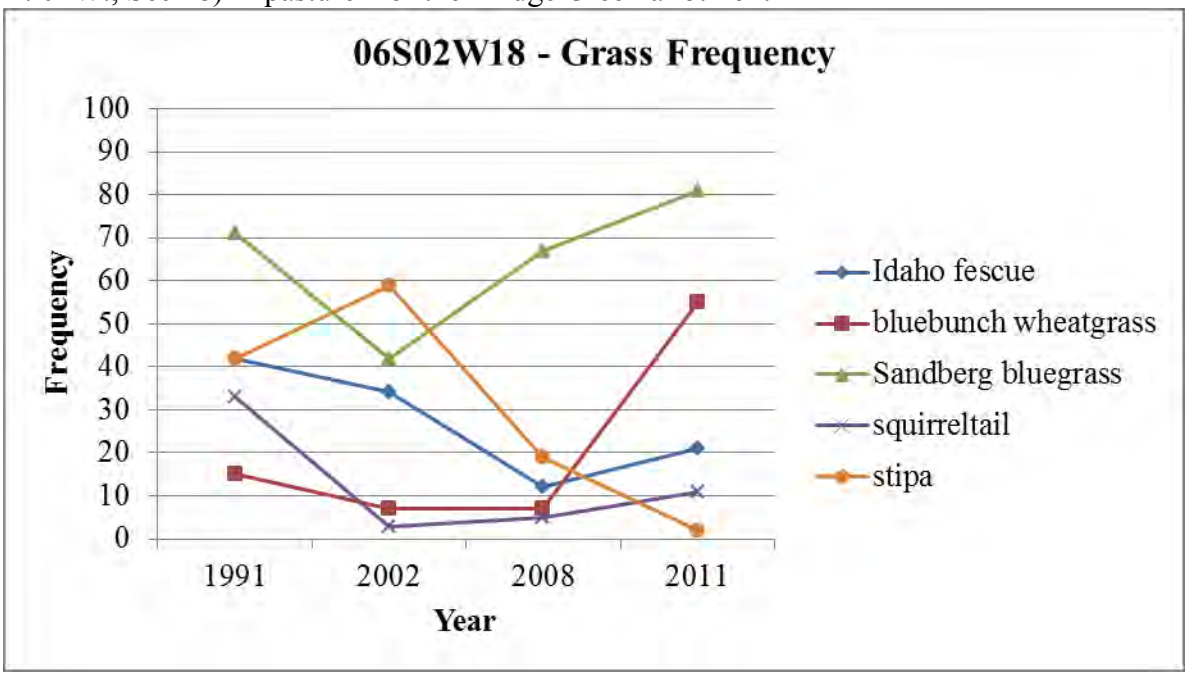
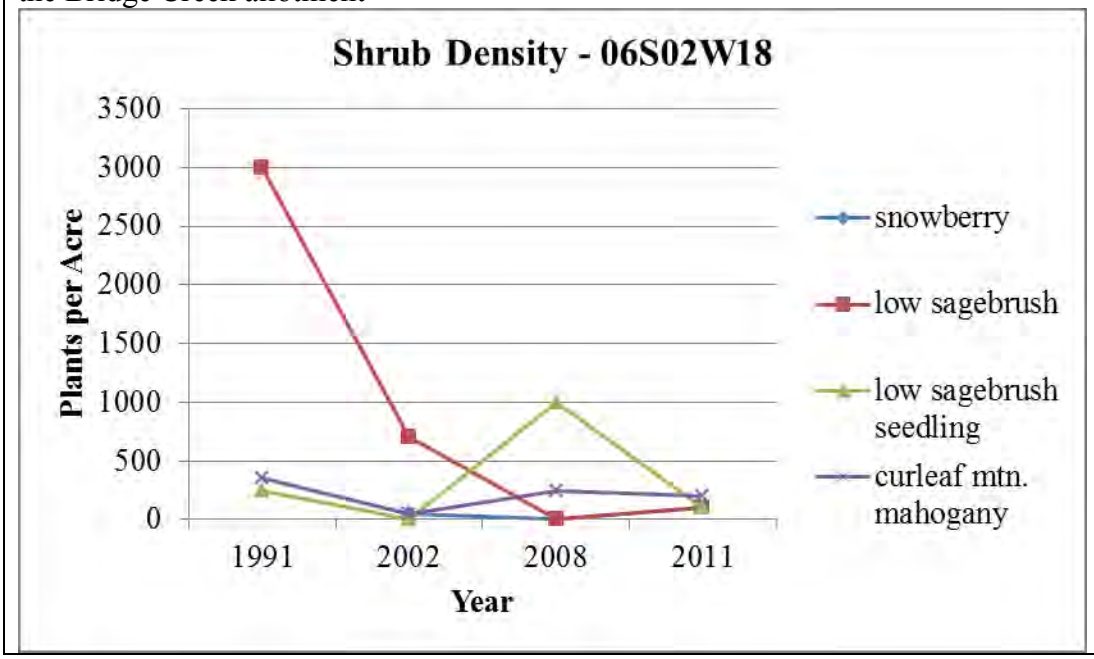


Figure VEG-8: Density of shrubs at the trend transect (T. 06S., R. 02W., Sec 18) in pasture 1 of the Bridge Creek allotment



Livestock Use

The current and historic permit allows use in Bridge Creek Allotment anytime between June 1 and October 31. Grazing had occurred after seed ripe within the flexibility provided by the existing permit between 1972 and 1993. The 1983 proposed decision specified a change in season of use to October 1 to 31 that was basically followed from 1984 through 1993, with the exception of 1987 (Appendix F). Although the basic schedules in Range Management Automated System were changed to reflect that decision, the season of use on the 1986 grazing permit was altered to July 1 to October 31, instead. From 1994 through 1996, Bridge Creek was again grazed season-long from late May into October, with reduced numbers of cattle. In 1996, Elmer Stahle signed an agreement that the season of use would continue to be June 1 to October 31.

Since 1997, the Bridge Creek Allotment and pastures 2 and 3 of the Quicksilver FFR have been grazed in June and early July in order to delay turnout into the highest portions of Boone Peak to promote seed production. The actual date when full numbers of cattle enter the Bridge Creek Allotment in spring is influenced by range readiness, availability of forage, and the rate at which the permittee can gather and remove cattle from the mountainous mid-spring use pasture. Cattle enter the allotment from the northeast corner, and drift downhill to use the allotment from there. However, they still tend to concentrate along the upper fence after spring turnout. Turnout and removal generally takes five days or so. The allotment is heavily wooded with western juniper, which makes finding livestock difficult.

From 1972 to 1993, Bridge Creek Allotment was grazed after seed ripe each year on the way out of the Boone Peak Allotment. From 1994 to 1996, Bridge Creek was grazed during the entire

growing season, including the critical growth period, and into the fall with small numbers of cattle. Since 1997, the Bridge Creek Allotment may receive sufficient use during the critical growth period to influence the vigor and productivity of existing perennial grass populations. The Bridge Creek Allotment is in a transition zone between the Early Summer and Late Summer Use Areas as defined by the Boise District Phenology Study. The Late Summer Use Area corresponds roughly to the 140 soil-mapping unit (the northwest portion of the allotment), which has very coarse, granitic soils. The soils are finer-textured in the Early Summer Use Area, which includes the remainder of the allotment.

In the Late Summer Use Area, the critical growth period for bluebunch wheatgrass and Idaho fescue occurs during mid to late June. The critical growth period for Thurber and other needlegrasses was not defined by the study, but probably is similar to that of Idaho fescue, although it tends to stay green later. The critical growth period for squirreltail occurs during early to mid-June. The critical growth period for Sandberg bluegrass occurs primarily during late May and early June, and seed ripe occurs by mid-July. In the Early Summer Use Area, the critical growth period for bluebunch wheatgrass and Idaho fescue occurs during early to mid-June. The critical growth period for squirreltail occurs during late May. The critical growth period for Sandberg bluegrass occurs primarily during May.

Total actual use in Bridge Creek Allotment ranged between 107 AUMs in 1995 and 656 AUMs in 1997, and averaged 355 AUMs between 1986 and 2002 (Appendix F). Actual use data or licensed use is not available before 1986. The March 1996 agreement stipulated that spring cattle numbers in the Red Mountain Allotment would be limited to 450 head, but Elmer Stahle has also voluntarily limited his summer and fall cattle numbers to 450 head, and consequently, the amount of use in the Bridge Creek Allotment. However, the amount of use has been greater since 1997 than it generally was in previous years (17% nonuse vs. 63% nonuse). The allotment was not rested between 1984 and 2002.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590) and Quicksilver FFR (0483) Allotments

Table LVST-5: Livestock grazing use in the one pasture 1 Bridge Creek allotment reported by the permittee in recent years

Year	Date	AUMs
2012	7/1-10/26	596
2011	7/1-10/31	644
2010	7/4-10/23	615
2009	7/1-10/29	626
2008	7/1-10/31	599
2007	7/2-10/26	508
2006	6/2-8/19	562
2005	6/10-7/6; 9/1-9/25	207
2004	8/30-10/31	526
2003	No Data	No Data
2002	6/1-7/8	466
2001	6/1-7/13	561

2000	6/1-7/14	566
1999	6/1-7/15	562
1998	No Data	No Data
1997	5/28-8/18	656

These data indicate that grazing use has recently occurred after the active growing season annually, a treatment consistent with the period of use described in the 2006 assessment and the 1997 permit. Reported actual use has not exceeded authorized levels in any year.

Table LVST-6: Livestock grazing use in the three pastures of the Quicksilver FFR allotment reported by the permittee

Year	Pasture 1		Pasture 2		Pasture 3	
2012	5/29-6/1; 10/29-11/5	98	7/9-10/17	498	6/7-11/10	155
2011	5/30-6/2; 10/26-11/10	132	6/8-10/20	506	6/10-10/22	151
2010	10/27-11/1	43	6/9-10/16	769	6/7-11/6	176
2009	No Data	No Data	7/10-9/16	560	9/15-10/16	98
2008	5/30-6/3	28	10/31-12-1	167	Rest	0
2007	No Data	No Data	No Data	No Data	No Data	No Data
2006	10/26-11/11	54	6/1-11/16	472	6/5-9/1	132
2005	5/9-11/21 AUMS 944					

Livestock distribution is influenced primarily by topography, availability of water, overstory closure, road access, and greenness of forage; with drainage bottoms and areas along roads receiving greater use. Upland water sources are relatively scarce, and cattle seek water along drainage bottoms. Overstory closure of juniper is ongoing over the entire allotment, and open areas preferred by cattle are scarce. Partial use pattern maps were prepared in 1989, 1990, and 1993, and overall utilization was light in 1989 and 1993 and moderate in 1990. The eastern half of the allotment has never been use pattern mapped.

Most utilization data have been collected at or near the trend site (Appendix H). Moderate use of Idaho fescue and light to moderate use of bluebunch wheatgrass occurred between 1981 and 1993, with no clear-cut relationship to the amount of use or growing conditions. In July 2002, utilization was heavy to severe on all perennial grasses at the trend site, and no regrowth was occurring due to lack of spring and early summer rainfall.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590) and Quicksilver FFR (0483) Allotments

Table VEG-4: Recorded utilization on key species in the Bridge Creek allotment in recent years

Year	PSSP	FEID	POSA
1979			
1980			
1981	13	11	
1982			

1983			
1984		40	
1985	44	60	
1986		40	
1987		53	
1988			
1989		18	
1990		44	
1991			
1992			
1993		34	
1994			
1995			
1996			
1997			
1998			
1999			
2000			
2001			
2002			
2003			
2004			
2005			
2006			
2007	10	9	
2008			5
2009			
2010			
2011	28	27	
2012			21

Although no data are available for most years, these data indicate that with grazing use, utilization record has seldom exceeded the maximum allowable level of 50 percent established in the Owyhee Resource Management Plan.

Utilization monitoring indicated that livestock use levels of riparian vegetation on Bridge Creek were moderate to severe a month after livestock removal (Table 16).

Table 16. Median stubble height and percent shrub utilization for streams in the Bridge Creeek Allotment, 2001.

Stream	Site	Date	Median Stubble Height (inches)	% Shrub Utilization

Bridge Creek	Segment 003	9/4/01	1.0	
Bridge Creek	Segment 004	9/4/01	4.0	

Standard 1: Watersheds

Low sagebrush communities

No Rangeland Health Evaluation Summary Worksheets or Nested Plot Frequency Transects were conducted in low sagebrush communities. These communities are a relatively minor component in the pasture.

Big sagebrush communities

Rangeland Health Evaluation Summary Worksheets
The worksheets show that there is a slight to extreme (with many indicators more to the moderate end) departure for the rangeland health indicators relating to watershed from those found in reference areas and ecological site guides for sites in the Bridge Creek Allotment (06S02W05, 06S02W18, 06S03W24) and a slight-moderate (with many indicators more to the slight end in pasture 2) departure in the Quicksilver FFR Allotment (06S03W15, 06S03W21).

Hydrologic Function – There is little sign of active erosional features at 06S03W21. Active erosional features are evident at the remaining sites; however, they primarily related to older erosional episodes that are not healing. Water flow patterns are similar to expected conditions at 06S02W18 (except areas near roads), 06S03W21, and 06S03W24. Occurrence of long, connected water flow patterns is greater than expected at 06S02W05 and 06S03W15. Occurrence of pedestals on bunchgrasses is similar to expected at all sites; however, limited active pedestals are present at 06S02W18.

Soil Surface and Vegetative Function/Cover – The abundance of surface gravel is mostly protecting the soil from erosional forces where the vegetative component is lacking. The amount of bare ground is a concern at site 06S02W18 where large interspatial areas lack vegetative cover (the site burned in the past and is not re-vegetating well). Some excessive trailing which has caused mechanical disturbance to the physical nature of the soil surface is evident at 06S03W15 and 06S03W21.

In the Bridge Creek Allotment, the plant community indicator shows a moderate degree of departure from reference areas and site guides at 06S02W05 and a moderate-extreme degree of departure at 06S02W18 and 06S03W24. The main visual feature of the plant community, as it reflects hydrologic function, is one where most of the decreaser plants are now replaced by increaser species and there is an increase in the shrub component. The lack of key bunchgrass species in the interspatial areas is also of major concern. Many interspatial areas either lack the bunchgrass component or it is in such a degraded state that it provides little watershed protection. Biological soil crusts are poorly represented at most sites. Western juniper is encroaching to various degrees and is approaching a level where it is affecting hydrologic function. In general the plant community as it influences the capture, storage, and management of moisture is functioning at a level much less than what is expected.

In pastures 2 and 3 of the Quicksilver FFR Allotment, the plant community indicator shows a none-slight degree of departure from reference areas and site guides at 06S03W21 and a slight-moderate degree of departure at 06S03W15. The main visual features of the plant communities, as they reflect hydrologic function, are where some of the decreaser plants are now replaced by increaser species and there is an increase in the shrub component from reference conditions. Density of the key bunchgrass species is also lower than expected, particularly in the interspatial areas. The abundance of surface rock (gravel mostly) is protecting the soil from erosional forces in areas where vegetative cover is lacking at 06S03W15. Biological soil crusts are generally represented, but could be improved. Western juniper is encroaching to various degrees, not at a level where it is seriously affecting hydrologic function at 06S03W21, but at a level where it is affecting hydrologic function at 06S03W15. In general the plant community as it influences the capture, storage, and management of moisture is functioning close to what is expected at 06S03W21 and below what is expected at 06S03W15.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590) and Quicksilver FFR (0483) Allotments

2007 Boulder Creek Fire in Quicksilver Pasture 2

The rangeland health assessment site 06S03W21 in pasture 2 of the Quicksilver FFR allotment burned in the 2007 Boulder Creek fire. In the absence of new data, several approaches were made to determine watershed conditions for the 53 acres (3 percent) of BLM land present within this pasture.

The previous rangeland health assessment evaluation (above) states that hydrologic function and soil surface and vegetative function and cover rate are close to what is expected for the site. While some mechanical disturbance to the soil surface was present at 06S03W21, little evidence of soil loss and stable conditions were recorded, along with a protective gravel component amongst a variety of vegetation that included shrubs and deep and shallow rooted perennial bunchgrasses. This resulted in an overall disturbance rating of none-to-slight.

Western juniper was identified as common and encroaching in 2002 and received the highest departure rating of all indicators. After the 2007 fire, a large percentage of Western juniper are burned (2011 NAIP), especially on the west-facing slopes above North Boulder Creek, reducing the threat of encroachment and associated watershed concerns. The generally satisfactory pre-fire biotic conditions likely provide favorable conditions for vegetation to re-establish.

Immediately to the east (about 1.5 miles), pasture 4 of the Toy Mountain allotment burned in the same fire so that a 2009 Emergency Stabilization and Rehabilitation (ESR) report (see project file), a photo plot trend site (06S03W22), and a 2013 site visit for the adjacent pasture were reviewed. Similarities in ecological site (Loamy 13-16”), elevation, slope, aspect, parent material, surface texture, and soil map unit make the two pastures and associated sites comparable. The ESR report states that by 2009 the area appears to have recovered fully from the fire.

Actual use records show a *no data* entry for 2007, the year of the burn, so it cannot be confirmed if the pasture was rested. During the following two years, grazing started in late fall of 2008 and

in mid-July of 2009; this provided for deferred grazing outside the critical growing period. Taken together, the significant beneficial reduction of juniper by the 2007 fire and the otherwise satisfactory watershed and biotic conditions present before the fire suggest that the integrity of the site remains and that it continues to function close to what is expected.

Standard 2: Riparian Areas and Wetlands

Riparian Areas – Bridge Creek Allotment

Bridge Creek flows for 1.63 miles and supports 4.5 acres of riparian area in the Bridge Creek Allotment (Map WDLF-4). The two segments (003, 004) within the allotment were rated functioning at risk with no apparent trend, because of a lack of riparian vegetation protecting streambanks during high flow events (Appendix N).

Bridge Creek 003 – The segment was rated functioning at risk. Riparian overstory vegetation is dominated by whiplash willow (*S. lasiandra*) and sandbar willow (*S. exigua*), with an understory of Kentucky bluegrass, bentgrass (*Agrostis* sp.), slender hairgrass (*Deschampsia elongata*), and a mix of forbs. The dominant community type is the whiplash willow CT.

This segment is in very poor condition. The whiplash willow CT is early/mid seral (Hansen et al. 1995). Moisture is adequate for hydric understory species in this CT. However, historic dredging has left streambanks with little soil to support the understory. Utilization of the willows has resulted in umbrella and club shaped growth forms, which reduces cover and vigor of the plants.

Bridge Creek 004 – The segment was rated functioning at risk. The dominant riparian overstory vegetation is mountain alder (*Alnus incana*), red-osier dogwood (*Cornus stolonifera*), and whiplash willow with an understory dominated by Kentucky bluegrass, slender hairgrass, and a mix of forbs. The dominant community types are Douglas fir/dogwood CT and dogwood CT.

Both community types have reduced cover of desirable shrubs in accessible areas. However, a strong shrub community does exist except on the upper end of the segment. The upper end of the segment is in very poor condition. Historic dredging has created a shift in vegetation (top end of segment) from deep rooted stabilizing species to those species more suited to drier sites.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590) and Quicksilver FFR (0483) Allotments
The downstream reach (0.7 mile) of Bridge Creek was again assessed FAR in 2008. There was inadequate riparian species present to stabilize and protect the stream banks, plant roots were exposed where banks were eroding, and there were primarily young willows present. In 2008, two 0.9 mile segments of Ditch Creek were also assessed. One was rated FAR and one was in PFC. The upstream reach was FAR because there were headcuts present compromising the vertical stability of the stream, and there was a lack of deep-rooted, stabilizing species present to protect stream banks. The downstream reach was in PFC because the segment is geologically constrained in a canyon, and there was large woody debris and woody species

present to protect banks during high flows and to limit access to the stream by livestock.

Springs – Bridge Creek Allotment
The BLM does not have data on any springs not directly associated with perennial streams.

Riparian Areas – Quicksilver FFR Allotment
Approximately 0.15 miles of the North Fork Boulder Creek supports 0.7 acres of associated riparian vegetation. The stream was rated functioning at risk due to a lack of bank protecting root mass in portions of the stream segment (Appendix N).

The riparian overstory vegetation is dominated by whiplash willow and Lemons willow (*S. lemmonii*), with an understory of redtop (*Agrostis stolonifera*), slender hairgrass, kentucky bluegrass and a mix of forbs. The dominant community type is the whiplash willow CT.

The whiplash willow CT is early/mid seral (Hansen et al. 1995). Soil moisture is adequate for hydric understory species in this CT. However, the understory is comprised of species that reflect a shift from the more deep-rooted, stabilizing hydric species, such as *Carex* and *Juncus* spp., to those species more suited to drier sites and which are less capable of maintaining soil moisture and stabilizing banks. The stubble height was 2 inches in 2001.

Springs – Quicksilver FFR Allotment
There are no springs on public land in the FFR.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590) and Quicksilver FFR (0483) Allotments

The table below represents a comprehensive display of all the riparian information currently in the BLM riparian database for the Bridge Creek and Quick Silver allotments, both of which used in the original assessment, as well as newer, supplemental information.

Table RIPN-2: Bridge Creek allotment riparian information summary

	Allotment & Pasture Stream Miles & Condition		
Stream Name	**Bridge Creek- 01**	**Assessment Issues/ Impacts Identified**	**Total Miles**
Bridge Creek	1.6 (FAR- 2001) 0.7 (FAR- 2008)	2001-inadequate riparian veg/ excessive erosion/ cut banks & incised channel/ over-wide channel 2008- channel braided, over-wide, and incised/ exposed roots/ erosion/ lack of age-class of woody species/ inadequate riparian veg present to stabilize banks	1.6
Ditch Creek	0.9 (FAR- 2008)	headcuts present/ lack of deep rooted riparian veg	0.9
Ditch Creek	0.9 (PFC- 2008)	in canyon/ large woody debris and willows present to protect banks and limit access by	0.9

		livestock	
Bridge Creek MMIM: 2.4" SH and 39% bank alteration			

Table RIPN-3: Quicksilver FFR allotment riparian information summary

	Allotment & Pasture Stream Miles & Condition		
Stream Name	**Quicksilver FFR- 02**	**Assessment Issues/ Impacts Identified**	**Total Miles**
North Boulder Creek	0.2 (FAR- 2001)	lack of species with roots capable of protecting stream banks/ shift from deep-rooted hydric species to those species more suited to drier sites	0.2

Standard 3: Stream Channel/Floodplain

Bridge Creek Allotment

The assessments for Bridge Creek (003, 004) indicate that the stream channel/floodplain is functioning at risk with no apparent trend (Appendix O). The stream is over-widened in many places and the width/depth ratios are out of balance with the landforms. This limits floodplain inundation and water storage capabilities. In places the floodplain and channel characteristics are inadequate to dissipate energy and trap sediment to enhance point bar development. The system is not downcutting. Approximately 20% of the banks are uncovered and unstable in both segments. There are a low percentage of banks with sufficient vegetation to protect against high flows.

Bridge Creek is predominantly F4b and B4c stream channel types, with streambank material of gravel and small cobble. The F4b stream type is low gradient, deeply entrenched, and relatively unstable. The F4 channel is a departure from full operating condition (C4) in this landform as a result of historic direct channel disturbances.

The B4 stream channel type is found in the upper and lower portions of this stream. Streambank material is gravel and small cobble. Width/depth rations are high in some B4 portions of this stream. This limits floodplain inundation and water storage capabilities. In places the floodplain and channel characteristics are inadequate to dissipate energy. The system is not downcutting, but is at risk for lateral movement.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590) and Quicksilver FFR (0483) Allotments
The downstream reach (0.7 mile) of Bridge Creek was again assessed FAR in 2008. There was inadequate riparian species present to stabilize and protect the stream banks, plant roots were exposed where banks were eroding, and the stream channel was braided, over-wide and incised. In 2008, two 0.9 mile segments of Ditch Creek were also assessed. One was rated FAR and one was in PFC. The upstream reach was FAR because there were headcuts present compromising

the vertical stability of the stream, and there was a lack of deep-rooted, stabilizing species present to protect stream banks. The downstream reach was in PFC because the segment is geologically constrained in a canyon, and there was large woody debris and woody species present to protect banks during high flows and to limit access to the stream by livestock.

Quicksilver FFR Allotment

The assessment for North Fork Boulder Creek indicates the stream channel/floodplain is functioning at risk (Appendix O). The stream is over-widened in many places and the width/depth ratio is out of balance with the landforms. This limits floodplain inundation and water storage capabilities. In places the floodplain and channel characteristics are inadequate to dissipate energy and trap sediment to enhance point bar development. The system is not downcutting, but it is at risk for lateral movement. Ten percent of the streambank has pugging and approximately 20% of the banks are uncovered and unstable. There is a low percentage of banks with sufficient vegetation to protect against high flows.

North Fork Boulder Creek is predominantly a B4 stream channel type, with streambank material of gravel and small cobble. The B4 stream type is a steep, moderately entrenched, and relatively stable.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590) and Quicksilver FFR (0483) Allotments
See Tables RIPN-2 and RIPN-3 under Bridge Creek/Quicksilver Standard 2 above for a comprehensive display of all the riparian information currently in the BLM riparian database for the Bridge Creek and Quick Silver allotments, both of which used in the original assessment, as well as newer, supplemental information.

Standard 4: Native Plant Communities

Low sagebrush communities

No Rangeland Health Evaluation Summary Worksheets or Nested Plot Frequency Transects were conducted in low sagebrush communities. These communities are a relatively minor component in the pasture.

Big sagebrush communities

Rangeland Health Evaluation Summary Worksheets

Big sagebrush communities showed a moderate departure from reference conditions in the Bridge Creek Allotment and a slight-moderate departure in the Quicksilver FFR pastures. Occurrence of decreaser bunchgrasses is less than expected and occurrence of shrubs and juniper is generally greater than expected. Two evaluations (06S03W24 in the Bridge Creek Allotment, 06S03W21 in pasture 2 of the Quicksilver FFR Allotment) were conducted in previously burned areas.

Integrity/Diversity - Plant community integrity and native species diversity show a moderate degree of departure from reference conditions at 06S02W18 and 06S03W24 and a slight-moderate degree of departure at the remaining sites. Occurrence of decreaser bunchgrasses is less than expected at all sites, especially those in the Bridge Creek Allotment. Occurrence of increaser grasses is similar to expected at all sites. Occurrence of bunchgrasses in shrub interspaces, especially decreaser grasses, is less than expected at all sites except 06S03W21. Big sagebrush occurrence is greater than expected at all sites, especially 06S03W24, except site 06S02W18 where big sagebrush occurrence is slightly less than expected. Rabbitbrush cover is greater than expected at 06S03W15 and 06S03W21.

Biological soil crust cover is less than expected at sites 06S02W18 and 06S03W24; however, it is not a major component in these communities, particularly on granitic soils. Juniper is common to dominant at unburned sites and young juniper trees are evident at the burned site (06S03W24). Annual production is between 40-60% of expected at 06S03W24 where decreaser grass cover is reduced. Annual production is within 80% of expected at the remaining sites; however, juniper and shrubs account for more production than expected. Observed forb diversity is less than expected at sites 06S02W05 and 06S03W15 and similar to expected at the remaining sites. Timing of the sampling may have influenced observability of forbs. Leguminous species (lupine) were observed at all sites.

Plant Vigor - Plant vigor shows a none-slight degree of departure from reference conditions at 06S03W15 and 06S03W21, a slight-moderate degree of departure at 06S02W05 and 06S02W18, and a moderate degree of departure at 06S03W24. Crown die-out of bunch grasses is greater than expected and vigor is lower than expected in the Bridge Creek Allotment. Mortality and vigor of grasses are similar to expected in the Quicksilver FFR pastures. Active pedestals on bunchgrasses are not present. Occurrence of decadent sagebrush is greater than expected at 06S02W05 and 06S02W18. Production of seed heads on grasses is less than expected in the Bridge Creek Allotment and similar to expected in the Quicksilver FFR pastures. Recruitment of grasses is evident at 06S02W18, 06S03W15, and 06S03W21. Recruitment of shrubs is evident at 06S02W05, 06S03W15, and 06S03W24.

Noxious/Invasive Plants – Small populations of yellow starthistle (*Centaurea solstitialis*) and bur buttercup are present at 06S03W24. Noxious weeds were not observed at the remaining sites. Invasive plants show a moderate to extreme degree of departure from reference conditions at all sites. Cheatgrass is not present at any site. Bulbous bluegrass (*Poa bulbosa*) is present at 06S03W21. Juniper recruitment is occurring at 06S03W24 and juniper is common to dominant at the remaining sites.

Trend

The general trend in ecological condition was inconclusive. Increased needlegrass cover did not offset decreases in other perennial grass species. Shrub cover was static to downward and juniper cover increased. Grazing during the critical growth period since 1997 and drought conditions in 2002 may have affected trend.

NPFT Studies – The frequency of Idaho fescue remained static between 1991 and 2002 (Appendix L). The frequency of needlegrass increased and the frequency of bluebunch wheatgrass decreased (P = 0.071); however, the frequency of bluebunch wheatgrass was too low for a valid statistical test. Frequencies of Sandberg bluegrass and squirreltail decreased. The frequency of longleaf phlox was static. The frequency of low sagebrush was static.

Photo Plots/View Photos - The apparent trend was static to downward for grasses and static for shrubs between 1991 and 2001 (Table 18). In the photo plots, perennial grasses decreased or disappeared. In view photos, there is an apparent increase in needlegrass in tree interspaces. Idaho fescue occurred primarily under juniper. Sagebrush cover in tree interspaces decreased. Vigor of bunchgrasses and shrubs in tree interspaces was reduced in 2002. Juniper is increasing on the site. Some mountain mahogany is present and has a static trend.

Table 18. Apparent trend in abundance (D = downward, S = static, U = upward) of perennial grasses and shrubs in photo plots and view photos, low sagebrush communities, Bridge Creek Allotment, 1991-2002.

Transect	Range Site	Evaluation Period	Grasses		Shrubs/ Trees	
			Plot	Photos	Plot	Photos
06S02W18	Mahogany Thicket 16-20	1991-2001	D	S-D	S	S

Shrub Density - Western juniper was not encountered at site.

Herbaceous (Burned) Communities

No wildfires were known to occur between 1980 and present; however, there is evidence of burns at 06S03W21 and 06S03W24. Areas where junipers were killed by prescribed fire (06S03W24), are characterized by reduced decreaser and interspatial grasses, increased shrub cover, presence of yellow starthistle, and recruitment of juniper. Areas where junipers were not killed by fire (06S03W21) are characterized by slight decreases in decreaser grasses and increases in shrubs (compared to unburned areas nearby) and the presence of bulbous bluegrass.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590) and Quicksilver FFR (0483) Allotments
Standard 4 is not met in the one pasture of the Bridge Creek allotment with moderate departure of biotic integrity from reference site conditions within mountain big sagebrush and mahogany savannah vegetation communities. Departure from reference site conditions is influenced by functional-structural groups of plants with greatly reduced deep-rooted bunchgrasses throughout the pasture and the common occurrence of juniper, and reduced occurrence of mountain big sagebrush, bitterbrush, and other mountain shrub species in those portions of the pasture that have not recently burned. As noted in the 2006 assessment, fire in the southwest portion of the allotment has set back the encroachment by juniper into approximately 100 acres of shrub-steppe vegetation communities. As a result of this fire, mountain big sagebrush dominance consistent with potential was enhanced, while continuing to lack the potential herbaceous component including bunchgrasses. The causal factor for failure to meet Standard 4 in the one pasture Bridge Creek allotment is juniper dominance in excess of potential at reference site conditions which resulted from altered

natural fire regimes. Historic livestock grazing contributed to the loss of deep-rooted perennial bunchgrasses, while recent grazing practices with light intensity of use following the active growing season has allowed an upward trend in condition of native perennial bunchgrass composition. Residual deep-rooted bunchgrasses and a seed source for establishment of additional plants can provide opportunity for recovery toward reference site conditions with co-dominance of vegetation communities by Idaho fescue and bluebunch wheatgrass upon natural or planned reduction in competition from juniper.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590) and Quicksilver FFR (0483) Allotments
Standard 4 is met in pastures 1, 2, and 3 of the Quicksilver FFR allotment with the overall none-to-slight departure of biotic integrity from reference site conditions recorded within the low sagebrush communities of pasture 1 and the mountain big sagebrush communities of pasture 2, while the overall slight-to-moderate departure of biotic integrity from reference site conditions is recorded in pasture 3. Although recent undocumented fires have controlled juniper to a limited degree in localized areas, remaining juniper uncontrolled by natural fire regimes has the potential to contribute to not meeting Standard 4 in the future. Current spring and fall grazing with a short duration are not likely to impact native perennial bunchgrass health and vigor. No vegetation trend data are available for the Quicksilver FFR allotment.

Standard 8: Threatened and Endangered Plants and Animals

Redband Trout

Redband trout occur in Bridge and North Fork Boulder creeks. The streams are functioning at risk and habitat conditions for redband trout are unsatisfactory. In general, riparian plant communities are dominated by early seral or increaser species, which are unable to maintain stable streambanks and channels. The stream channel width/depth ratio is not in balance with the landscape setting and floodplain and channel characteristics are inadequate for dissipating energy of high flows. Unstable streambanks and channels reduce the living space for redband trout. Furthermore, high width/depth ratios, and lack of streamside vegetation, result in increased solar heating of the stream. These streams generally have a high percentage of unstable banks, which increases the amount of fine sediment suspended in the water column and deposited in the substrate. High sediment levels in the water and substrate reduces dissolved oxygen levels, macro-invertebrate productivity, and spawning gravel suitability. Forage for fish is reduced, and survivability of eggs and fry is reduced.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590) and Quicksilver FFR (0483) Allotments
Bridge Creek Allotment *General Riparian Habitat* Approximately 3.4 miles of stream riparian habitat along Bridge and Ditch Creeks were assessed for PFC, the majority of which were rated as FAR (see Standard 2). Conditions along the

majority of streams supporting riparian vegetation do not appear to be adequate for dependent migratory birds. Although the herbaceous understory is lacking or dominated by upland species along some reaches of the assessed streams, woody species in places display diverse species and age-classes. Overall these riparian habitats are probably not providing structurally complex breeding, nesting, and foraging habitat for dependent species.

Focal Special Status Species

Greater sage-grouse

Habitat Characteristics

Habitat Assessments

The Bridge Creek allotment is within the breeding and summer seasonal ranges of the Owyhee Front/Triangle local population (Map WDLF-6). A limited portion in the southwest of the allotment is at the periphery of the population's winter seasonal range. The dominant mountain big sagebrush ecological sites support breeding (including early brood-rearing) and upland summer sage-grouse habitat. There is no known riparian habitat outside of juniper dominated areas and drainages in the allotment. Therefore riparian habitat is unavailable to sage-grouse within the allotment. Although open shrub steppe vegetation communities occur as islands following the tops of peaks and ridgelines, the majority of sage-grouse habitat within the pasture is classified as juniper encroachment areas (Maps WDLF-4 and WDLF-5C).

Breeding Habitat

Two SG HAs were used to assess breeding habitat conditions within the Bridge Creek allotment (Map WDLF-5C). One SG HA was located within the Loamy 16+" ARTRV/FEID Ecological Site and one was located in the Mountain Ridge 14-18" ARAR8/FEID Ecological Site. These ecological sites constitute a substantial of the usable sage-grouse habitat (based on cover types/ecological sites) within the pasture (approximately 50 percent of shrub steppe acres; see Table WDLF-23 below), and therefore are representative of the conditions that predominate within the allotment.

Although the assessments were not conducted at the appropriate time of year, most of the components and conditions necessary for suitable breeding habitat currently occur within the allotment where juniper woodlands yield to shrub steppe vegetation communities. Therefore, sage-grouse breeding habitat condition would provisionally merit a Suitable rating.

- **06S02W06b-2012 (R025XY022ID)**
  Suitable (*provisionally*). Although assessment was not conducted at the appropriate time of year, breeding habitat within the ecological site would provisionally rate suitable. Sagebrush and perennial herbaceous vegetation heights are providing adequate nesting cover (Figure WDLF-7). Forbs are diverse and abundance and it is possible that conditions may be better earlier in the spring when soil moisture is more abundant and available. Although sagebrush CC was excessive, it does not appear to be inhibiting nor affecting herbaceous vegetation. JUOC encroachment is occurring in the pasture and may continue to diminish the relatively small amount of shrub steppe within the allotment.
- **06S02W06a-2012 (R025XY042ID)**
  Suitable (*provisionally*). Although assessment was not conducted at the appropriate time of year, most of the components necessary for suitable breeding habitat fall within the correct

ranges (sagebrush height, growth form, perennial herbaceous vegetation CC and height, forb diversity and abundance) and would provisionally merit a suitable rating (Figure WDLF-8). Although it is uncertain whether forb diversity and abundance would be adequate during the breeding season, it stands to reason that forb availability would be adequate during the spring when soil moisture would be higher.

Upland Summer Habitat
Two SG HAs were used to assess upland summer habitat conditions within the Bridge Creek allotment (Map WDLF-5C). One SG HA was located within the Loamy 16+" ARTRV/FEID Ecological Site and one was located in the Mountain Ridge 14-18" ARAR8/FEID Ecological Site. These ecological sites constitute a substantial of the usable sage-grouse habitat (based on cover types/ecological sites) within the pasture (approximately 50 percent of shrub steppe acres; see Table WDLF-23 below), and therefore are representative of the conditions that predominate within the allotment.

- **06S02W06b-2012 (R025XY022ID)**
  Suitable. The ecological site is rated suitable because many important primary and supplementary indicators (sagebrush height, perennial herbaceous vegetation CC and height, forb diversity and abundance) fell within the suitable range (Figure WDLF-9). Sagebrush and perennial herbaceous vegetation are providing adequate concealment cover. Forbs are diverse and abundant and are providing forage for sage-grouse.
- **06S02W06a-2012 (R025XY042ID)**
  Suitable. This ecological site is on the lower end of suitable. Although some of the primary indicators are within the marginal range (sagebrush height), forb diversity and abundance are probably outweighing the marginal vertical concealment components (Figure WDLF-10). Perennial herbaceous vegetation heights and CC (as well as sagebrush CC) may be providing adequate cover and ameliorating some of the concealment limitations of the low sagebrush height.

Redband Trout
A recent range wide status update redband trout reveals that redband trout continue to occupy North Fork Castle Creek, and contrary to the information in the previous assessment, Meadow Creek does not cross the Bridge Creek allotment nor do redband trout occur in the stream ((May, Writer, & Albeke, 2012); pers. comm. J.Kozfkay, IDFG fisheries biologist, 2013).

Columbia Spotted Frog
Targeted surveys for spotted frogs have not been conducted in the Bridge Creek allotment.

In 2003, surveys were conducted in Bridge Creek 0.75 miles downstream from the allotment. Adult spotted frogs were detected. It is possible that spotted frog occur in perennial sections of Bridge Creek that traverse the allotment farther upstream from the most current detections. In 2008 surveys were conducted in North Fork Castle Creek 1.2 miles downstream from the allotment. Adults and tadpoles were detected. Nevertheless, the stream is intermittent where North Fork Castle Creek which traverses the allotment.

Although the majority of riparian habitats in this allotment are FAR, segments of Bridge Creek

appears to support riparian habitat that may be adequate for spotted frogs.

Spotted frogs are known to occupy the two subwatersheds (6th level HUC) that intersect the Bridge Creek allotment (North Fork Castle Creek, Meadow Creek; Map WDLF-7).

General Upland Habitat Assessment
Several upland habitats and cover types occur within a variety of ecological sites within the Bridge Creek allotment (Table WDLF-23).

Table WDLF-23: NRCS Ecological Sites within Bridge Creek allotment

Habitat Type	**General Cover Type**	**Ecological Site Description**	**Percentage of Allotment**	
			Ecological Site Description	**General Cover Type**
Shrub Steppe	Mountain Big Sagebrush	Loamy 13-16" ARTRV/PSSPS-FEID	35	69
		Loamy 16+" ARTRV/FEID	34	
	Low Sagebrush	Shallow Claypan 12-16" ARAR8/FEID	1	1
		Mountain Ridge 14-18" ARAR8/FEID	<1	
Mountain Shrub	Mountain Shrub	Mahogany Savanna 16-22" CELE3-SYOR2/FEID-ACHNA	29	29
Forest	Douglas-fir	Douglas-fir Snowberry 22+" PSMEG/SYOR2	1	1

In general, upland habitat conditions in Bridge Creek exhibit moderate departure of biotic integrity from reference conditions (see Standard 4). Important components of shrub steppe habitat such as shrubs (big sagebrush, bitterbrush) and deep-rooted bunchgrasses are less than expected at reference conditions. Invasive species (i.e., junipers) were noted as exhibiting a moderate to extreme range of departure from ecological site reference conditions. The reduction of shrubs and bunchgrasses and conversion of shrub steppe habitats to juniper woodlands is affecting habitat suitability for most obligate and dependent wildlife and is probably not providing adequate habitat conditions for these species.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590) and Quicksilver FFR (0483) Allotments

Figure WDLF-7: Summary of breeding SG HA in Bridge Creek in the Loamy 16+" ARTRV/FEID Ecological Site (2012)

Form H-3	Sage-grouse Habitat Suitability Worksheet –		BREEDING	0590-01-06S02W06b-2012	R025XY022ID		
Date:	7/25/2012	County:	Owyhee	State:	Idaho	Subpopulation:	NC NV/ SE OR/ SW ID
Evaluators:	Jost, Roseman					Home Range Name:	Owyhee Front/Triangle
Legal Description:	T06SR02WS06QSWQQSW		Allotment-Pasture Names:	Bridge Creek-Bridge Creek		Associated Leks:	20548, 20619, 20557, 20642
Land Cover Type:	ARTRV/FEID					Ecological Site:	Loamy 16+ ARTRV/FEID
Number of Transects:	1	Area Sampled (ha):	1			Site Info:	Mesic
List UTM Coordinates:							
Starting (NAD83)	531843E	4751136N					
Ending (NAD 83)	4751090N	531820E					

Habitat Indicator Suitability Range (Primary)

Habitat Indicator	χ	Suitable	✓	Marginal	✓	Unsuitable	✓
Sagebrush Canopy Cover (mean)	56.0	15-25%		5-<15% or >25%	X	<5%	
Sagebrush Height Mesic Site (mean) Arid Site (mean)	57.9	40-80 cm 30-80 cm	X	20-<40 cm or >80 cm 20-<30 cm or >80 cm		<20 cm <20 cm	
Predominant Sagebrush Shape (mode)	Mixed	Spreading		Mix of Spreading and Columnar	X	Columnar	
Perennial Grass and Forb Height (mean)	19.4	≥18 cm	X	10-18 cm		<10 cm	
Perennial Grass Canopy Cover Mesic Site (mean) Arid Site (mean)	28.0	≥15% ≥10%	X	5-<15% 5-<10%		<5% <5%	
Perennial Forb Canopy Cover Mesic Site (mean) Arid Site (mean)	4.0	≥10% ≥5%		5-<10% 3-<5%		<5% <3%	X
Preferred Forb Availability (relative to site potential)	Abundant	Preferred forbs are common with several species present	X	Preferred forbs are common but only a few species are present		Preferred forbs are rare	
Number of Preferred Forb Species (*n*)	11.0		11 sp. total				

Habitat Indicator Suitability Range (Supplemental)

Habitat Indicator	χ	Suitability	Rationale
Other Shrub Canopy Cover (mean)	6.0	Suitable	Appropriate based on Ecological Site potential
Other Shrub Height (mean)	40.0	Suitable	Suitable breeding habitat should have shrub heights between 40-80 cm
Sagebrush and Other Shrub Canopy Cover (mean)	62.0	Marginal	Suitable breeding habitat should have total shrub CC ≤42%
Sagebrush and Other Shrub Height (mean)	56.1	Suitable	Suitable breeding habitat should have shrub heights between 40-80 cm
Perennial Grass Height (excluding Poa spp.) (mean)	19.3	Suitable	Suitable breeding habitat should have perennial grass heights ≥18 cm
Poa Spp. Canopy Cover (mean)	14.0	Suitable	Appropriate based on Ecological Site potential
Annual Grass Canopy Cover (mean)	0.0	Suitable	Appropriate based on Ecological Site potential
Annual Forb Canopy Cover (mean)	0.0	Suitable	Appropriate based on Ecological Site potential
Bare Ground Canopy Cover (relative to site potential) (mean)	18.0	Marginal	Lower than expected based on ESD; bare ground should range between 30-60%; not due to litter build-up from BRTE therefore not indicative of an invasive weed problem, but possibly an increase in wildfire spread potential

Does ecological site potential limit suitability potential?	YES	NO
		X

Drought Condition:	Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist	Extremely Moist
			X				

Evidence of sage-grouse use?	Unknown-not noted
Evidence of recent livestock use?	Some evidence of cattle use

Rationale for Overall Suitability Rating:	Although assessment was not conducted at the appropriate time of year, breeding habitat within the ecological site would provisionally rate suitable. Sagebrush and perennial herbaceous vegetation heights are providing adequate nesting cover. Forbs are diverse and abundance and it is possible that conditions may be better earlier in the spring when soil moisture is more abundant and available. Although sagebrush CC was excessive, it does not appear to be inhibiting nor affecting herbaceous vegetation. JUOC encroachment is occurring in the pasture and may continue to diminish the relatively small amount of shrub steppe within the allotment.

	Suitable	Marginal	Unsuitable
Site-Scale Suitability	P		

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590) and Quicksilver FFR (0483) Allotments

Figure WDLF-8: Summary of breeding SG HA in Bridge Creek in the Mountain Ridge 14-18”

ARAR8/FEID Ecological Site (2012)

Form H-3	Sage-grouse Habitat Suitability Worksheet –		BREEDING	0590-01-06S02W06a-2012 R025XY042ID			
Date:	7/25/2012	County:	Owyhee	State:	Idaho	Subpopulation:	NC NV/ SE OR/ SW ID
Evaluators:	Jost, Roseman					Home Range Name:	Owyhee Front/Triangle
Legal Description:	T06SR02WS06QSWQQNW		Allotment-Pasture Names:	Bridge Creek-Bridge Creek		Associated Leks:	20548, 20619, 20557, 20642
Land Cover Type:	ARAR/FEID					Ecological Site:	Mountain Ridge 14-18 ARAR8/FEID
Number of Transects:	1	Area Sampled (ha):	1			Site Info:	Arid
List UTM Coordinates:							
Starting (NAD83)	532048E	4751376N					
Ending (NAD 83)	4751383N	531994E					

Habitat Indicator Suitability Range (Primary)

Habitat Indicator	χ	Suitable	✓	Marginal	✓	Unsuitable	✓
Sagebrush Canopy Cover (mean)	52.0	15-25%		5-<15% or >25%	X	<5%	
Sagebrush Height Mesic Site (mean) Arid Site (mean)	30.1	40-80 cm 30-80 cm	X	20-<40 cm or >80 cm 20-<30 cm or >80 cm		<20 cm <20 cm	
Predominant Sagebrush Shape (mode)	Spreading	Spreading	X	Mix of Spreading and Columnar		Columnar	
Perennial Grass and Forb Height (mean)	19.4	≥18 cm	X	10-18 cm		<10 cm	
Perennial Grass Canopy Cover Mesic Site (mean) Arid Site (mean)	20.0	≥15% ≥10%	X	5-<15% 5-<10%		<5% <5%	
Perennial Forb Canopy Cover Mesic Site (mean) Arid Site (mean)	6.0	≥10% ≥5%	X	5-<10% 3-<5%		<5% <3%	
Preferred Forb Availability (relative to site potential)	Abundant	Preferred forbs are common with several species present	X	Preferred forbs are common but only a few species are present		Preferred forbs are rare	
Number of Preferred Forb Species (*n*)	10.0		10 sp. total				

Habitat Indicator Suitability Range (Supplemental)

Habitat Indicator	χ	Suitability	Rationale
Other Shrub Canopy Cover (mean)	0.0	Suitable	Appropriate based on Ecological Site potential
Other Shrub Height (mean)	0.0	Suitable	Appropriate based on Ecological Site potential
Sagebrush and Other Shrub Canopy Cover (mean)	52.0	Marginal	Suitable breeding habitat should have total shrub CC ≤42%; no other shrubs were recorded so this amount is due entirely to sagebrush (see above)
Sagebrush and Other Shrub Height (mean)	30.1	Suitable	Suitable breeding habitat should have shrub heights between 30-80 cm
Perennial Grass Height (excluding Poa spp.) (mean)	21.8	Suitable	Suitable breeding habitat should have perennial grass heights ≥18 cm
Poa Spp. Canopy Cover (mean)	8.0	Suitable	Appropriate based on Ecological Site potential
Annual Grass Canopy Cover (mean)	0.0	Suitable	Appropriate based on Ecological Site potential
Annual Forb Canopy Cover (mean)	0.0	Suitable	Appropriate based on Ecological Site potential
Bare Ground Canopy Cover (relative to site potential) (mean)	16.0	Suitable	Slightly lower than expected based on Ecological Site description

Does ecological site potential limit suitability potential?	YES	NO
		X

Drought Condition:	Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist	Extremely Moist
			X				

Evidence of sage-grouse use?	Unknown-not noted
Evidence of recent livestock use?	No sign of recent use

Rationale for Overall Suitability Rating: Although assessment was not conducted at the appropriate time of year, most of the components necessary for suitable breeding habitat fall within the correct ranges (sagebrush height, growth form, perennial herbaceous vegetation CC and height, forb diversity and abundance) and would provisionally merit a suitable rating. Although it is uncertain whether forb diversity and abundance would be adequate during the breeding season, it stands to reason that forb availability would be adequate during the spring when soil moisture would be higher.

	Suitable	Marginal	Unsuitable
Site-Scale Suitability	P		

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590) and Quicksilver FFR (0483) Allotments

Figure WDLF-9: Summary of upland summer SG HA in Bridge Creek in the Loamy 16+"

ARTRV/FEID Ecological Site (2012)

Form H-4	Sage-grouse Habitat Suitability Worksheet –	UPLAND SUMMER	0590-01-06S02W06b-2012 R025XY022ID				
Date:	7/25/2012	County:	Owyhee	State:	Idaho	Subpopulation:	NC NV/ SE OR/ SW ID
Evaluators:	Jost, Roseman					Home Range Name:	Owyhee Front/Triangle
Legal Description:	T06SR02WS06QSWQQSW		Allotment-Pasture Names:	Bridge Creek-Bridge Creek		Associated Leks:	2O548, 2O619, 2O557, 2O642
Land Cover Type:	ARTRV/FEID					Ecological Site:	Loamy 16+ ARTRV/FEID
Number of Transects:	1	Area Sampled (ha):	1			Site Info:	Mesic
List UTM Coordinates:							
Starting (NAD83)	531843E	4751136N					
Ending (NAD 83)	4751090N	531820E					

Habitat Indicator Suitability Range (Primary)

Habitat Indicator	χ	Suitable	✓	Marginal	✓	Unsuitable	✓
Sagebrush Canopy Cover (mean)	56.0	10-25%		5-<10% or >25%	X	<5%	
Sagebrush Height (mean)	57.9	40-80 cm	X	20-<40 cm or >80 cm		<20 cm	
Perennial Grass and Forb Canopy Cover (mean)	32.0	≥15%	X	5-15%		<5%	
Preferred Forb Availability (relative to site potential)	Abundant	Preferred forbs are common with several species present	X	Preferred forbs are common but only a few species are present		Preferred forbs are rare	
Number of Preferred Forb Species (*n*)	11.0		11 sp. total				

Habitat Indicator Suitability Range (Supplemental)

Habitat Indicator	χ	Suitability	Rationale
Predominant Sagebrush Shape (mode)	Mixed	Suitable	Shrub growth form is probably providing adequate concealment cover in combination with the high shrub CC
Perennial Grass and Forb Height (mean)	19.4	Suitable	Suitable upland summer habitat should have perennial herbaceous vegetation heights ≥10 cm
Perennial Grass Canopy Cover (mean)	28.0	Suitable	Suitable upland summer habitat should have perennial grass CC ≥10%
Perennial Forb Canopy Cover (mean)	4.0	Suitable	Suitable upland summer habitat should have perennial forb CC ≥10%; belt transect reveals that forbs are diverse and abundant
Other Shrub Canopy Cover (mean)	6.0	Suitable	Appropriate based on Ecological Site potential
Other Shrub Height (mean)	40.0	Suitable	Suitable upland summer habitat should have shrub heights between 40-80 cm
Sagebrush and Other Shrub Canopy Cover (mean)	62.0	Suitable	Sagebrush and other shrubs are providing adequate concealment cover
Sagebrush and Other Shrub Height (mean)	56.1	Suitable	Suitable upland summer habitat should have shrub heights between 40-80 cm
Perennial Grass Height (excluding Poa spp.) (mean)	19.3	Suitable	Suitable upland summer habitat should have perennial grass heights ≥10 cm
Poa Spp. Canopy Cover (mean)	14.0	Suitable	Appropriate based on Ecological Site potential
Annual Grass Canopy Cover (mean)	0.0	Suitable	Appropriate based on Ecological Site potential
Annual Forb Canopy Cover (mean)	0.0	Suitable	Appropriate based on Ecological Site potential
Bare Ground Canopy Cover (relative to site potential) (mean)	18.0	Marginal	Lower than expected based on ESD; bare ground should range between 30-60%; not due to litter build-up from BRTE therefore not indicative of an invasive weed problem, but possibly an increase in wildfire spread potential

Does ecological site potential limit suitability potential?	YES	NO
		X

Drought Condition:	Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist	Extremely Moist
			X				

Evidence of sage-grouse use?	Unknown-not noted
Evidence of recent livestock use?	Some evidence of cattle use

Rationale for Overall Suitability Rating:	The ecological site is rated suitable because many important primary and supplementary indicators (sagebrush height, perennial herbaceous vegetation CC and height, forb diversity and abundance) fell within the suitable range. Sagebrush and perennial herbaceous vegetation are providing adequate concealment cover. Forbs are diverse and abundant and are providing forage for sage-grouse.

	Suitable	Marginal	Unsuitable
Site-Scale Suitability	X		

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590) and Quicksilver FFR (0483) Allotments

Figure WDLF-10: Summary of upland summer SG HA in Bridge Creek in the Mountain Ridge ARAR8/FEID Ecological Site (2012)

Form H-4	**Sage-grouse Habitat Suitability Worksheet –**		**UPLAND SUMMER**	**0590-01-06S02W06a-2012 R025XY042ID**			
Date:	7/25/2012	**County:**	Owyhee	**State:**	Idaho	**Subpopulation:**	NC NV/ SE OR/ SW ID
Evaluators:	Jost, Roseman					**Home Range Name:**	Owyhee Front/Triangle
Legal Description:	T06SR02WS06QSWQQNW		**Allotment-Pasture Names:**	Bridge Creek-Bridge Creek		**Associated Leks:**	2O548, 2O619, 2O557, 2O642
Land Cover Type:	ARAR/FEID					**Ecological Site:**	Mountain Ridge 14-18 ARAR8/FEID
Number of Transects:	1	**Area Sampled (ha):**	1			**Site Info:**	Arid
List UTM Coordinates:							
Starting (NAD83)	532048E	4751376N					
Ending (NAD 83)	4751383N	531994E					

Habitat Indicator Suitability Range (Primary)

Habitat Indicator	**X**	**Suitable**	**✓**	**Marginal**	**✓**	**Unsuitable**	**✓**
Sagebrush Canopy Cover (mean)	**52.0**	10-25%		5-<10% or >25%	X	<5%	
Sagebrush Height (mean)	**30.1**	40-80 cm		20-<40 cm or >80 cm	X	<20 cm	
Perennial Grass and Forb Canopy Cover (mean)	**26.0**	≥15%	X	5-15%		<5%	
Preferred Forb Availability (relative to site potential)	**Abundant**	Preferred forbs are common with several species present	X	Preferred forbs are common but only a few species are present		Preferred forbs are rare	
Number of Preferred Forb Species (*n*)	**10.0**		10 sp. total				

Habitat Indicator Suitability Range (Supplemental)

Habitat Indicator	**X**	**Suitability**	**Rationale**
Predominant Sagebrush Shape (mode)	**Spreading**	Suitable	Spreading sagebrush growth form provides adequate concealment cover
Perennial Grass and Forb Height (mean)	**19.4**	Suitable	Suitable upland summer habitat should have perennial herbaceous vegetation heights ≥10 cm
Perennial Grass Canopy Cover (mean)	**20.0**	Suitable	Suitable upland summer habitat should have perennial grass CC ≥10%
Perennial Forb Canopy Cover (mean)	**6.0**	Suitable	Suitable upland summer habitat should have perennial forb CC ≥10%; belt transect reveals diverse and abundant forbs
Other Shrub Canopy Cover (mean)	**0.0**	Suitable	Appropriate based on Ecological Site potential
Other Shrub Height (mean)	**0.0**	Suitable	Appropriate based on Ecological Site potential
Sagebrush and Other Shrub Canopy Cover (mean)	**52.0**	Marginal	Suitable breeding habitat should have total shrub CC ≤42%; no other shrubs were recorded so this amount is due entirely to sagebrush (see above)
Sagebrush and Other Shrub Height (mean)	**30.1**	Marginal	Suitable breeding habitat should have shrub heights between 40-80 cm
Perennial Grass Height (excluding Poa spp.) (mean)	**21.8**	Suitable	Suitable upland summer habitat should have perennial grass heights ≥10 cm
Poa Spp. Canopy Cover (mean)	**8.0**	Suitable	Appropriate based on Ecological Site potential
Annual Grass Canopy Cover (mean)	**0.0**	Suitable	Appropriate based on Ecological Site potential
Annual Forb Canopy Cover (mean)	**0.0**	Suitable	Appropriate based on Ecological Site potential
Bare Ground Canopy Cover (relative to site potential) (mean)	**16.0**	Marginal	Slightly lower than expected based on Ecological Site description

Does ecological site potential limit suitability potential?	**YES**	**NO**
		X

Drought Condition:	**Extreme Drought**	**Severe Drought**	**Moderate Drought**	**Mid-Range**	**Moderately Moist**	**Very Moist**	**Extremely Moist**
			X				

Evidence of sage-grouse use?	Unknown-not noted
Evidence of recent livestock use?	No sign of recent use

Rationale for Overall Suitability Rating:	This ecological site is on the lower end of suitable. Although some of the primary indicators are within the marginal range (sagebrush height), forb diversity and abundance are probably outweighing the marginal vertical concealment components. Perennial herbaceous vegetation heights and CC (as well as sagebrush CC) may be providing adequate cover and ameliorating some of the concealment limitations of the low sagebrush height.

	Suitable	**Marginal**	**Unsuitable**
Site-Scale Suitability	X		

Quicksilver FFR pastures 2 and 3 (04832 and 04833)

General Riparian Habitat
Approximately 0.2 miles of stream riparian habitat along North Fork Boulder Creek were assessed for PFC, all of which were rated as FAR (see Standard 2). In places woody species displayed diverse age-classes, but hydric vegetation composition was not diverse. Noxious weeds were noted as increasing which could affect future habitat conditions. Nevertheless, by providing structurally complex breeding, nesting, and foraging habitat, riparian areas along North Fork Boulder Creek within pasture 2 appear to be at least minimally adequate for dependent migratory birds species and other wildlife species. There is not riparian habitat in pasture 3.

There are no known lentic spring areas in pastures 2 and 3.

Focal Special Status Species
Greater sage-grouse
Habitat Characteristics
Only pasture 3 is within the summer seasonal range of the Owyhee Front/Triangle local population (Map WDLF-6). The dominant mountain big sagebrush ecological site supports upland summer habitat. There is no riparian habitat within pasture 3. Key habitat and juniper encroachment areas comprise the sage-grouse habitat within pasture 3 (Maps WDLF-4 and WDLF-5D). Although pasture 3 has areas classified as key habitat, this shrub steppe habitat island is located at the periphery of PPH, is limited in size (approximately 35 acres), and is surrounded by relatively continuous juniper woodlands; all these factors limit habitat quality and sage-grouse usage of the pasture.

Sage-grouse HAs have not been conducted in pasture 3.

Redband Trout
Current information regarding redband trout occurrence in North Boulder Creek was uncertain. The current update (May, Writer, & Albeke, 2012) does not show redband trout in North Boulder Creek (although this stream was considered occupied in older datasets); however, correspondence with IDFG uncovered disparities in database stream names (i.e., Boulder versus North Boulder) and redband trout occurrence. Current IDFG data reveals redband trout in Boulder Creek (which could be North Boulder or possibly Big Boulder). A definitive answer as to redband trout occurrence in North Boulder Creek was not available at the time of publication and this question is still pending.

Columbia Spotted Frog
Targeted surveys for spotted frogs have not been conducted in pasture 2 of the Quicksilver FFR allotment.

Although spotted frogs have been detected in North Fork Boulder Creek in the past, these occurrences were over 3 miles downstream of the pasture. Recent surveys (2011) in the general area of these past detections did not detect spotted frogs.

Riparian habitat along North Fork Boulder Creek in pasture 2 is functioning-at-risk, and current conditions may not be adequate for spotted frogs.

Spotted frogs are known to occupy the one subwatershed (6th level HUC) that intersects pasture 2 (Upper North Boulder Creek; Map WDLF-7).

General Upland Habitat Assessment
Several upland habitats and cover types occur within a variety ecological sites within pastures 2 and 3 (Tables WDLF-24 and WDLF-25).

Table WDLF-24: NRCS Ecological Sites within Quicksilver FFR pasture 2

Habitat Type	General Cover Type	Ecological Site Description	Percentage of Allotment	
			Ecological Site Description	General Cover Type
Grassland	Grassland	Dry Meadow PONE3-PHAL2	1	1
Shrub Steppe	Mountain Big Sagebrush	Loamy 13-16" ARTRV/PSSPS-FEID	93	93
Forest	Douglas-fir	Douglas-fir Snowberry 22+" PSMEG/SYOR2	6	6

Table WDLF-25: NRCS Ecological Sites within Quicksilver FFR pasture 3

Habitat Type	General Cover Type	Ecological Site Description	Percentage of Allotment	
			Ecological Site Description	General Cover Type
Shrub Steppe	Mountain Big Sagebrush	Loamy 13-16" ARTRV/PSSPS-FEID	71	71
Mountain Shrub	Mountain Shrub	Mahogany Savanna 16-22" CELE3-SYOR2/FEID-ACHNA	15	15
Forest	Douglas-fir	Douglas-fir Snowberry 22+" PSMEG/SYOR2	14	14

In general, many indicators of upland rangeland health were near reference conditions (see Standards 1 and 4). However, pastures 2 and 3 was affected by conversion to juniper woodlands exhibited a moderate-to-extreme and moderate departure from ecological site reference conditions, respectively. However, an undocumented fire affected the majority of junipers on BLM lands within pasture 2 and bunchgrasses and mountain big sagebrush communities are expected to improve because the effects of juniper dominance (competition for water, nutrients, and sunlight) have been reduced. Nevertheless, the conversion of shrub steppe habitats to juniper woodlands in pasture 3 is affecting habitat suitability for most obligate and dependent wildlife and is probably not providing adequate habitat conditions for these species.

Plants

Special status plants are not known to occur in these pastures. Systematic inventories for special status plants have not been conducted. Incidental work for other site-specific projects has yielded no occurrences, though this type of work has been limited.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590) and Quicksilver FFR (0483) Allotments
Botany No populations of special status plant species are known to occur in the Bridge Creek and Quicksilver FFR (Late spring use) allotments. There is insufficient information to determine site-specific impacts of livestock grazing on any special status plants that may occur in these allotments. This standard is not applicable. *Information sources* Elemental Occurrences (EOs) for special status species (SSP) populations is recorded in the Idaho Fish and Wildlife Information System (IFWIS) Species Diversity database (IDFG, 2011). EOs are derived by completion and review of Idaho Rare Plant Observation Reports through the Idaho Natural Heritage Program. Other sources that were used to assess and evaluate the composition and condition of SSP habitats within the Bridge Creek and Quicksilver FFR allotments include RHAs, photographs, field notes, Plants database (USDA NRCS, 2013), literature search, and information summarized above in Standards in this document. Records show no reported special status plants in these allotments.

Summer/Fall Use (Boone Peak)

Summary

- active erosion is apparent in some areas, surface gravel protects low sagebrush communities, shrub interspaces in big sagebrush communities are at risk where occurrence of perennial grasses is reduced;
- 4 miles of stream are rated functioning at risk;
- upland vegetation has a static trend in low sagebrush communities;
- grass and shrub species composition and cover are similar to reference conditions in low sagebrush communities, decreaser grass cover is less than expected and shrub and juniper cover is greater than expected in big sagebrush communities;
- two special status plants are known from this area, but their current status is unknown;

Data Collection

Seven rangeland health evaluations were conducted in low (3) and big (4) sagebrush communities between August 28 and October 24, 2002 (Table 19, Map WDLF-2). Two trend plots were conducted in low sagebrush communities between 1986 and 2002 (Table 19, Map

WDLF-3).

Table 19. Summary of upland data collected in a Summer/Fall Use pasture, Boone Peak Allotment.

Data Type[1]	Allotment	Pasture	Location	Ecological Site	Condition/Trend[2]
RHE	Boone Peak	1	05S02W17	Loamy 13-16”	(0-)
			05S03W13	Shallow Stony Loam 16+	+
			05S03W26	Shallow Stony Loam 16+	0+
			06S02W05	Shallow Claypan 11-13”	0+
			06S03W02	Loamy 16+”/Mountain Shrub	+
			06S03W12	Loamy 13-16”	0-
			06S03W15	Loamy 13-16”	0-
NPFT	Boone Peak	1	05S03W26	Shallow Stony Loam 16+	Static
			06S03W13	Shallow Claypan 11-13”/12-16	Static

[1] RHE – Rangeland Health Assessment, NPFT – Nested Plot Frequency Transect, SBH – Sage Grouse Breeding Habitat Evaluation, SRRH – Sage Grouse Brood-Rearing Habitat Evaluation
[2] + = none-slight departure from reference conditions, 0 slight-moderate departure from reference conditions, - = moderate departure from reference conditions, -- = moderate-extreme departure from reference conditions

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment
Additional data were collected during 2008 and 2011at the nested plot frequency transects (T 06S, R 03W, Sec 13 and T 05S, R 03W, Sec 26; see accompanying graphs). Frequency data for perennial bunchgrass species at the section 13 site indicate a downward trend in condition with the frequency of bluebunch wheatgrass declining consistently since 2002 and the frequency of Idaho fescue declining consistently between 1991 and 2008, while remaining static between 2008 and 2011. The decline in frequency of bluebunch wheatgrass between 2008 and 2011 is statistically significant (Student’s T-test; p-value <0.1), while the remaining changes in frequency of deep-rooted native bunchgrasses is not. Frequency data for Sandberg bluegrass, a shallow-rooted native perennial bunchgrass that is an increaser with disturbance, remained relatively static between 1991 and 2011, with no statistical difference between consecutive dates when data were collected. Frequency data for perennial bunchgrass species at the section 26 site do not lead to a consistent conclusion of trend in condition. Although recorded change in frequency of Idaho fescue, a desired deep-rooted native perennial bunchgrass, has indicated alternating upward and downward trend each year data were collected, with an increase between 2008 and 2011, that most recent change is not statistically significant (Student’s T-test; p-value <0.1). At the same time, recorded frequency of stipa and bluebunch wheatgrass, additional desired deep-rooted native perennial bunchgrass, have only been a trace since 2002 and unrecorded prior to that date. While the frequency of both Sandberg bluegrass and squirreltail (shallow-rooted and mid-rooted increaser bunchgrasses respectively) increased between 2002 and 2008 and again between 2008 and 2011, and those data are statistically significant for all change except the increased frequency of Sandberg bluegrass between 2008 and 2011, those data supporting a downward trend are not supported by a similar indication for deep-rooted bunchgrasses. The conclusion that can be reached is a static trend in vegetation composition lacking one of the potential deep-

rooted bunchgrass species, bluebunch wheatgrass.

When one considers data from both trend sites in the one pasture of the Boone Peak allotment, a static trend in vegetation condition is concluded. These trend data indicate that the ORMP objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas has not been met in the Boone Peak allotment, with its static trend (PORMP-FEIS Table VEGE-2; Boone Peak Allotment was 55 percent early seral, 20 percent mid-seral, and 25 percent late-seral).

Recorded shrub and tree density through the dates of monitoring are inconclusive, with alternating upward and downward trends for sagebrush species unrelated to known fires and the occurrence of invasive native species including horsebrush and rabbitbrush.

Figure VEG-9: Frequency of native perennial bunchgrass species at the trend transect (T. 06S., R. 03W., Sec 13) in the Boone Peak allotment

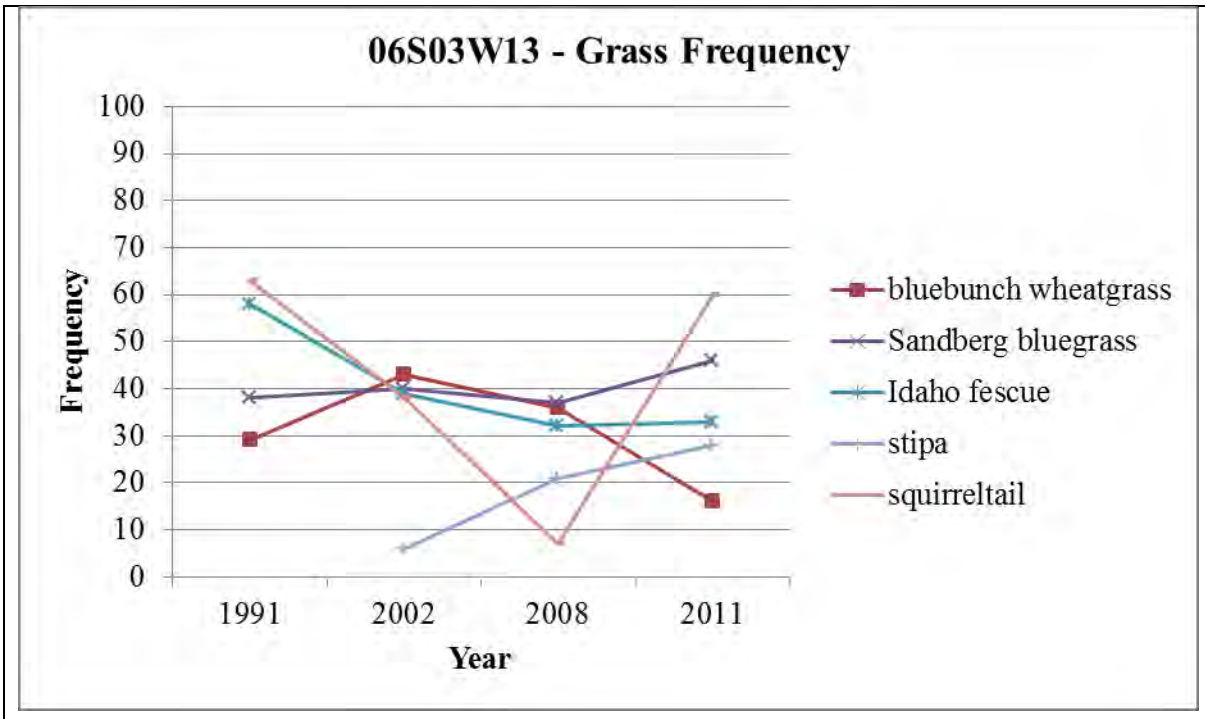


Figure VEG-10: Frequency of native perennial bunchgrass species at the trend transect (T. 05S., R. 03W., Sec 26) in the Boone Peak allotment

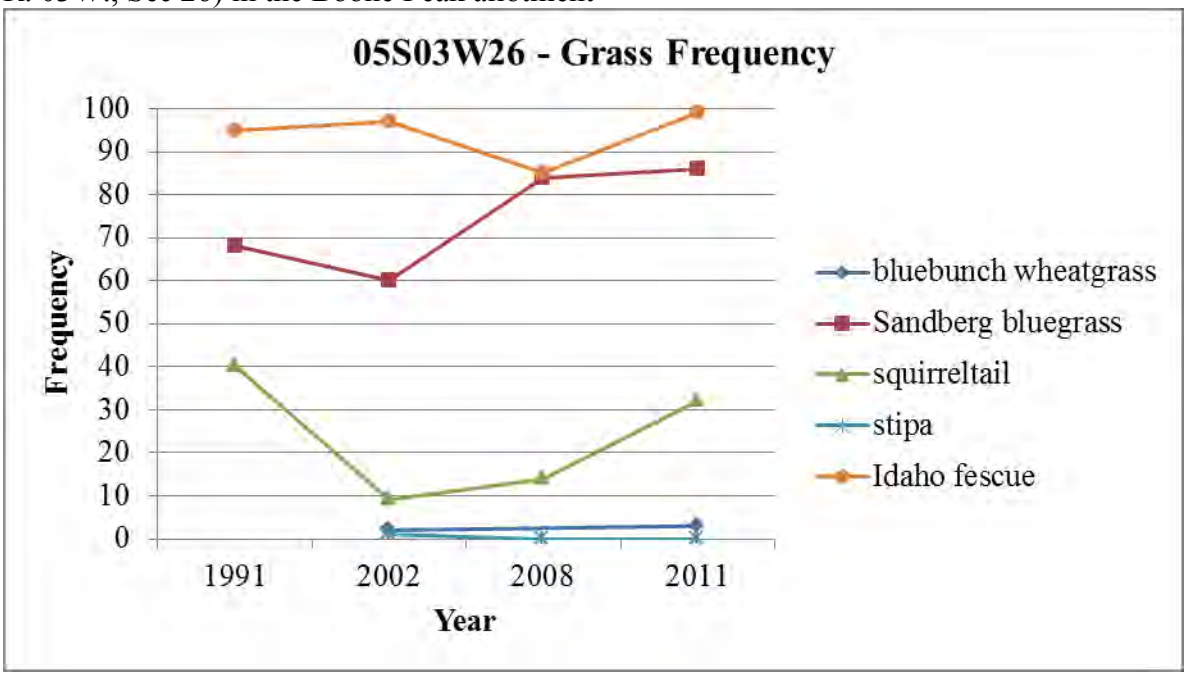


Figure VEG-11: Density of shrubs and trees at the trend transect (T. 06S., R. 03W., Sec 13) in the Boone Peak allotment

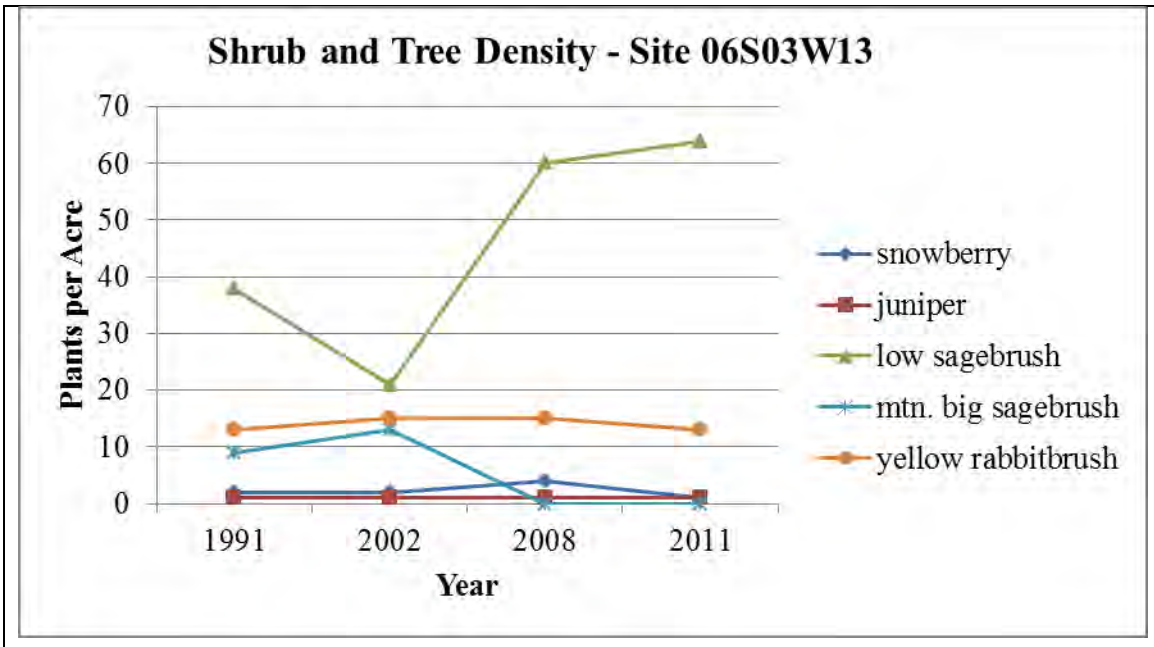
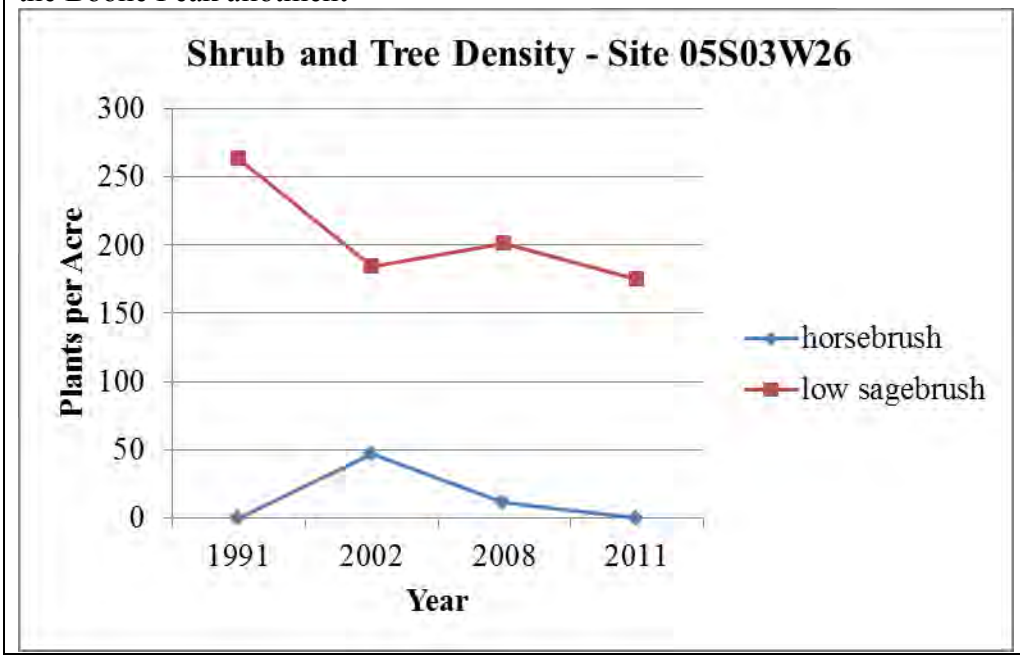


Figure VEG-12: Density of shrubs and trees at the trend transect (T. 06S., R. 03W., Sec 26) in the Boone Peak allotment



Livestock Use

The current and historic permits allow use in Boone Peak Allotment anytime between June 1 and October 31. The season of use specified by the 1983 proposed decision was not consistent among different parts of the document. Although that decision proposed a two-pasture deferred rotation between the lower and higher elevation portions of the allotment, the necessary fencing has not been built. Maintenance of existing fences can be a problem because of inaccessible

terrain and snowpack. In 1996, Elmer Stahle signed an agreement that the season of use would continue to be June 1 to October 31.

During 1984 to 1996, use occurred between late May and early November (Appendix F). Since 1997, spring turnout has been delayed to late June or early July by shifting the June use into Bridge Creek Allotment and into pastures 2 and 3 of the Quicksilver FFR Allotment. The actual date when full numbers of cattle enter the allotment in spring is influenced by range readiness, accessibility for fence maintenance, availability of forage, and the rate at which the permittee can gather and remove cattle from the late spring use pastures. Turnout generally takes five days or more. Cattle do not remain at the lower elevations after spring turnout, but rather drift rapidly into the higher portions of the Boone Peak Allotment. Fall removal is also staggered, may take a full month, and is facilitated by the availability of the Stahle FFR and Quicksilver FFR allotments for holding gathered cattle. Removal begins early in October, well in advance of the closing date for the Boone Peak Allotment. There can be difficulty in removing cattle from timbered areas in mild falls when snowfall does not assist in removal.

Since 1997, grazing in the Boone Peak Allotment generally occurs after the critical growth period for perennial grass species each year. While perennial grasses generally make much of their growth before cattle enter the higher elevation areas, seed production may not always occur on heavily grazed sites. The deferred rotation was intended to provide for seed production every other year. Prior to 1997, some areas may also have received sufficient use during the critical growth period to influence even the vigor and productivity of existing perennial grass populations.

The lower boundary of the allotment is roughly congruent with the Late Summer Use Area as defined by the Boise District Phenology Study. The critical growth period for bluebunch wheatgrass and Idaho fescue occurs during mid June to early July in the Late Summer Use Area. The critical growth period for Thurber needlegrass was not defined by the study, but probably is similar to that of Idaho fescue, although it tends to stay green later. The critical growth period for squirreltail occurs during early to mid-June. The critical growth period for Sandberg bluegrass occurs primarily during late May and early June, and seed ripe occurs by mid-July. The higher elevations within the Late Summer Use Area may receive summer showers, which prolong the green period for the more robust grasses.

Total actual use in the Boone Peak Allotment ranged between 675 AUMs in 1986 and 1,815 AUMs in 1991, and averaged 1,376 AUMs between 1986 and 2002 (Appendix F). Actual use data or licensed use, by pasture, is not available before 1986. The March 1996 agreement stipulated that spring cattle numbers in the Red Mountain Allotment would be limited to 450 head, but Elmer Stahle has also voluntarily limited his summer and fall cattle numbers to 450 head, and consequently, the amount of use in the Boone Peak Allotment. Because of the high amount of non-federal land, the Boone Peak Allotment is licensed at only 60% Federal Range. Although the location of the boundary fence with Flint Creek Allotment was decided in 1983, construction did not occur until after 1988, and use by other livestock continued during the interim. The allotment has not been rested between 1984 and 2002.

Livestock distribution is influenced primarily by topography, availability of water, overstory

closure, road access, and greenness of forage; with drainage bottoms, areas adjacent to water sources, and broad ridgetops and basins receiving greater use. Upland water sources (springs not associated with streams and reservoirs) are relatively scarce, and cattle move into valley bottoms as summer progresses. Areas along access roads receive more use, and open sagebrush communities receive greater use than heavily timbered areas with sparse understories. Utilization of mountain shrubs, such as snowberry, can be heavy. Private and State lands occupy most of the major drainages and level areas, while intermittent headwater drainages, ridgetops, and steep slopes are primarily on federal land. Logging occurs periodically on Elmer Stahle's private land, maintaining open areas that are attractive to cattle. Heavily timbered areas are located primarily on steeply sloping federal land. Areas with sharp stones on the soil surface are also avoided. No complete use pattern map has ever been completed that would allow overall utilization to be determined.

During the early 1980's and early 1990's, moderate use of Idaho fescue and bluebunch wheatgrass occurred in the vicinity of the lower trend site. Heavy use occurred in 1991. In July 2002, utilization was slight on Idaho fescue and light on bluebunch wheatgrass and squirreltail in the low sagebrush community at the lower trend site, and no cattle were seen. Very little use was observed on Sandberg bluegrass, which may complete growth before cattle enter the area. Light use occurred on Idaho fescue in low sagebrush communities at the upper trend site, except in 1990, when it was moderate. In 2002, light use occurred on Idaho fescue, and slight use on Sandberg bluegrass.

Upland utilization of Idaho fescue, the most consistently measured species, was generally light to moderate from 1981 to 1993, when measurements were taken (Appendix H). Utilization of squirreltail and bluebunch wheatgrass was similar. The permittee activated the entire permit in 1981 and 1982; otherwise, the amount of use was similar to that in recent years. Above normal precipitation occurred during 1982 to 1986 and again during 1995 to 1998. Delayed turnout has probably also helped promote plant vigor and production compared to the previous management. While perennial grasses generally make much of their growth before cattle enter the higher elevation areas, seed production may not always occur in heavily grazed big sagebrush and mountain brush communities, and production and vigor of perennial grasses are also influenced by an increased shrub component and widespread conifer and juniper encroachment.

Utilization monitoring indicated that livestock use levels of riparian herbaceous vegetation on streams was moderate to severe (Table 20). Moderate use of willows occurred on North Boulder Creek and was not noted on the remaining creeks.

Table 20. Median stubble height and percent shrub utilization for streams in Boone Peak Allotment, 2001.

Stream	Date	Median Stubble Height (inches)	% Shrub Utilization
Bridge Creek	9/4/01	4.0	
North Fork Boulder Creek	9/2701	6.0	Moderate
Pickett Creek	9/27/01	1.0 (15.0[a])	

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment

Livestock grazing use in the Boone Peak allotment between 2003 and 2012 has remained consistent with the narrative for livestock use in the 2003 assessment, although the permittee-imposed limit to 450 head of cattle has been exceeded in recent years with the return to full cattle numbers of 693 head between 2009 and 2012. Livestock use data for the Boone Peak allotment from Appendix F have been updated through 2012 as follows.

Table LVST-7: Boone Peak allotment livestock use 1986 to 2012

Year	AUMs	Number of Livestock	Use Period
1986	675	308	6/1-9/30
1987	1213	412	6/1-9/30
1988	1050	170	6/1-10/31
1989	1321	268	6/1-11/4
1990	1613	450	6/1-9/30
1991	1815	600	6/1-8/31
1992	732	325	5/28-10/10
1993	998	221	5/29-10/16
1994	1560	350	5/28-10/28
1995	1692	466	5/26-11/2
1996	1572	340	5/30-10/30
1997	1478	501	7/3-11/14
1998	1415	440	6/29-11/14
1999	1603	450	7/8-11/30
2000	1499	450	7/10-10/31
2001	1534	450	7/9-11/1
2002	1625	450	7/3-11/8
2003	No data		
2004	1691	485	5/27-10/1
2005	992	425	6/1-11/5
2006	852	485	6/1-11/7
2007	1878	664	5/31-10/31
2008	1967	685	5/31-10/31
2009	2052	693	5/30-10/31
2010	2008	693	6/1-10/30
2011	1968	693	6/1-10/28
2012	1970	693	6/1-10/30

Standard 1: Watersheds

There is a slight-moderate (with many indicators more to the slight end) departure for the rangeland health indicators relating to watershed from those found in reference areas and ecological site guides.

Hydrologic Function - Sign of active surface erosion was evident at all sites with some features documented appearing to be more a result of older erosional episodes. Water flow patterns were common with those on the Shallow-Claypan sites being of short to moderate duration with little connectivity to those on the loamy sites being more pronounced. Many are long, continuous, and connected and the severity increases as the surface vegetative features decline (at sites 05S02W17 and 06S03W12 this is evident and still active). Pedastalling of bunchgrass is not very evident on most sites and where it occurs it is more historic in nature.

Soil Surface and Vegetation Function/Cover – The abundance of surface rock protecting the soil from erosional forces is common at many of these sites and is especially dominant on the Mountain Ridge and Shallow-Claypan sites. The amount and nature of the bare ground at the loamy sites is higher than reference conditions and there is substantial mechanical disturbance in areas that is reducing surface soil structural integrity (site 05S02W17 being most affected by this action).

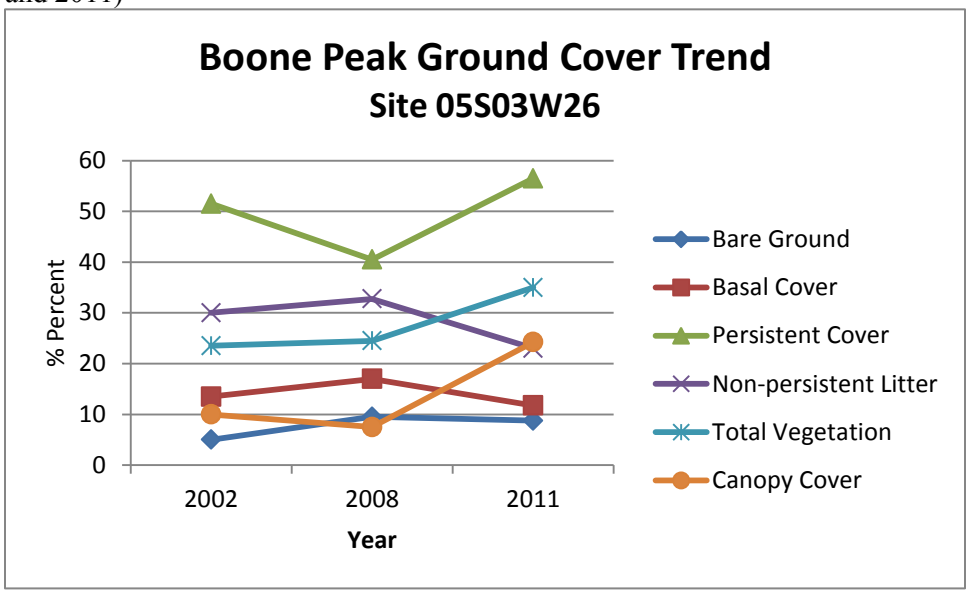
The plant community indicator showed a slight- moderate degree of departure from reference areas and site guides at most sites. The Mountain Ridge, Shallow-Claypan, and Loamy 16+" sites appear closer to reference conditions with the other loamy sites showing more departure (more to the moderate end for sites 06S03W12, 06S03W15, and 05S03W26). Where sites are rated a slight departure the main visual feature of the plant community, as it reflects hydrologic function, is one where few of the decreaser plants are now replaced by increaser species and there is a slight increase in the shrub component from reference conditions. Density of the key bunchgrass species is close to expected, particularly in the interspatial areas. Those closer to a moderate departure have more of the decreaser plants replaced by increaser species and a much greater than expected shrub component from reference conditions. Density of the bunchgrass component is low, particularly in the interspatial areas. Biological soil crusts are weakly represented at the loamy sites. In general the plant community as it influences the capture, storage, and management of moisture is functioning close to what is expected for all but the Loamy 12-16' and Loamy 13-16" sites. These sites are functioning below reference levels.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment
Rangeland Health Assessment A 2002 rangeland health assessment at site 05S02W17 was included (see above), although it was not mentioned that none of the indicators on the rating form were filled out. A brief statement reflected on impacts to soils and altered biotic function and noted that the assessment is not representative of the area. **Ground Cover Trend**

Ground cover trend data were collected at two nested plot frequency transects (05S03W26 and 06S03W13) in 2002, 2008, and 2011 (Figures Soil-5 and -6). At site 05S03W26, bare ground remained static over the years. Basal vegetation and non-persistent litter show significant (Student's T-test; p-value <0.1) declines while values reflect significant increases in persistent cover, total vegetation, and canopy cover over both the long and short term.

At site 06S03W13, the majority of long-term values are static with the exception of significantly decreasing bare ground and significantly increasing persistent cover. Over the short term, basal vegetation, canopy cover, total vegetation, and persistent cover are increasing, the latter two significantly. Bare ground shows a non-significant decline while non-persistent litter is significantly decreasing.

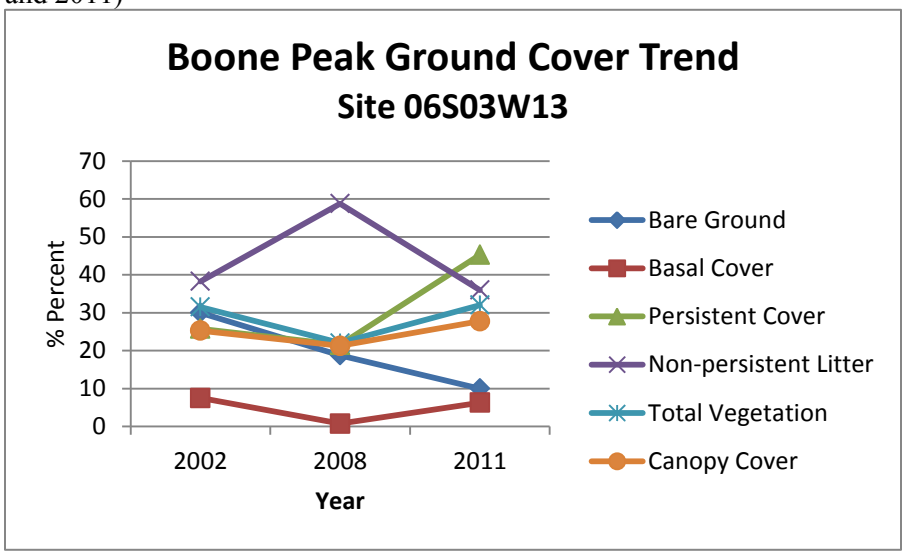
Figure Soil-5: Ground Cover data from trend site 05S03W26 in the Boone Peak allotment (2002, 2008, and 2011)



Site 05S03W26 (Figure Soil-5) suggests a slight general long-term upward trend for most of the cover values with basal cover and non-persistent litter being the exception. Bare ground increased between 2002 and 2008 and since shows to be static; no direct correlation can be found to any other cover value that may be influencing this display. It remains below the range (20 to 25 percent) for Shallow Mountain Ridge 14-18" ecological site reference conditions. Shrub density consists primarily of low sagebrush and horsebrush but does not mirror the sharp increase in canopy cover.

Grass frequency trend data show that deep-rooted and shallow-rooted bunchgrasses are co-dominating. Overall interpretations of trend data suggest that ground cover conditions reflect a slight upward trend over the long-term. Though bare ground shows a small increase, the occurrence of cool-season deep-rooted perennial bunchgrasses remains satisfactory.

Figure Soil-6: Ground Cover data from trend site 06S03W13 in the Boone Peak allotment (2002, 2008, and 2011)



Site 06S03W13 (Figure Soil-6) reflects a long-term a static to slight upward trend for the allotment. Bare ground shows a steady decline that may have been influenced by increasing non-persistent litter during earlier years and an improving vegetative cover since 2008. Shrub density trend (see above) shows a great increase in low sagebrush that is barely reflected in canopy cover values.

Grass frequency trend data show a decline of deep-rooted perennial bunchgrasses since 2008 while shallow-rooted bunchgrasses are on a slight increase. Overall interpretations of trend data suggest that ground cover conditions reflect a static to slight upward trend over the long-term while biotic conditions reflect on a decline in deep-rooted perennial bunchgrasses.

Taken together, Site 06S03W13, located in the southern part of the allotment, shows a good decline for bare soils along with some long-term improvements of other cover values. Site 05S03W26, located in the north, shows more overall improvements in vegetative cover, while bare ground initially increased slightly and now remains static over recent years.

Standard 2: Riparian Areas and Wetlands

Riparian Areas

North Boulder, Bridge, and Picket creeks flow for a total of 3.2 stream miles and support 13.5 acres of riparian area in the Boone Peak Allotment (Map WDLF-4). All stream segments within the allotment are rated functioning at risk, because of a lack of riparian vegetation to protect streambanks during high flow events (Appendix N).

Bridge Creek - Bridge Creek (005) is functioning at risk with slight upward trend (Map WDLF-4, Appendix N). The riparian overstory vegetation is dominated by whiplash willow, Lemons willow (*S. lemmonii*), and sandbar willow (*S. exigua*), with an understory of slender hairgrass, Kentucky bluegrass, and a mix of forbs. The dominant community types are whiplash willow CT and Lemons willow CT.

The whiplash willow CT is early/mid seral (Hansen et al. 1995). Soil moisture is adequate for hydric understory species in this CT. However, the understory is comprised of species that reflect a shift from the more deep-rooted, stabilizing hydric species, such as *Carex* and *Juncus* spp., to those species more suited to dryer sites and which are less capable of maintaining soil moisture and stabilizing banks. Utilization of the willows has resulted in umbrella and club shaped growth forms, which reduces cover and vigor of the plants. Stubble height in 2001 was 4 inches.

The Lemons willow CT is at or near ecological potential. This relatively stable community is found in sites with decreased soil moisture (Manning and Padgett 1995).

North Boulder Creek - North Boulder Creek is functioning at risk with upward trend (Map WDLF-4, Appendix N). The riparian overstory vegetation is dominated by Douglas-fir, Lemons willow, whiplash willow, and sandbar willow, with an understory dominated by slender hairgrass and a mix of forbs. The community types are Douglas-fir/red-osier dogwood CT, and Lemons willow/bench CT. Stubble height in 2001 was 6 inches and livestock use on willows was moderate.

The Douglas-fir/red-osier type CT has reduced cover of desirable shrubs. However, a strong shrub community does exist. This indicates the site has been historically disturbed. The coarse substrate and plant community will protect banks in a high flow event.

The Lemons willow CT is at or near ecological potential. This relatively stable community is found in sites with decreased soil moisture (Manning and Padgett 1995).

Pickett Creek - The 1.5 miles of Pickett Creek (006) in the Boone Peak Allotment is functioning at risk with no apparent trend (Map WDLF-4, Appendix N). The riparian vegetation associated with Pickett Creek has a dominant overstory of Douglas-fir, subalpine fir (*Abies lasiocarpa*), and black cottonwood. The shrub understory is composed of red-osier dogwood, Scouler willow (*S. scouler*), Rocky Mountain maple (*Acer glabrum*), and mountain alder (*Alnus incana*). Major herbaceous undergrowth species include drooping woodreed (*Cinna latifolia*), slender hairgrass, Kentucky bluegrass and a mix of forbs. The dominant community types are Douglas-fir/red-osier dogwood CT, Lemons willow/bench CT, mountain alder CT, and subalpine fir CT.

The lower two-thirds of the stream segment is in a confined canyon and receives little livestock use. The channel in this lower portion is stable due to bank stabilizing species and substrate (boulders and bedrock). The upper third receives significant livestock use. Riparian vegetation and substrate are not sufficient to protect streambanks. At the time of inventory (9/27/01), stubble height was 15 inches in inaccessible areas and 1 inch where streambanks are accessible by livestock.

The Douglas fir/red-osier type CT is at or near potential plant community. The Lemons willow/bench CT is at or near ecological potential. This relatively stable community is found in sites with decreased soil moisture (Manning and Padgett 1995).

The Mountain alder CT is an early to mid seral disturbance type community and is established after severe disturbance. This CT will persist for a long time before being replaced by willows or conifers (Hansen et. al., 1995)

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment
In 2008, Bridge Creek (1.1 miles) was re-assessed in PFC. The observers noted that there were abundant willows, woody debris, and large boulders present to stabilize the channel. However, there were localized areas of erosion and deposition occurring. Similarly, Pickett Creek (1.5 miles) was assessed in PFC in 2008. The segment of stream is geologically constrained, there are abundant woody species and rock present to armor the channel, there was minimal browse occurring, and the streambanks had limited access and thus alterations since they were bedrock and continuous cobble. Both the 0.6 mile of North Boulder Creek that was assessed in 2001 plus an additional 0.4 mile (for a total of a 1.0-mile reach) were assessed in PFC in 2008. The additional 0.4 mile extends to the north and is on private property. The reach was assessed in PFC because it was well-armored with rock and woody species.

Springs

The BLM has data on 13 springs in the Boone Peak Allotment (Table 21, Map WDLF-4). Cat, Salova, and Doner are developed and exclosures are protecting them. Ten springs are in proper functioning condition, two are functioning at risk, and one is non-functioning.

The eight undeveloped springs are not protected. The springs at Pickett Creek Saddle have excessive pugging, and hummocking. Increaser species, such as Kentucky bluegrass, are dominant. The vigor of sedges and rushes is poor. Springs on the south side of Boone Peak are in fair condition, but excessive pugging is occurring.

Table 21. Condition of wetland-riparian areas associated with springs, Boone Peak Allotment, 2003.

Location	Functioning Condition	Riparian Vegetation/Impacts from Livestock
05S03W25 SESE	PFC	willow; rocky slope; heavy wildlife use, minimal livestock use (6/24/03)
05S03W26 SENE	FAR	sedges/grasses; moderate pugging through wet areas, recent sign of livestock (6/25/03); thistle
05S03W26 SWNE	PFC	willow/rushes/aspen/Douglas fir/watercress; moderate to heavy hoof action with some pugging; slight utilization of willows
05S03W26 SWNE	PFC	willow/forbs; rocky; some use of willows; some trailing and bare ground
05S03W26 SENW	FAR	rushes/forbs; heavily grazed, some hoof action and wildlife trail; thistle
05S03W25 NWNW	PFC	willow/sedges/forbs; willows are regenerating; rocky; two thistle species
05S03W25	PFC	willow/aspen/rushes/sedges/corn lily/forbs; no apparent hoof action

NWNW		
05S03W24 SWSW	PFC	chokecherry/dogwood/sedges/corn lily/forbs; steepness appears to keep livestock out
05S03W24 SWNW	PFC	sedges/corn lily/forbs; willows downstream of spring; historic cattle sign; no use of riparian vegetation or willows by 6/26/03
05S03W23 SWNW	PFC	stinging nettle; rocky
06S03W11 SWSW	PFC	willows/sedges/forbs/mosses/grasses; willows regenerating; disturbance from mining activity; willows browsed
06S03W11 SWSW	PFC	willows/sedges/forbs/moss/juniper/sub-alpine fir; willows regenerating; pond associated with spring; minimal bank shearing; mining impacts
06S03W12 SWNW	NF	willows/sedges/forbs/grasses; developed with troughs and berms; heavily browsed, heavily pugged, a high percentage of bareground; willows in poor condition; impact from road

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment

One additional spring has been assessed in the Boone Peak allotment. Unnamed spring 1 was assessed in PFC in 2008 because the maintenance of riparian soils and moisture was adequate to support riparian species that protect the area from mechanical damage from livestock and from energy created during high flows. However, some alteration from livestock trampling was noted.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment

The table below represents all of the riparian area information currently available in the BLM database (both that presented in the original 2003 document, and the newer supplemental data).

Table RIPN-4: Boone Peak allotment riparian condition summary

	Allotment & Pasture Stream Miles & Condition		
Stream Name	**Boone Peak- 01**	**Assessment Issues/ Impacts Identified**	**Total Miles**
Bridge Creek	1.10 (FAR- 2001) (PFC- 2008)	2001- no data sheet 2008- localized areas of erosion/deposition	1.1
North Boulder Creek	0.6 (FAR- 2001) 1.0 (PFC- 2008)	2001: no data sheet 2008: 0.4 mile is on private/ rock armored	1.0
Pickett Creek	1.5 (FAR-2001) (PFC-2008)	2001: top 2/3 of reach is accessible to livestock and is over-wide with bare banks and erosion/deposition 2008: lack of herbaceous understory	1.5

Springs Assessed, Condition, & Issues Identified

Spring Name	Assessment Year	PFC Condition	Assessment Issues/ Impacts Identified
Unnamed Spring 589 1A	2003	PFC	
Unnamed Spring 589 1B	2003	FAR	heavily grazed/ hoof shearing/ presence of weeds
Unnamed Spring 589 1C	2003	PFC	
Unnamed Spring 589 1D	2003	PFC	
Unnamed Spring 589 1E	2003	FAR	heavily grazed/ hoof shearing/ presence of weeds
Unnamed Spring 589 1G	2003	PFC	
Unnamed Spring 589 1H	2003	PFC	
Unnamed Spring 589 1I	2003	PFC	
Unnamed Spring 589 1J	2003	PFC	
Unnamed Spring 589 1K	2003	PFC	
Unnamed Spring 589 2A	2003	PFC	
Unnamed Spring 589 2B	2003	PFC	
Unnamed Spring 589 2C	2003	NF	developed with troughs and berms/ heavily browed and pugged/high % of bare ground/ willow in poor condition/ impacts from road
Boone Peak Spring	2003	FAR	moderate pugging/weeds present/
Unnamed Spring 1	2008	PFC	

Standard 3: Stream Channel/Floodplain

Bridge Creek - The stream channel/floodplain of Bridge Creek is functioning at risk (Map WDLF-4, Appendix O). The stream is spring fed. Bridge Creek is over-widened in many places and the width/depth ratio is out of balance with the landforms. This limits floodplain inundation and water storage capabilities. In places, the floodplain and channel characteristics are inadequate to dissipate energy and trap sediment to enhance point bar development. The system is not downcutting, but it is at risk for lateral movement. Heavy pugging is common on immediate banks accessible to livestock. Approximately 30% of the banks are uncovered and unstable. There is a low percentage of banks with sufficient vegetation to protect against high flows.

Bridge Creek is predominantly a B4 stream channel type, with streambank material of gravel and small cobble. The B4 stream type is steep, moderately entrenched, and relatively stable.

North Boulder Creek - North Boulder Creek (006) is functioning at risk in relation to the channel/floodplain (Map WDLF-4, Appendix O). Like Bridge Creek, North Boulder Creek is predominantly a B4 stream channel type, with streambank material of gravel and small cobble. Approximately 20% of the banks are uncovered and unstable. Most banks have sufficient vegetation to protect against high flows.

Pickett Creek - Pickett Creek (006) is functioning at risk (Map WDLF-4, Appendix O). Upper portions of this stream segment are over-widened and the width/depth ratio is out of balance with the landforms. This limits floodplain inundation and water storage capabilities.

Pickett Creek is predominantly A2 and B4 stream channel types. The A2 stream type has low sinuosity and a high entrenchment ratio. Streambank and channel material is made up of boulders, cobble, and gravel. This stream type generally has stable banks and contributes little sediment supply.

The B4 stream channel type is found in the upper portions of this stream segment. Streambank material is gravel and small cobble. Width/depth rations are high in the B4 portions of this stream. This limits floodplain inundation and water storage capabilities. In places the floodplain and channel characteristics are inadequate to dissipate energy. The system is not downcutting, but it is at risk for lateral movement.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment
In 2008, Bridge Creek (1.1 miles) was re-assessed in PFC. The observers noted that there were abundant willows, woody debris, and large boulders present to stabilize the channel. However, there were localized areas of erosion and deposition occurring. Similarly, Pickett Creek (1.5 miles) was assessed in PFC in 2008. The segment of stream is geologically constrained, there are abundant woody species and rock present to armor the channel, there was minimal browse occurring, and the streambanks had limited access and thus alterations since they were bedroack and continuous cobble. Both the 0.6 mile of North Boulder Creek that was assessed in 2001 plus an additional 0.4 mile (for a total of a 1.0-mile reach) were assessed in PFC in 2008. The additional 0.4 mile extends to the north and is on private property. The reach was assessed in PFC because it was well-armored with rock and woody species.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment
See the comprehensive table of all riparian-related information for the Boone Peak allotment under Standard 2 above.

Standard 4: Native Plant Communities

Low sagebrush communities

<u>Rangeland Health Evaluation Summary Worksheets</u>
Low sagebrush communities showed a slight departure from reference conditions at 05S03W26 and a none-slight departure at the remaining sites. Grass and shrub cover is similar to reference

conditions except at 05S03W26 where Sandberg bluegrass and low sagebrush cover are greater than expected. Rock and gravel cover are common at all sites.

Integrity/ Diversity - Plant community integrity and native species diversity show a slight-moderate degree of departure from reference conditions at 05S03W26 and a none-slight degree of departure at the remaining sites. Decreaser grass cover is similar to expected; however, Idaho fescue occurrence is slightly less than expected at 05S03W26. Occurrence of increaser bunchgrasses is similar to reference conditions. Occurrence of bunchgrasses in shrub interspaces is similar to expected at all sites; however, Sandberg bluegrass in interspaces is increasing at 06S02W05 where decreaser grasses are associated with shrubs more than expected. Low sagebrush abundance is greater than expected at 05S03W26 and slightly greater than reference conditions at the remaining sites.

Biological soil crust cover is similar to expected at all sites. Cheatgrass occurs in isolated areas at 06S02W05, and in is not present at the remaining sites. Juniper occurs in very low densities at the sites and is common to dominant in some adjacent communities. Annual production is within 80% of expected at all sites. Observed perennial forb diversity is greatest at 05S03W13, but timing of the evaluations may have influenced forb observability. Leguminous species (lupine or milkvetch) are present at all sites.

Plant Vigor - Plant vigor shows a slight-moderate degree of departure from reference conditions at 05S03W26 and a none-slight degree of departure at the remaining sites. Crown die-off of older perennial grasses (05S03W13) and Sandberg bluegrass (05S03W26) is evident, but not substantially different than reference areas. Plucking of Idaho fescue plants is greater than expected at 05S03W13 and 05S03W26. Pedestals are present in limited amounts at all sites and they are not active. Seed head production is similar to expected at all sites. Recruitment of bunchgrasses and shrubs is apparent at all sites.

Noxious/Invasive Plants - Noxious weeds were not observed. Invasive plants show a none-slight degree of departure from reference areas at 05S03W26, a slight-moderate degree of departure at 05S03W13, and a moderate degree of departure at 06S02W05. Cheatgrass occurs in isolated areas at 06S02W05 and is not present at the remaining sites. Juniper occurrence is widely scattered at all sites.

Trend

The general trend in ecological condition was static. Static trend was acceptable at 05S03W26 where conditions were near site potential. Juniper is not affecting Shallow Stony Loam sites like 05S03W26. Site 06S03W13 is a transition site. Idaho fescue is being replaced by shrubs and juniper at the concave portion of the site and bluebunch wheatgrass is increasing at the convex portion of the site.

NPFT Studies – The frequency of Idaho fescue was static (05S03W26) or decreased (06S03W13) between 1986 and 2001 (Appendix L). The frequency of bluebunch wheatgrass increased at 06S03W13. Frequencies of Sandberg bluegrass were static. Frequencies of squirreltail decreased at 05S03W26 and were static at 06S03W13. The frequency of longleaf phlox fluctuated, but remained static. Frequencies of low sagebrush and rabbitbrush were static.

Mountain big sagebrush increased at 06S03W13. Frequencies of rabbitbrush and mountain big sagebrush were too low for valid statistical tests at 06S03W13.

Photo Plots/ View Photos - The apparent trend was static for grasses and shrubs between 1986 and 2001 (Table 22). Perennial grass cover was static except for a slight increase in Idaho fescue cover in the photo plot at 06S03W13. Low sagebrush cover and vigor decreased slightly at 05S03W26. Rabbitbrush cover increased in the view photos at 06S03W13. Juniper encroachment was not evident at 05S03W26, but was ongoing at 06S03W13.

Table 22. Standard 4: Native Plant Communities- Apparent trend in abundance (D = downward, S = static, U = upward) of perennial grasses and shrubs in photo plots and view photos, low sagebrush communities, Boone Peak Allotment, 1986-2002.

Transect	Range Site	Evaluation Period	Grasses		Shrubs/ Trees	
			Plot	Photos	Plot	Photos
05S03W26	Mountain Ridge 14-18”	1986-2002	S	S	S-D	S
06S03W13	Shallow Claypan 12-16”	1986-2002	S-U	S	S	S-U

Shrub Density - Western juniper canopy cover increased at 06S03W13 and was not present at 05S03W26.

Big sagebrush communities

<u>Rangeland Health Evaluation Summary Worksheets</u>
Big sagebrush communities showed a slight-moderate departure from reference conditions. Decreaser grass cover is less than expected and shrub and juniper cover is greater than expected.

Integrity/ Diversity - Plant community integrity and native species diversity show a slight-moderate degree of departure from reference conditions at all sites. Decreaser bunchgrass occurrence is less than expected at all sites. Increaser grass occurrence is slightly greater than expected at 06S03W15 and similar to reference conditions at the remaining sites. Occurrence of bunchgrasses in shrub interspaces, especially decreaser grasses, is slightly less than expected at sites 06S03W02 and 06S03W15 and less than expected at 05S02W17 and 06S03W12. Big sagebrush occurrence is greater than expected at all sites. Occurrence of rabbitbrush is greater than expected at 05S02W17. Occurrence of snowberry is greater than expected at 06S03W15.

Biological soil crust cover is less than expected in shrub interspaces at 06S03W12; however, it is not a major component in these communities. Cheatgrass is not present in these communities. Juniper is scattered to common at all sites and recruitment is evident at 06S03W15. Annual production is between 60-80% of expected at 06S03W12 and similar to expected at the remaining sites; however, shrubs account for more production than expected. Observed forb diversity is similar to expected at 06S03W02 and less than expected at the remaining sites; however, timing of the sampling may have influenced forb observability. Leguminous species (lupine) were observed at all sites.

Plant Vigor - Plant vigor shows a none-slight degree of departure from reference conditions at 06S03W02 and a slight-moderate degree of departure at the remaining sites. Crown die-out of

bunchgrasses is similar to expected. Active pedestals on bunchgrasses are not present. Seed heads are present on grasses at all sites; however, they occur primarily on grasses under shrubs at site 06S03W15. Recruitment of shrubs is evident at 06S03W15. Recruitment of grasses and shrubs is evident at 06S03W02 and 06S03W12.

Noxious/Invasive Plants - Noxious weeds were not observed. Invasive plants show a moderate-extreme degree of departure from reference conditions at all sites. Bulbous bluegrass is present at 06S03W02. Juniper is scattered to common at all sites and recruitment is evident at 06S03W15.

Trend
No long-term trend plots were established in big sagebrush communities.

Herbaceous (Burned) Communities

Two small (<2 acres) wildfires were known to occur in 2000 and 2002 at 05S03W23 and 05S03W24. No Rangeland Health Evaluation Summary Worksheets were conducted in the burns.

ACEC Communities

Appendix D lists site-specific management actions for this ACEC that were set forth by the Owyhee RMP.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment
Standard 4 is met in the one pasture of the Boone Peak allotment with, at most, slight-to-moderate departure of biotic integrity from reference site conditions within low sagebrush vegetation communities and similar but greater departure in mountain big sagebrush vegetation communities. Departure from reference site conditions in mountain big sagebrush communities is due to altered fire regimes resulting in increased shrub dominance, loss of deep-rooted native perennial bunchgrasses, and the increasing density of juniper.

Standard 8: Threatened and Endangered Plants and Animals

Redband Trout

Redband Trout Habitat Assessments
Bridge, Pickett, and North Boulder creeks support redband trout populations. Riparian plant communities on all streams in this allotment are primarily dominated by early/mid seral or increaser species, which are unable to maintain stable streambanks and channels. All streams containing redband trout in this allotment are over-widened. Habitat conditions for redband trout are degraded due to the increased width and reduced depth of the stream. This, and the lack of streamside vegetation, increases the surface area of the water that is influenced by solar

radiation. Additionally, cover provided by deep pools, undercut banks, and overhanging vegetation is poor.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment
General Riparian Habitat Approximately 3.3 miles of stream riparian habitat along Bridge, North Boulder, and Pickett Creeks were assessed and found to be in PFC (see Standard 2). The Boone Peak allotment contains the headwaters of several substantial lotic systems found in the area including Pickett, Hart, Ditch, Meadow, and North Boulder Creeks. Conditions along the majority of streams supporting riparian vegetation appear to be at adequate for dependent migratory birds and other wildlife species. Although the herbaceous understory is dominated by upland species along some reaches of the assessed stream, woody species display diverse species and age-classes with multiple canopies (Douglas-fir/subalpine fir, cottonwoods, willows, alders, maples) which are providing structurally complex breeding, nesting, and foraging habitat for dependent species. **Focal Special Status Species** ***Greater sage-grouse*** <u>Habitat Characteristics</u> *Habitat Assessments* The majority of allotment is within the breeding, upland summer, and winter seasonal ranges of the Owyhee Front/Triangle local population (Map WDLF-6). The dominant mountain big sagebrush ecological sites support breeding (including early brood-rearing), upland summer, and winter sage-grouse habitat. Lentic and lotic riparian habitats are abundant within the allotment and provide important brooding-rearing and summer riparian habitat areas. Although the majority of the allotment is classified as juniper encroachment areas, several large islands of key habitat occur on ridgelines and the top of Quicksilver Mountain (Maps WDLF-4 and WDLF-5A). **Breeding Habitat** Four SG HAs were used to assess breeding habitat conditions within the Boone Peak allotment (Map WDLF-5A). Two SG HAs were located within the Loamy 16+" ARTRV/FEID Ecological Site and two SG HAs were located in the Douglas-fir Snowberry 22+" PSMEG/SYOR2 Ecological Site. The mountain big sagebrush ecological site (see discussion below for similarity of R025XY045ID transect locations with R025XY022ID) constitute a substantial portion of the usable sage-grouse habitat (based on cover types/ecological sites) within the allotment (approximately 71 percent of shrub steppe acres; see Table WDLF-26 below), and therefore are representative of the conditions that predominate within the allotment. Although the assessments were not conducted at the appropriate time of year, most of the components and conditions necessary for suitable breeding habitat currently occur within the allotment where juniper woodlands yield to shrub steppe vegetation communities. Therefore, sage-grouse breeding habitat condition would provisionally merit a Suitable rating. • **05S03W25a-2012** and **06S03W01a-2012 (R025XY022ID)**

Suitable (*provisionally*). Although assessment was not conducted at the appropriate time of year and a few primary and supplementary indicators fell within the marginal range (sagebrush CC and growth form, total shrub CC), the site would provisionally merit a rating at the lower end of suitable (Figure WDLF-11). Perennial herbaceous understory vegetation is providing adequate nesting cover, and forb diversity and abundance are providing adequate forage. Although the excessive sagebrush and total shrub CC is far greater than expected under ESD reference conditions, the current conditions do not appear to be the inhibiting herbaceous components and are more than likely compensating for the cover lost due to the columnar form of the sagebrush. JUOC encroachment is a current issue which may be limiting suitability within this ESD at some locations.

- **05S03W26a-2012** and **05S03W26b-2012 (R025XY045ID)**
  Suitable (*provisionally*). Although assessment was not conducted at the appropriate time of year and a few primary and supplementary indicators fell within the marginal range (sagebrush CC and growth form, total shrub CC), the site would provisionally merit a rating at the lower end of suitable (Figure WDLF-12). Perennial herbaceous understory vegetation is providing adequate nesting cover, and forb diversity and abundance are providing adequate forage. Although the excessive sagebrush and total shrub CC is far greater than expected under ESD reference conditions, the current conditions do not appear to be the inhibiting herbaceous components and are more than likely compensating for the cover lost due to the mixed form of the sagebrush. Assessments were conducted at the periphery of this ecological site and the habitat was very similar to R025XY022ID. The interior of this Douglas-fir ecological site with its attendant tree stands probably is not selected by sage-grouse.

Brood-rearing and Summer Riparian Habitats

Boone Peak allotment contains several perennial and intermittent stream valleys, and lentic spring areas that may support early and late brood-rearing lotic and lentic habitats. The upper headwater springs and tributaries of Pickett Creek are located in relatively open areas with close, adjacent sagebrush cover. All springs and one stream segment were found to be in PFC and are providing adequate riparian habitat condition for sage-grouse and their broods. Several springs at the headwaters of Snow Creek (tributary to North Boulder Creek) are located in or near relatively open areas and may be usable by sage-grouse; one spring was assessed in PFC, but two springs were assessed as FAR. Pugging of lentic soils, moderate to heavy livestock use, and invasive species (i.e., thistle) are limiting habitat quality at these FAR sites.

The Boone Peak allotment also contains several headwater intermittent/ephemeral stream valleys that may support early and late brood-rearing habitat; although none have been assessed for PFC. Due to elevation (>6,500 feet), it is likely that these areas support succulent vegetation from spring into the summer.

In general, riparian habitats available to and most likely used by sage-grouse are providing suitable conditions for early and late brood rearing. Succulent herbaceous vegetation is present for forage, and sagebrush cover is located nearby. A variety of other riparian areas within the allotment are located within dense fir or juniper stands which probably limit sage-grouse use.

Upland Summer Habitat

Four SG HAs were used to assess upland summer habitat conditions within the Boone Peak allotment (Map WDLF-5A). Two SG HAs were located within the Loamy 16+" ARTRV/FEID Ecological Site and two SG HAs were located in the Douglas-fir Snowberry 22+" PSMEG/SYOR2 Ecological Site. The mountain big sagebrush ecological site (see discussion below for similarity of R025XY045ID transect locations with R025XY022ID) constitute a substantial portion of the usable sage-grouse habitat (based on cover types/ecological sites) within the allotment (approximately 71 percent of shrub steppe acres; see Table WDLF-26 below), and therefore are representative of the conditions that predominate within the allotment. The current rating of sage-grouse upland summer habitat conditions within the allotment is Suitable.

- **05S03W25a-2012** and **06S03W01a-2012 (R025XY022ID)**
  Suitable. Upland summer habitat in this ecological site is rated suitable because the vast majority of primary and supplementary indicators fall with the suitable ranges (Figure WDLF-13). Forbs are diverse and abundant. High sagebrush CC is probably not limiting use by sage-grouse, but may inhibit herbaceous vegetation potential. JUOC encroachment is a current issue which may be limiting suitability within this ecological site at some locations.
- **05S03W26a-2012** and **05S03W26b-2012 (R025XY045ID)**
  Suitable. Upland summer habitat in this ecological site is rated suitable because the vast majority of primary and supplementary indicators fall with the suitable ranges (Figure WDLF-14). Forbs are diverse and abundant. High sagebrush CC is probably not limiting use by sage-grouse, but may inhibit herbaceous vegetation potential. Associated mature Douglas-fir tree stands and JUOC encroachment is a current issue which may be naturally or opportunistically limiting suitability within this ecological site at some locations.

Winter Habitat

Four SG HAs were used to assess winter habitat conditions within the Boone Peak allotment (Map WDLF-5A). Two SG HAs were located within the Loamy 16+" ARTRV/FEID Ecological Site and two SG HAs were located in the Douglas-fir Snowberry 22+" PSMEG/SYOR2 Ecological Site. The mountain big sagebrush ecological site (see discussion below for similarity of R025XY045ID transect locations with R025XY022ID) constitute a substantial portion of the usable sage-grouse habitat (based on cover types/ecological sites) within the allotment (approximately 71 percent of shrub steppe acres; see Table WDLF-26 below), and therefore are representative of the conditions that predominate within the allotment. The current rating of sage-grouse winter habitat conditions within the allotment is Suitable.

- **05S03W25a-2012** and **06S03W01a-2012 (R025XY022ID)**
  Suitable. Winter habitat is rated as suitable because the vast majority of primary and supplementary indicators fell within the suitable range (Figure WDLF-15). Although there do appear to be a few vegetation community issues (columnar growth form, very high sagebrush and total shrub CCs), sagebrush CC and height are providing adequate forage and concealment and thermal cover even under conditions with above average persistent snow accumulation levels.
- **05S03W26a-2012** and **05S03W26b-2012 (R025XY045ID)**
  Suitable. Winter habitat is rated as suitable because the vast majority of primary and

supplementary indicators fell within the suitable range (Figure WDLF-16). Although there do appear to be a few vegetation community issues (very high sagebrush and total shrub CCs), sagebrush CC and height are providing adequate forage and concealment and thermal cover even under conditions with above average persistent snow accumulation levels.

Redband Trout

A recent range wide status update redband trout reveals that redband trout continue to occupy Pickett Creek and North Fork Castle Creek ((May, Writer, & Albeke, 2012); pers. comm. J.Kozfkay, IDFG fisheries biologist, 2013). However, the update does not report redband trout occurrence in Hart or Meadow Creeks. Current information regarding redband trout occurrence in North Boulder Creek was uncertain. The current update does not show redband trout in North Boulder Creek (although this stream was considered occupied in older datasets); however, correspondence with IDFG uncovered disparities in database stream names (i.e., Boulder versus North Boulder) and redband trout occurrence. Current IDFG data reveals redband trout in Boulder Creek (which could be North Boulder or possibly Big Boulder). A definitive answer as to redband trout occurrence in North Boulder Creek was not available at the time of publication and this question is still pending.

Columbia Spotted Frog

Targeted surveys for spotted frogs have not been conducted in the Boone Peak allotment.

In 2008 and 2009 surveys were conducted in Bridge Creek 2.5 miles downstream from the allotment. Adult spotted frogs and eggs were detected, respectively. It is possible that spotted frog occur in perennial sections of Bridge Creek that traverse the allotment farther upstream from the most current detections.

Because the majority of riparian habitats in this allotment are PFC, Boone Peak appears to support riparian habitat that may be adequate for spotted frogs.

Spotted frogs are known to occupy three of the five subwatersheds (6th level HUC) that intersect the Boone Peak allotment (Upper North Boulder, North Fork Castle Creek, Meadow Creek; Map WDLF-7).

General Upland Habitat Assessment

Several upland habitats and cover types occur within a variety of ecological sites within the Boone Peak allotment (Table WDLF-26).

Table WDLF-26: NRCS Ecological Sites within Boone Peak allotment

Habitat Type	General Cover Type	Ecological Site Description	Percentage of Allotment	
			Ecological Site Description	General Cover Type
Shrub Steppe	Mountain Big Sagebrush	Loamy 13-16” ARTRV/PSSPS-FEID	5	35
		Loamy 16+”	30	

		ARTRV/FEID		
	Low Sagebrush	Shallow Claypan 12-16” ARAR8/FEID	2	14
		Mountain Ridge 14-18” ARAR8/FEID	12	
Mountain Shrub	Mountain Shrub	Mahogany Savanna 16-22” CELE3-SYOR2/FEID-ACHNA	36	36
Forest	Douglas-fir	Douglas-fir Snowberry 22+” PSMEG/SYOR2	15	15

In general, upland habitat conditions in the Boone Peak allotment exhibit slight-to-moderate departures of biotic integrity from reference conditions (see Standard 4). Shrubs occur at greater densities than expected and deep-rooted perennial bunchgrasses are greatly reduced. In addition, invasive species (i.e., junipers) were noted as exhibiting an overall moderate-to-extreme departure from ecological site reference conditions. In general, excessive shrubs and bunchgrasses and conversion of shrub steppe habitats to juniper woodlands are affecting habitat suitability for most obligate and dependent wildlife and is probably not providing adequate habitat conditions for these species.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment

Figure WDLF-11: Summary of breeding SG HA in Boone Peak allotment in the Loamy 16+” ARTRV/FEID Ecological Site (2012)

Form H-3	Sage-grouse Habitat Suitability Worksheet –	BREEDING	R025XY022ID			
Allotment-Pasture Names:	Boone Peak-Boone Peak	Allotment-Pasture Number:	0589-01	Number of Transects:	2	Subpopulation: NC NV/ SE OR/ SW ID
Ecological Site ID:	R025XY022ID	Ecological Site Name:	Loamy 16+ ARTRV/FEID			Home Range Name: Owyhee Front/Triangle
Site IDs:	Land Cover Type/s:	Area Sampled (ha):	Date:			Associated Leks: 2O619, 2O196, 2O642, 2O505
0589-01-05S03W25a-2012	ARTRV/FEID	8	7/24/2012			
0589-01-06S03W01a-2012	SYOR2-ARTRV/PASM	15	7/24/2012			Site Info: Mesic

Habitat Indicator Suitability Range (Primary)

Habitat Indicator	χ	Suitable	✓	Marginal	✓	Unsuitable	✓
Sagebrush Canopy Cover (mean)	51.0	15-25%		5-<15% or >25%	X	<5%	
Sagebrush Height Mesic Site (mean) Arid Site (mean)	71.6	40-80 cm 30-80 cm	X	20-<40 cm or >80 cm 20-<30 cm or >80 cm		<20 cm <20 cm	
Predominant Sagebrush Shape (mode)	Columnar	Spreading		Mix of Spreading and Columnar		Columnar	X
Perennial Grass and Forb Height (mean)	27.0	≥18 cm	X	10-18 cm		<10 cm	
Perennial Grass Canopy Cover Mesic Site (mean) Arid Site (mean)	18.0	≥15% ≥10%	X	5-<15% 5-<10%		<5% <5%	
Perennial Forb Canopy Cover Mesic Site (mean) Arid Site (mean)	18.0	≥10% ≥5%	X	5-<10% 3-<5%		<5% <3%	
Preferred Forb Availability (relative to site potential)	Abundant	Preferred forbs are common with several species present	X	Preferred forbs are common but only a few species are present		Preferred forbs are rare	
Number of Preferred Forb Species (*n*)	7.5		12 sp. total				

Habitat Indicator Suitability Range (Supplemental)

Habitat Indicator	χ	Suitability	Rationale
Other Shrub Canopy Cover (mean)	30.0	Suitable	Appropriate based on Ecological Site potential
Other Shrub Height (mean)	41.2	Suitable	Appropriate based on Ecological Site potential
Sagebrush and Other Shrub Canopy Cover (mean)	81.0	Marginal	Suitable breeding habitat should have total shrub CC ≤42%; much higher representation than expected at HCPC reference condition (despite the 20% CC due to cumulative point representation)
Sagebrush and Other Shrub Height (mean)	71.0	Suitable	Suitable breeding habitat should have shrub heights between 40-80 cm
Perennial Grass Height (excluding Poa spp.) (mean)	28.8	Suitable	Suitable breeding habitat should have perennial grass heights ≥18 cm
Poa Spp. Canopy Cover (mean)	6.0	Suitable	Appropriate based on Ecological Site potential
Annual Grass Canopy Cover (mean)	0.0	Suitable	Appropriate based on Ecological Site potential
Annual Forb Canopy Cover (mean)	4.0	Suitable	Appropriate based on Ecological Site potential
Bare Ground Canopy Cover (relative to site potential) (mean)	20.0	Suitable	Slightly lower than expected based on ESD; bare ground should range between 30-60%; indicative of some fine fuel build-up, but also influenced by rock ground cover

Does ecological site potential limit suitability potential?	YES	NO
		X

Drought Condition:	Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist	Extremely Moist
			X				

Evidence of sage-grouse use?	Unknown-not noted
Evidence of recent livestock use?	No use observed at 06S02W01a

Rationale for Overall Suitability Rating: Although assessment was not conducted at the appropriate time of year and a few primary and supplementary indicators fell within the marginal range (sagebrush CC and growth form, total shrub CC), the site would provisionally merit a rating at the lower end of suitable. Perennial herbaceous understory vegetation is providing adequate nesting cover, and forb diversity and abundance are providing adequate forage. Although the excessive sagebrush and total shrub CC is far greater than expected under ESD reference conditions, the current conditions do not appear to be the inhibiting herbaceous components and are more than likely compensating for the cover lost due to the columnar form of the sagebrush. JUOC encroachment is a current issue which may be limiting suitability within this ESD at some locations.

	Suitable	Marginal	Unsuitable
Site-Scale Suitability	P		

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment
Figure WDLF-12: Summary of breeding SG HA in Boone Peak allotment in the Douglas-fir Snowberry 22+" PSMEG/SYOR2 Ecological Site (2012)

Form H-3	Sage-grouse Habitat Suitability Worksheet –	BREEDING	R025X045ID			
Allotment-Pasture Names:	Boone Peak-Boone Peak	Allotment-Pasture Number:	0589-01	Number of Transects:	2	Subpopulation: NC NV/ SE OR/ SW ID
Ecological Site ID:	R025X045ID	Ecological Site Name:	Douglas-fir Snowberry 22+ PSMEG/SYOR2			Home Range Name: Owyhee Front/Triangle
Site IDs:	Land Cover Type/s:	Area Sampled (ha):	Date:			Associated Leks: 2O505, 2O196, 2O642, 2O619
0589-01-05S03W26a-2012	ARTRV-SYOR/BRMA4-SIHY	2	7/19/2012			
0589-01-05S03W26b-2012	SYOR2-ARTRV/BRMA4	10	7/19/2012			Site Info: Mesic

Habitat Indicator Suitability Range (Primary)

Habitat Indicator	χ	Suitable	✓	Marginal	✓	Unsuitable	✓
Sagebrush Canopy Cover (mean)	40.0	15-25%		5-<15% or >25%	X	<5%	
Sagebrush Height Mesic Site (mean) Arid Site (mean)	75.2	40-80 cm 30-80 cm	X	20-<40 cm or >80 cm 20-<30 cm or >80 cm		<20 cm <20 cm	
Predominant Sagebrush Shape (mode)	Mixed	Spreading		Mix of Spreading and Columnar	X	Columnar	
Perennial Grass and Forb Height (mean)	16.4	≥18 cm		10-18 cm	X	<10 cm	
Perennial Grass Canopy Cover Mesic Site (mean) Arid Site (mean)	33.0	≥15% ≥10%	X	5-<15% 5-<10%		<5% < 5%	
Perennial Forb Canopy Cover Mesic Site (mean) Arid Site (mean)	21.0	≥10% ≥5%	X	5-<10% 3-<5%		<5% <3%	
Preferred Forb Availability (relative to site potential)	Abundant	Preferred forbs are common with several species present	X	Preferred forbs are common but only a few species are present		Preferred forbs are rare	
Number of Preferred Forb Species (*n*)	11.5		16 sp. total				

Habitat Indicator Suitability Range (Supplemental)

Habitat Indicator	χ	Suitability	Rationale
Other Shrub Canopy Cover (mean)	31.0	Suitable	Appropriate based on Ecological Site potential
Other Shrub Height (mean)	67.5	Suitable	Appropriate based on Ecological Site potential
Sagebrush and Other Shrub Canopy Cover (mean)	71.0	Marginal	Suitable breeding habitat should have total shrub CC ≤42%; much higher representation than expected at HCPC reference condition (despite the ≤22% CC due to cumulative point representation)
Sagebrush and Other Shrub Height (mean)	73.2	Suitable	Suitable breeding habitat should have shrub heights between 40-80 cm
Perennial Grass Height (excluding Poa spp.) (mean)	17.0	Marginal	Suitable breeding habitat should have perennial grass heights ≥18 cm
Poa Spp. Canopy Cover (mean)	4.0	Suitable	Appropriate based on Ecological Site potential
Annual Grass Canopy Cover (mean)	0.0	Suitable	Appropriate based on Ecological Site potential
Annual Forb Canopy Cover (mean)	0.0	Suitable	Appropriate based on Ecological Site potential
Bare Ground Canopy Cover (relative to site potential) (mean)	15.0	Suitable	Appropriate based on Ecological Site potential

Does ecological site potential limit suitability potential?	YES	NO
	X	

Drought Condition:	Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist	Extremely Moist
			X				

Evidence of sage-grouse use?	Unknown-not noted
Evidence of recent livestock use?	Unknown-not noted

Rationale for Overall Suitability Rating: Although assessment was not conducted at the appropriate time of year and a few primary and supplementary indicators fell within the marginal range (sagebrush CC and growth form, total shrub CC), the site would provisionally merit a rating at the lower end of suitable. Perennial herbaceous understory vegetation is providing adequate nesting cover, and forb diversity and abundance are providing adequate forage. Although the excessive sagebrush and total shrub CC is far greater than expected under ESD reference conditions, the current conditions do not appear to be the inhibiting herbaceous components and are more than likely compensating for the cover lost due to the mixed form of the sagebrush. Assessments were conducted at the periphery of this ecological site and the habitat was very similar to R025XY022ID. The interior of this Douglas-fir ecological site with its attendant tree stands probably is not selected by sage-grouse.

	Suitable	Marginal	Unsuitable
Site-Scale Suitability	P		

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment
Figure WDLF-13: Summary of upland summer SG HA in Boone Peak allotment in the Loamy 16+" ARTRV/FEID Ecological Site (2012)

Form H-4	Sage-grouse Habitat Suitability Worksheet –		UPLAND SUMMER	R025XY022ID			
Allotment-Pasture Names	Boone Peak-Boone Peak	Allotment-Pasture Number:	0589-01	Number of Transects:	2	Subpopulation:	NC NV/ SE OR/ SW ID
Ecological Site ID:	R025XY022ID	Ecological Site Name:	Loamy 16+ ARTRV/FEID			Home Range Name:	Owyhee Front/Triangle
Site IDs:	Land Cover Type/s:		Area Sampled (ha):	Date:		Associated Leks:	2O619, 2O196, 2O642, 2O505
0589-01-05S03W25a-2012	ARTRV/FEID		8	7/24/2012			
0589-01-06S03W01a-2012	SYOR2-ARTRV/PASM		15	7/24/2012		Site Info:	Mesic

Habitat Indicator Suitability Range (Primary)

Habitat Indicator	X	Suitable	✓	Marginal	✓	Unsuitable	✓
Sagebrush Canopy Cover (mean)	51.0	10-25%		5-<10% or >25%	X	<5%	
Sagebrush Height (mean)	71.6	40-80 cm	X	20-<40 cm or >80 cm		<20 cm	
Perennial Grass and Forb Canopy Cover (mean)	36.0	≥15%	X	5-15%		<5%	
Preferred Forb Availability (relative to site potential)	Abundant	Preferred forbs are common with several species present	X	Preferred forbs are common but only a few species are present		Preferred forbs are rare	
Number of Preferred Forb Species (*n*)	7.5		12 sp. total				

Habitat Indicator Suitability Range (Supplemental)

Habitat Indicator	X	Suitability	Rationale
Predominant Sagebrush Shape (mode)	Columnar	Marginal	Columnar sagebrush growth form indicative of physical disturbance and damage; typically does not provide adequate vertical concealment cover; however, probably ameliorated by the heavy horizontal and vertical CC of other components
Perennial Grass and Forb Height (mean)	27.0	Suitable	Suitable upland summer habitat should have perennial herbaceous vegetation heights ≥10 cm
Perennial Grass Canopy Cover (mean)	18.0	Suitable	Suitable upland summer habitat should have perennial grass CC ≥10%
Perennial Forb Canopy Cover (mean)	18.0	Suitable	Suitable upland summer habitat should have perennial forb CC ≥10%
Other Shrub Canopy Cover (mean)	30.0	Suitable	Appropriate based on Ecological Site potential
Other Shrub Height (mean)	41.2	Suitable	Appropriate based on Ecological Site potential
Sagebrush and Other Shrub Canopy Cover (mean)	81.0	Marginal	Much higher representation than expected at HCPC reference condition (despite the 20% CC due to cumulative point representation); sagebrush and other shrubs are providing adequate horizontal concealment cover
Sagebrush and Other Shrub Height (mean)	71.0	Suitable	Suitable upland summer habitat should have shrub heights between 40-80 cm
Perennial Grass Height (excluding Poa spp.) (mean)	28.8	Suitable	Suitable upland summer habitat should have perennial grass heights ≥10 cm
Poa Spp. Canopy Cover (mean)	6.0	Suitable	Appropriate based on Ecological Site potential
Annual Grass Canopy Cover (mean)	0.0	Suitable	Appropriate based on Ecological Site potential
Annual Forb Canopy Cover (mean)	4.0	Suitable	Appropriate based on Ecological Site potential
Bare Ground Canopy Cover (relative to site potential) (mean)	20.0	Suitable	Slightly lower than expected based on ESD; bare ground should range between 30-60%; indicative of some fine fuel build-up, but also influenced by rock ground cover

Does ecological site potential limit suitability potential?	YES	NO
		X

Drought Condition:	Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist	Extremely Moist
			X				

Evidence of sage-grouse use?	Unknown-not noted
Evidence of recent livestock use?	No use observed at 06S02W01a

Rationale for Overall Suitability Rating:	Upland summer habitat in this ecological site is rated suitable because the vast majority of primary and supplementary indicators fall with the suitable ranges. Forbs are diverse and abundant. High sagebrush CC is probably not limiting use by sage-grouse, but may inhibit herbaceous vegetation potential. JUOC encroachment is a current issue which may be limiting suitability within this ecological site at some locations.

	Suitable	Marginal	Unsuitable
Site-Scale Suitability	X		

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment

Figure WDLF-14: Summary of breeding SG HA in Boone Peak allotment in the Douglas-fir Snowberry 22+" PSMEG/SYOR2 Ecological Site (2012)

Form H-4	Sage-grouse Habitat Suitability Worksheet –	UPLAND SUMMER	R025X045ID			
Allotment-Pasture Names	Boone Peak-Boone Peak	Allotment-Pasture Number:	0589-01	Number of Transects:	2	Subpopulation: NC NV/ SE OR/ SW ID
Ecological Site ID:	R025X045ID	Ecological Site Name:	Douglas-fir Snowberry 22+ PSMEG/SYOR2			Home Range Name: Owyhee Front/Triangle
Site IDs:	Land Cover Type/s:		Area Sampled (ha):	Date:		Associated Leks: 2O505, 2O196, 2O642, 2O619
0589-01-05S03W26a-2012	ARTRV-SYOR/BRMA4-SIHY		2	7/19/2012		
0589-01-05S03W26b-2012	SYOR2-ARTRV/BRMA4		10	7/19/2012		Site Info: Mesic

Habitat Indicator Suitability Range (Primary)

Habitat Indicator	χ	Suitable	✓	Marginal	✓	Unsuitable	✓
Sagebrush Canopy Cover (mean)	40.0	10-25%		5-<10% or >25%	X	<5%	
Sagebrush Height (mean)	75.2	40-80 cm	X	20-<40 cm or >80 cm		<20 cm	
Perennial Grass and Forb Canopy Cover (mean)	54.0	≥15%	X	5-15%		<5%	
Preferred Forb Availability (relative to site potential)	Abundant	Preferred forbs are common with several species present	X	Preferred forbs are common but only a few species are present		Preferred forbs are rare	
Number of Preferred Forb Species (*n*)	11.5		16 sp. total				

Habitat Indicator Suitability Range (Supplemental)

Habitat Indicator	χ	Suitability	Rationale
Predominant Sagebrush Shape (mode)	Mixed	Suitable	Mixed sagebrush growth form typically does not provide adequate vertical concealment cover; however, probably compensated by the heavy horizontal and vertical CC of other components
Perennial Grass and Forb Height (mean)	16.4	Suitable	Suitable upland summer habitat should have perennial herbaceous vegetation heights ≥10 cm
Perennial Grass Canopy Cover (mean)	33.0	Suitable	Suitable upland summer habitat should have perennial grass CC ≥10%
Perennial Forb Canopy Cover (mean)	21.0	Suitable	Suitable upland summer habitat should have perennial forb CC ≥10%
Other Shrub Canopy Cover (mean)	31.0	Suitable	Appropriate based on Ecological Site potential
Other Shrub Height (mean)	67.5	Suitable	Appropriate based on Ecological Site potential
Sagebrush and Other Shrub Canopy Cover (mean)	71.0	Marginal	Higher representation than expected at HCPC reference condition (despite the ≤22% CC due to cumulative point representation)
Sagebrush and Other Shrub Height (mean)	73.2	Suitable	Suitable upland summer habitat should have shrub heights between 40-80 cm
Perennial Grass Height (excluding Poa spp.) (mean)	17.0	Suitable	Suitable upland summer habitat should have perennial grass heights ≥10 cm
Poa Spp. Canopy Cover (mean)	4.0	Suitable	Appropriate based on Ecological Site potential
Annual Grass Canopy Cover (mean)	0.0	Suitable	Appropriate based on Ecological Site potential
Annual Forb Canopy Cover (mean)	0.0	Suitable	Appropriate based on Ecological Site potential
Bare Ground Canopy Cover (relative to site potential) (mean)	15.0	Suitable	Appropriate based on Ecological Site potential

Does ecological site potential limit suitability potential?	YES	NO
	X	

Drought Condition:	Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist	Extremely Moist
			X				

Evidence of sage-grouse use?	Unknown-not noted
Evidence of recent livestock use?	Unknown-not noted

Rationale for Overall Suitability Rating:	Upland summer habitat in this ecological site is rated suitable because the vast majority of primary and supplementary indicators fall with the suitable ranges. Forbs are diverse and abundant. High sagebrush CC is probably not limiting use by sage-grouse, but may inhibit herbaceous vegetation potential. Associated mature Douglas-fir tree stands and JUOC encroachment is a current issue which may be naturally or opportunistically limiting suitability within this ecological site at some locations.

	Suitable	Marginal	Unsuitable
Site-Scale Suitability	X		

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment

Figure WDLF-15: Summary of winter SG HA in Boone Peak allotment in the Loamy 16+" ARTRV/FEID Ecological Site (2012)

Form H-6	Sage-grouse Habitat Suitability Worksheet –	WINTER	R025XY022ID			
Allotment-Pasture Names:	Boone Peak-Boone Peak	Allotment-Pasture Number:	0589-01	Number of Transects:	2	Subpopulation: NC NV/ SE OR/ SW ID
Ecological Site ID:	R025XY022ID	Ecological Site Name:	Loamy 16+ ARTRV/FEID			Home Range Name: Owyhee Front/Triangle
Site IDs:	Land Cover Type/s:		Area Sampled (ha):	Date:		Associated Leks: 2O619, 2O196, 2O642, 2O505
0589-01-05S03W25a-2012	ARTRV/FEID		8	7/24/2012		
0589-01-06S03W01a-2012	SYOR2-ARTRV/PASM		15	7/24/2012		Site Info: Mesic

Habitat Indicator Suitability Range (Primary)

Habitat Indicator	X	Suitable	✓	Marginal	✓	Unsuitable	✓
Sagebrush Canopy Cover (mean)	51.0	>10%	X	5-10%		<5%	
Sagebrush Height above Snow 0 cm snow (annual mean) 15 cm snow (annual mean) 30 cm snow (annual mean)	71.6	>25 cm >40 cm >55 cm	X	10-25 cm 25-40 cm 40-55 cm		<10 cm <25 cm <40 cm	

Habitat Indicator Suitability Range (Supplemental)

Habitat Indicator	X	Suitability	Rationale
Predominant Sagebrush Shape (mode)	Columnar	Marginal	Columnar sagebrush growth form indicative of physical disturbance and damage; typically does not provide adequate vertical concealment cover; however, probably ameliorated by the heavy horizontal CC of all shrubs
Other Shrub Canopy Cover (mean)	30.0	Suitable	Appropriate based on Ecological Site potential
Other Shrub Height (mean)	41.2	Suitable	Appropriate based on Ecological Site potential
Sagebrush and Other Shrub Canopy Cover (mean)	81.0	Suitable	Sagebrush and other shrubs are providing adequate concealment and thermal cover
Sagebrush and Other Shrub Height (mean)	71.0	Suitable	Sagebrush height is providing adequate available forage and in combination with other shrubs adequate concealment and thermal cover

Does ecological site potential limit suitability potential?	YES	NO
		X

Drought Condition:	Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist	Extremely Moist
			X				

Evidence of sage-grouse use?	Unknown-not noted
Evidence of recent livestock use?	No use observed at 06S02W01a

Rationale for Overall Suitability Rating:	Winter habitat is rated as suitable because the vast majority of primary and supplementary indicators fell within the suitable range. Although there do appear to be a few vegetation community issues (columnar growth form, very high sagebrush and total shrub CCs), sagebrush CC and height are providing adequate forage and concealment and thermal cover even under conditions with above average persistent snow accumulation levels.

	Suitable	Marginal	Unsuitable
Site-Scale Suitability	X		

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment

Figure WDLF-16: Summary of winter SG HA in Boone Peak allotment in the Douglas-fir Snowberry 22+" PSMEG/SYOR2 Ecological Site (2012)

Form H-6	Sage-grouse Habitat Suitability Worksheet –		WINTER	R025X045ID			
Allotment-Pasture Names:	Boone Peak-Boone Peak	Allotment-Pasture Number:	0589-01	Number of Transects:	2	Subpopulation:	NC NV/ SE OR/ SW ID
Ecological Site ID:	R025X045ID	Ecological Site Name:	Douglas-fir Snowberry 22+ PSMEG/SYOR2			Home Range Name:	Owyhee Front/Triangle
Site IDs:	Land Cover Type/s:		Area Sampled (ha):	Date:		Associated Leks:	2O505, 2O196, 2O642, 2O619
0589-01-05S03W26a-2012	ARTRV-SYOR/BRMA4-SIHY		2	7/19/2012			
0589-01-05S03W26b-2012	SYOR2-ARTRV/BRMA4		10	7/19/2012		Site Info:	Mesic

Habitat Indicator Suitability Range (Primary)

Habitat Indicator	χ	Suitable	✓	Marginal	✓	Unsuitable	✓
Sagebrush Canopy Cover (mean)	40.0	>10%	X	5-10%		<5%	
Sagebrush Height above Snow 0 cm snow (annual mean) 15 cm snow (annual mean) 30 cm snow (annual mean)	75.2	>25 cm >40 cm >55 cm	X	10-25 cm 25-40 cm 40-55 cm		<10 cm <25 cm <40 cm	

Habitat Indicator Suitability Range (Supplemental)

Habitat Indicator	χ	Suitability	Rationale
Predominant Sagebrush Shape (mode)	Mixed	Suitable	Mixed sagebrush growth form typically does not provide adequate vertical concealment cover; however, probably compensated by the heavy horizontal and vertical CC of other components
Other Shrub Canopy Cover (mean)	31.0	Suitable	Appropriate based on Ecological Site potential
Other Shrub Height (mean)	67.5	Suitable	Appropriate based on Ecological Site potential
Sagebrush and Other Shrub Canopy Cover (mean)	71.0	Suitable	Sagebrush and other shrubs are providing adequate concealment and thermal cover
Sagebrush and Other Shrub Height (mean)	73.2	Suitable	Sagebrush height is providing adequate available forage and in combination with other shrubs adequate concealment and thermal cover

Does ecological site potential limit suitability potential?	YES	NO
	X	

Drought Condition:	Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist	Extremely Moist
			X				

Evidence of sage-grouse use?	Unknown-not noted
Evidence of recent livestock use?	Unknown-not noted

Rationale for Overall Suitability Rating:	Winter habitat is rated as suitable because the vast majority of primary and supplementary indicators fell within the suitable range. Although there do appear to be a few vegetation community issues (very high sagebrush and total shrub CCs), sagebrush CC and height are providing adequate forage and concealment and thermal cover even under conditions with above average persistent snow accumulation levels.

	Suitable	Marginal	Unsuitable
Site-Scale Suitability	X		

Plants

Three BLM sensitive species are known to occur in the Boone Peak Allotment. The species are least phacelia (*Phacelia minutissima*), basalt milkvetch (*Astragalus conjunctus*), and rabbitbrush goldenweed (*Haplopappus bloomeri var. bloomeri*). Four small areas were inventoried in 1996 for least phacelia, but no plants were found on federal land (Atwood 1996, CDC 2002). Least phacelia is a Type 2 BLM sensitive species. There has been no other inventory conducted in this pasture.

The other two species are known only from old (pre-1980) collections with somewhat vague location information. Basalt milkvetch was collected in 1946 on a ridge of Hayden Peak in what is now part of Cinnabar Mtn. ACEC. The status of this population is unknown. This plant occurs on rocky hilltops, hillsides, and canyon benches of sagebrush communities; despite the name, it can occur on substrates other than basalt. This species is known from less then 20 sites in Owyhee, Malheur, and Harney Counties. Basalt milkvetch is a Type 3 BLM sensitive species.

Rabbitbrush goldenweed was collected on Quicksilver Mountain in 1951. This plant is known from two collections in Idaho (both in Owyhee County) and from the surrounding states, but it has been extirpated in Canada (NatureServe 2002). This is a BLM Watch list species; it is not BLM sensitive. There are no records of any further evaluations of this population and its current status is unknown.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment
Botany No populations of special status plant species are known to occur in this allotment. There is insufficient information to determine site-specific impacts of livestock grazing on any special status plants that may occur in this allotment. Records show no reported special status plants in this allotment for this reason this standard is not applicable. Small phacelia (*Phacelia minutissima*), a BLM Special Status Plant Type 2[1], is known to occur in the adjacent private land (EOs 1551 and 2385). There is no associated EO tied to any population occurrences in the Boone Peak allotment; however, there is habitat potential for small phacelia to occur in the Boone Peak allotment. Small phacelia is a small annual forb that flowers in June through July. There is insufficient information to determine site-specific impacts of livestock grazing on any special status plants that may occur in this allotment. *Information sources* Elemental Occurrences (EOs) for special status species (SSP) populations is recorded in the Idaho Fish and Wildlife Information System (IFWIS) Species Diversity database (IDFG, 2011). EOs are derived by completion and review of Idaho Rare Plant Observation Reports through the Idaho Natural Heritage Program. Other sources that were used to assess and evaluate the composition and condition of SSP habitats within the Boone Peak allotment include RHAs, photographs, field notes, Plants database (USDA NRCS, 2013), literature search, and information summarized above in Standards in this document. Records show no reported special status plants in this allotment.

[1] Type 2: Species with a high likelihood of being listed in the foreseeable future due to global rarity and significant endangerment factors.

Fall Use (Quicksilver FFR Pastures 1 and 4; Stahle FFR)

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Stahle FFR (0641) and Quicksilver FFR (0483) Allotments
Pasture 4 of the Quicksilver FFR allotment identified in the 2003 assessment and located within T.6S., R.2W., Sections 15, 16, 19, 20, 21, and 22 is not recognized as a pasture of the allotment in the 2013 BLM GIS allotment layers. As a result, this 2013 supplement to the assessment only addresses meeting the standards in pastures 1, 2, and 3 of the Quicksilver FFR allotment.

Summary

- watershed conditions are similar to reference conditions in low sagebrush communities, but interspaces of big sagebrush communities are at risk where perennial grasses are reduced;
- grass and shrub species composition and cover are similar to reference conditions in low sagebrush communities, decreaser grass cover is less than expected and increaser and invasive species cover is greater than expected in big sagebrush communities;

Data Collection

Two rangeland health evaluations were conducted in low (1) and big (1) sagebrush communities between July 16 and October 24, 2002 (Table 23). No trend plots were established in these pastures.

Table 23. Summary of upland data collected in Fall Use pastures, Quicksilver FFR and Stahle FFR allotments.

Data Type[1]	Allotment	Pasture	Location	Ecological Site	Condition/Trend[2]
RHE	Quicksilver FFR	1	05S02W20	Shallow Claypan 12-16”	+
	Stahle FFR	1	05S02W28	Loamy 13-16”	0-

[1] RHE – Rangeland Health Assessment, SBH – Sage Grouse Breeding Habitat Evaluation, SRRH – Sage Grouse Brood-Rearing Habitat Evaluation
[2] + = none-slight departure from reference conditions, 0 slight-moderate departure from reference conditions, - = moderate departure from reference conditions, -- = moderate-extreme departure from reference conditions

Livestock Use

From 1972 through 1993, pasture 4 of the Quicksilver FFR Allotment was used for gathering cattle at the end of the grazing season. Since 1997, most cattle from Boone Peak have been gathered into the Stahle FFR Allotment and pasture 1 of the Quicksilver FFR Allotment at the end of the grazing season in October then moved into pasture 4 of the Quicksilver FFR Allotment.

Fall removal is staggered, may take a full month, and is facilitated by the availability of the Stahle and Quicksilver FFR Allotments for holding gathered cattle. Removal begins early in October, well in advance of the closing date for Boone Peak Allotment. There can be difficulty in removing cattle from timbered areas in mild falls when snowfall does not assist in removal.

Use occurs after the critical growth period. The critical growth periods for bluebunch wheatgrass, Idaho fescue, and needlegrass occurs from late-May to mid-June. The critical growth period for squirreltail occurs from mid-May to mid-June. The critical growth period for Sandberg bluegrass occurs primarily during May.

Actual use has not been reported for these allotments, and only licensed use is available (Appendix F). No utilization data are available.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Stahle FFR (0641) and Quicksilver FFR (0483) Allotments

Table LVST-8: Livestock grazing use the Stahle FFR allotment reported by the permittee in recent years

Year	Spring		Fall	
	Date	**AUMs**	**Date**	**AUMs**
2012	5/28-6/1	46	10/25-11/3	76
2011	5/29-6/1	71	10/25-11/26	110
2010	No Data	No Data	10/25-11/2	99
2009	5/15-6/22	82	No Data	No Data
2008	5/29-6/2	29	No Data	No Data
2007	3/1-2/28	36	No Data	No Data
2006	Rest	0	10/25-11/18	69
2005	5/17-6/1	118	9/26-11/1	197

These data indicate that grazing use has recently occurred for short duration late in the spring during the active growing season and again for a short duration in the fall. Although the active growing season is the period of greatest potential for impact to native perennial bunchgrass plants, the short duration of use limits opportunity for regrazing of plants and grazing late in the period during dormancy of plants, limiting impacts to health and vigor.

Standard 1: Watersheds

There is a slight degree of departure from reference conditions and site guides for most indicators for low sagebrush communities and a slight-moderate degree of departure for big sagebrush communities.

Low sagebrush communities

Rangeland Health Evaluation Summary Worksheets
There is a slight departure for the rangeland health indicators relating to watershed from those found in reference areas and ecological site guides. The site was close to reference conditions and used as a reference for this ecological site in this area.

Hydrologic Function - Little sign of active surface erosion was evident and the existing features documented appear to be more a result of older erosional episodes. There are signs of terracettes on the more sloping areas where trailing has occurred, but this feature is not widespread.

Soil Surface and Vegetation Function/Cover - The main visual feature of the plant community, as it reflects hydrologic function, is one where decreaser bunchgrass species are abundant on site and the shrub component is a scattered mosaic. Western juniper is encroaching to various degrees but not at a level where it is seriously affecting hydrologic function. In general the plant community as it influences the capture, storage, and management of moisture is functioning as expected.

Big sagebrush communities

Rangeland Health Evaluation Summary Worksheets
There is a slight-moderate (with most indicators more to the slight end) departure for the rangeland health indicators relating to watershed from those found in reference areas and ecological site guides.

Hydrologic Function - Signs of active surface erosion are evident with some features documented appearing to be more a result of older erosional episodes. Water flow patterns were weakly defined. Pedastalling of bunchgrass was not very evident.

Soil Surface and Vegetation Function/Cover - The abundance of surface gravel is protecting the soil from erosional forces in areas where vegetative cover is lacking. The main visual feature of the plant community, as it reflects hydrologic function, is one where most of the decreaser plants are now replaced by increaser species and annual grasses while there is an increase in the shrub component from reference conditions. Density of the bunchgrass species is also considerably lower than expected, particularly in the interspatial areas where it is totally lacking in places. Biological soil crusts are weakly represented at most sites. Western juniper is encroaching and is approaching a level where it is affecting hydrologic function. In general the plant community as it influences the capture, storage, and management of moisture is not functioning as expected.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Stahle FFR (0641) and Quicksilver FFR (0483) Allotments
No new data are available.

Standard 2: Riparian Areas and Wetlands

There are no riparian areas or wetlands occurring in these pastures.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Stahle FFR (0641) and Quicksilver FFR (0483) Allotments
The reach of the North Fork of Boulder Creek that occurs on BLM lands in pasture 2 was rated FAR in 2001 because there was a lack of species with roots capable of protecting stream banks, and a shift from deep-rooted hydric species to those species more suited to drier sites was occurring.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Stahle FFR (0641) and Quicksilver FFR (0483) Allotments
See Table RIPN-2 under Bridge Creek/ Quicksilver Standard 2 above for a comprehensive display of all the riparian information currently in the BLM riparian database for the Bridge Creek and Quicksilver allotments, both that used in the original assessment, as well as newer, supplemental information.

Standard 3: Stream Channel/Floodplain

There are no riparian areas or wetlands occurring in these pastures.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Stahle FFR (0641) and Quicksilver FFR (0483) Allotments
The reach of the North Fork of Boulder Creek that occurs on BLM lands in pasture 2 was rated FAR in 2001 because there was a lack of species with roots capable of protecting stream banks, and a shift from deep-rooted hydric species to those species more suited to drier sites was occurring.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Stahle FFR (0641) and Quicksilver FFR (0483) Allotments
See Table RIPN-2 under Bridge Creek/ Quicksilver Standard 2 above for a comprehensive display of all the riparian information currently in the BLM riparian database for the Bridge Creek and Quicksilver allotments, both that used in the original assessment, as well as newer, supplemental information.

Standard 4: Native Plant Communities

Low sagebrush communities

<u>Rangeland Health Evaluation Summary Worksheets</u>

Low sagebrush communities showed a none-slight departure from reference conditions. With the exception of juniper recruitment, this community is similar to reference conditions. Rock and gravel cover are common.

Integrity/ Diversity - Plant community integrity and native species diversity show a none-slight degree of departure from reference conditions. Occurrence of grasses and shrubs is similar to reference conditions.

Biological soil crust cover is similar to expected. Cheatgrass is not present. Western juniper is scattered and recruitment is evident. Annual production is within 80% of expected. Perennial forb diversity is similar to reference conditions. Leguminous species (lupine, milkvetch) are present.

Plant Vigor - Plant vigor shows a none-slight degree of departure from reference conditions. Perennial grass vigor is good. Pedestals are present on Sandberg bluegrass, but they are not active and their occurrence is similar to reference conditions. Seed head production is similar to reference conditions. Recruitment is apparent for all grasses, shrubs, and juniper.

Noxious/Invasive Plants - Noxious weeds were not observed. Invasive plants show a moderate degree of departure from reference conditions. Cheatgrass is not present. Juniper trees are scattered, but recruitment is occurring.

Big sagebrush communities

Rangeland Health Evaluation Summary Worksheets

Big sagebrush communities showed a moderate departure from reference conditions. Decreaser bunchgrasses are reduced and occurrence of increaser and invasive species is greater than expected.

Integrity/ Diversity - Plant community integrity and native species diversity show a moderate degree of departure from reference conditions. Decreaser bunchgrass occurrence is less than expected. Sandberg bluegrass occurrence is greater than expected. Occurrence of bunchgrasses in shrub interspaces, especially decreaser grasses, is less than expected. Big sagebrush occurrence is similar to reference conditions.

Cheatgrass is dominant in the understory. Juniper is common. Annual production is between 60-80% of expected. Cheatgrass, shrubs, and juniper account for most of the production. Observed forb diversity is less than expected. Leguminous species (lupine) are present.

Plant Vigor - Plant vigor shows a slight-moderate degree of departure from reference conditions. Bitterbrush has good vigor; however, the occurrence of decadent shrubs is greater than expected. Seed heads are present on Sandberg bluegrass and on some bluebunch wheatgrass.

Noxious/Invasive Plants - Noxious weeds were not observed. Invasive plants show a moderate-extreme degree of departure from reference conditions. Cheatgrass is dominant in the understory. Juniper is common.

Herbaceous (Burned) Communities

No wildfires were known to occur between 1980 and present.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Stahle FFR (0641) and Quicksilver FFR (0483) Allotments
The following information concerning the Quicksilver FFR allotment is repeated from the Late Summer Use section of this document. Standard 4 is met in pastures 1, 2, and 3 of the Quicksilver FFR allotment with the overall none-to-slight departure of biotic integrity from reference site conditions recorded within the low sagebrush communities of pasture 1 and the mountain big sagebrush communities of pasture 2, while the overall slight-to-moderate departure of biotic integrity from reference site conditions is recorded in pasture 3. Although recent undocumented fires have controlled juniper to a limited degree in localized areas, remaining juniper uncontrolled by natural fire regimes has the potential to contribute to not meeting Standard 4 in the future. No vegetation trend data are available for the Quicksilver FFR allotment. Standard 4 is not met the Stahle FFR allotment with the overall moderate departure of biotic integrity from reference site conditions for a mountain big sagebrush vegetation community. The loss of deep-rooted native perennial bunchgrass species with increased dominance by cheatgrass and accompanied by increasing juniper dominance contribute to the failure to meet the standard. Altered natural fire regimes that would periodically reduce juniper dominance and historic livestock management practices are the causal factors for failure to meet the standard. Current spring and fall grazing with a short duration are not likely to impact native perennial bunchgrass health and vigor. No vegetation trend data are available for the Stahle FFR allotment.

Standard 8: Threatened and Endangered Plants and Animals

Plants

Special status plants are not known to occur in these pastures. Systematic inventories for special status plants have not been conducted. Incidental work for other site-specific projects has yielded no occurrences, though this type of work has been limited.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Stahle FFR (0641) and Quicksilver FFR (0483) Allotments
Botany No populations of special status plant species are known to occur in these allotments. There is insufficient information to determine site-specific impacts of livestock grazing on any special status plants that may occur in this allotment. Records show no reported special status plants in these allotments; for this reason, this standard is not applicable.

Information sources
Elemental Occurrences (EOs) for special status species (SSP) populations is recorded in the Idaho Fish and Wildlife Information System (IFWIS) Species Diversity database (IDFG, 2011). EOs are derived by completion and review of Idaho Rare Plant Observation Reports through the Idaho Natural Heritage Program. Other sources that were used to assess and evaluate the composition and condition of SSP habitats within the Quicksilver FFR and Stahle FFR allotments include RHAs, photographs, field notes, Plants database (USDA NRCS, 2013), literature search, and information summarized above in Standards in this document. Records show no reported special status plants in these allotments.

Redband Trout

Redband trout do not occur in these pastures.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Stahle FFR (0641) and Quicksilver FFR (0483) Allotments

Quicksilver FFR Allotment pasture 1

Focal Special Status Species
Greater sage-grouse
Habitat Characteristics
Habitat Assessments
BLM lands in pasture 1 are within the breeding, summer, and winter seasonal ranges of the Owyhee Front/Triangle local population (Map WDLF-6). The mountain big sagebrush ecological sites could support breeding (including early brood-rearing), upland summer, and winter sage-grouse habitat. There is no lentic or lotic riparian habitat on BLM lands within the pasture. All sage-grouse habitat on BLM lands within the pasture is classified as juniper encroachment areas (Maps WDLF-4 and WDLF-5).

Although, sage-grouse HAs have not been conducted in pasture 3, juniper woodlands of moderate to high densities are limiting if not excluding sage-grouse use of BLM lands within the pasture.

General Upland Habitat Assessment
Several upland habitats and cover types occur within several ecological sites within pasture 1 (Table WDLF-27).

Table WDLF-27: NRCS Ecological Sites within Quicksilver FFR pasture 1

Habitat Type	General Cover Type	Ecological Site Description	Percentage of Allotment	
			Ecological Site Description	General Cover Type
Shrub Steppe	Mountain Big Sagebrush	Loamy 13-16” ARTRV/PSSPS-FEID	54	54

Mountain Shrub	Mountain Shrub	Mahogany Savanna 16-22" CELE3-SYOR2/FEID-ACHNA	34	34
Forest	Douglas-fir	Douglas-fir Snowberry 22+" PSMEG/SYOR2	12	12

In general, many indicators of upland rangeland health were near reference conditions (see Standards 1 and 4). However, pasture 1 was affected by conversion to juniper woodlands and exhibited a moderate departure from ecological site reference conditions. The conversion of shrub steppe habitats to juniper woodlands is affecting habitat suitability for most obligate and dependent wildlife and is probably not providing adequate habitat conditions for these species.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Stahle FFR (0641) and Quicksilver FFR (0483) Allotments

Stahle FFR Allotment

Focal Special Status Species

Greater sage-grouse

Habitat Characteristics

Habitat Assessments

BLM lands within the Stahle FFR allotment are within the breeding, summer, and winter seasonal ranges of the Owyhee Front/Triangle local population (Map WDLF-6). The mountain big sagebrush ecological sites could support breeding (including early brood-rearing), upland summer, and winter sage-grouse habitat. There is no lentic or lotic riparian habitat on BLM lands within the pasture. All sage-grouse habitat on BLM lands within the pasture is classified as juniper encroachment areas (Maps WDLF-4 and WDLF-5).

Although, sage-grouse HAs have not been conducted in the Stahle FFR allotment, juniper woodlands of moderate to high densities are limiting if not excluding sage-grouse use of BLM lands within the pasture.

General Upland Habitat Assessment

Several upland habitats and cover types occur within a variety of ecological sites within the Stahle FFR allotment (Table WDLF-28).

Table WDLF-28: NRCS Ecological Sites within Stahle FFR

Habitat Type	General Cover Type	Ecological Site Description	Percentage of Allotment	
			Ecological Site Description	General Cover Type
Shrub Steppe	Basin Big Sagebrush	Loamy 11-13" ARTRT/PSSPS	3	3
	Mountain Big Sagebrush	Loamy 13-16" ARTRV/PSSPS-FEID	41	41

	Low Sagebrush	Shallow Claypan 12-16” ARAR8/FEID	50	50
Mountain Shrub	Mountain Shrub	Mahogany Savanna 16-22” CELE3-SYOR2/FEID-ACHNA	6	6

In general, upland habitat conditions in the Stahle FFR allotment exhibit moderate departure of biotic integrity from reference conditions (see Standard 4). The loss of deep-rooted bunchgrasses and an increase in cheatgrass is negatively affecting habitat quality for many dependent species. Invasive species (i.e., junipers) were noted as exhibiting a moderate-to-extreme departure from ecological site reference conditions. The reduction of shrubs and bunchgrasses and conversion of shrub steppe habitats to juniper woodlands is affecting habitat suitability for most obligate and dependent wildlife and is probably not providing adequate habitat conditions for these species.

Standard 7: Water Quality – Red Mountain/ Bridge Creek/ Boone Peak / Quicksilver FFR / Stahle FFR

Red Mountain Allotment

No temperature monitoring data was collected on streams within the Red Mountain Allotment to examine if streams are meeting the State of Idaho criteria for the support of cold-water beneficial uses. No recent bacteria samples have been collected in the Red Mountain Allotment. However, a fecal coliform sample was taken from Hart Creek in 1996. The number of colonies per 100 mL of water did not exceed the criteria for primary or secondary contact recreation.

Bacteria Monitoring

The most recent bacteria data from Hart Creek in the Red Mountain Allotment collected in 1996 shows that Hart Creek met the criteria for primary and secondary contact recreation. Analysis of the water sample found 23 colonies of fecal coliform bacteria per 100mL of water. Hart Creek is located in the Middle Snake River/Succor Creek watershed (Hydrologic Unit Code #17050103). The bacteria sampling location was in 05S01W19.

Livestock grazing, mining, and wildlife use have been some of the historic upland and/or riparian land-use issues that have been affecting the water quality of Hart Creek and surrounding streams.

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Red Mountain (0588) Allotment

Table RIPN-5: Red Mountain allotment IDEQ water quality summary

Watershed	Stream	Support[1]	Beneficial Use[2]	Cause	303(d) (Yes/No)
Middle Snake-	Pickett Creek	NS	CWAL	sedimentation/siltation, temperature	Yes

Succor					
Middle Snake-Succor	Bates Creek	NA			
Middle Snake-Succor	Fossil Creek	NA			
Middle Snake-Succor	Little Hart Creek	NA			
Middle Snake-Succor	Unnamed Creek	NS	CWAL	sedimentation/siltation, temperature	Yes
Middle Snake-Succor	Browns Creek	NS	CWAL	sedimentation/siltation	Yes
Middle Snake-Succor	Little Browns Creek	NS	CWAL	sedimentation/siltation	Yes

[1]NS= not supporting; NA= not assessed
[2]CWAL= cold water aquatic life

Bridge Creek Allotment

Monitoring of water temperatures in Bridge Creek, upstream of the Bridge Creek Allotment, indicated that the site meets the State of Idaho criteria for the support of cold-water beneficial use (Table 24). Contributing factors such as intra-gravel flows and ground water recharge may have helped maintain cool water temperatures in the lower segment of Bridge Creek in the year that water temperatures were monitored. No water temperature data has been collected from streams within the Bridge Creek Allotment. Beneficial uses on Bridge Creek include cold-water biota, salmonid spawning, secondary contact recreation, agricultural water supply, wildlife habitat, and aesthetics. No bacteria samples were collected from the streams within the Bridge Creek Allotment.

Table RIPN-6: Bridge Creek allotment IDEQ water quality summary

Watershed	Stream	Support[1]	Beneficial Use	Cause	303(d) (Yes/No)
Jordan	Bridge Creek	NS	CWAL[2]	flow alterations, temperature	Yes
Jordan	Ditch Creek	NS	CWAL	flow alterations, temperature	Yes

[1]NS= not supporting; NA= not assessed
[2]CWAL= cold water aquatic life

Boone Peak Allotment

Monitoring of water temperatures in two streams (with two monitoring stations on one stream) in the Boone Peak Allotment indicated that two of three sites on Pickett and Bridge creeks met the State of Idaho criteria for the support of cold-water beneficial use (Table 25). No water temperature data has been collected from other streams within the Boone Peak Allotment. Pickett Creek, from its headwaters to its mouth, is on the 1998 Idaho DEQ 303(d) list of water quality impaired streams for flow alteration, sediment load, and water temperature. Beneficial uses on Pickett and Bridge Creeks include cold-water biota, salmonid spawning, secondary contact recreation, agricultural water supply, wildlife habitat, and aesthetics. No bacteria samples were collected from the streams within the Boone Peak Allotment.

Water Temperature

During 2002, BLM monitored water temperatures in Pickett Creek and two sites in Bridge Creek to evaluate whether these streams supported the cold-water beneficial use indicator (water temperatures of 22°C or less with a maximum daily average of less than 19°C). Pickett Creek is located in the Middle Snake River/Succor Creek watershed (Hydrologic Unit Code #17050103), and Bridge Creek is located in the Jordan Creek Watershed (Hydrologic Unit Code #17050108). Water temperatures were monitored using automatic data-recording thermographs.

Mining, livestock grazing, and wildlife use are some of the upland and/or riparian land-use issues that are affecting water quality of Pickett Creek, Bridge Creek and surrounding streams. Water temperature monitoring sites were located near the downstream boundaries of allotments to gauge the effects of land-use practices within that allotment on that stream.

Pickett Creek and the lower portion of Bridge Creek met the State of Idaho criteria for the support of cold-water beneficial use; however, water temperatures in the upper portion of Bridge Creek exceeded state standards (Table 24). Contributing factors such as intra-gravel flows and ground water recharge may have helped maintain cool water temperatures in Pickett Creek and the lower segment of Bridge Creek in the year that water temperatures were monitored.

Table 24. Stream Temperatures and evaluation of water quality for the support of cold water biota beneficial use (water temperatures of 22°C or less with a maximum daily average of less than 19°C), Boone Peak Allotment.

Stream (Allotment)	Location	Max. Temp °C	Avg. Max. Temp. °C	No. Days Sampled	Dates Sampled	Support Status
Pickett Cr (589)	529599E / 4757025N confluence w/ spring channel	17.6	13.3	75	6/18-8/31/02	Fully Supported
Bridge Cr upper (589)	529686E / 4751501N 150m upstream of road crossing	26.0	20.8	74	6/19-8/31/02	Not Supported
Bridge Cr lower (589)	529673E / 4750907N at end of trail	19.3	15.7	74	6/19-8/31/02	Fully Supported

Bacteria Monitoring

No data was collected of fecal coliform and *E. coli* bacteria concentrations to examine whether streams supported primary and secondary contact recreation beneficial uses.

Table RIPN-7: Boone Peak allotment IDEQ water quality summary

Watershed	Stream	Support[1]	Beneficial Use[2]	Cause	303(d) (Yes/No)
Jordan	Bridge Creek	NS	CWAL	flow alterations, temperature	Yes
Jordan	Ditch Creek	NS	CWAL	flow alterations, temperature	Yes
Jordan	Hart Creek	NA			No
Jordan	Meadow Creek	NS	CWAL	flow alterations, temperature	Yes
Jordan	North Boulder Creek	FS			No
Jordan	NF Castle Creek	NA			No
Middle Snake-Succor	Pickett Creek	NS	CWAL	sedimentation/siltation, temperature	Yes
Middle Snake-Succor	Snow Creek	NA			No
Middle Snake-Succor	SF Pickett Creek	NS	CWAL	sedimentation/siltation, temperature	Yes
Middle Snake-Succor	Unnamed Creek	NS	CWAL	sedimentation/siltation, temperature	Yes

[1]NS= not supporting; NA= not assessed; FS = fully supporting
[2]CWAL= cold water aquatic life

Standard 8: Habitat for Special Status Species. Boone Peak, Red Mountain, Bridge Creek, Stahle FFR, and Quicksilver FFR Allotments

Sage Grouse

Sage grouse use the area of Red Mountain, Boone Peak, Bridge Creek, Quicksilver FFR, and Stahle FFR allotments year-round. All of these allotments contain sage brush habitat, however the acreages within Quicksilver and Stahle are too small to be significant (Table 25). Bridge Creek Allotment is undergoing extensive juniper expansion and therefore also contains little sage grouse habitat now. Red Mountain and Boone Peak allotments contain substantial sage grouse habitat. There are two known leks (mating grounds) in pasture 1 of the Red Mountain Allotment, on the flats of the lower end. In 2002, sage grouse sign was found in pastures 1 and 3 of the Red Mountain Allotment and in the Boone Peak Allotment.

Table 25. Habitat types (approximate % of acres) on BLM land within the Red Mountain, Boone Peak, Bridge Creek, Quicksilver, and Stahle allotments. Habitats are ordered (approximately) by elevation from lower and dryer, less productive types to higher, wetter, and more productive types. Data are from soil types only; therefore they are not precisely accurate, and current amounts of juniper expansion are higher than obvious from these data.

Pasture	Other shrub	Wyoming. Big Sagebrush	Mountain Big Sagebrush	Basin Big Sagebrush	Low Sagebrush	Douglas-ir	Mountain Mahogany	Rock
Red Mountain (14,483 acres BLM)								
1	23	77						
2	10	83			7			
3		5	8	3	76	1	1	4
Boone Peak (9481 acres BLM)								
1			40		9	13	20	17
Bridge Creek (2569 acres BLM)								
1			50	3	16		20	10
Quicksilver (177 acres BLM)								
1			56		5	1	32	3
2			72				28	
3			77			7	16	
Stahle (192 acres BLM)								
1			18	15	59		5	8

[1]Includes salt desert shrubs such as shadscale and four wing saltbush.

In April 2002, Idaho Department of Fish and Game radio-tagged grouse from a lek near Bates Creek in pasture 1 of the Red Mountain Allotment. They have tracked these grouse over the year, getting monthly locations. After the mating season the grouse moved up in elevation, into pasture 3 of the Red Mountain Allotment and along Brown's Creek, on Quicksilver Mountain in the Boone Peak Allotment, into the Bridge Creek Allotment, and to areas further south near Triangle. Some remained in the higher elevations until late winter (February), when they returned to the lower flats where the leks are located. The area used by the grouse spanned about 18 miles: from Bates Creek on the north to Antelope Ridge on the south, and from Boulder Creek on the west to Birch Creek on the east. A key finding is that the grouse were roaming almost all year, moving from 1 to 15 miles from month to month. For a small animal, they used a lot of land.

Five sage grouse habitat evaluations were completed in the Red Mountain Allotment (Table 26). In general the habitat was rated marginal for nesting due to reduced grasses and forbs for cover and food. Additionally, juniper expansion and cheatgrass are problems in pasture 3 of the Red Mountain Allotment, posing the threat of losing the habitat to juniper dominance or to fire. The habitat is suitable for leks and wintering. In Boone Peak, the one evaluation of brood-rearing habitat showed suitable habitat, though perhaps at risk of degradation from minor erosion due to heavy grazing use.

Table 26. Sage Grouse Habitat Evaluations for Red Mountain and Boone Peak Allotments. See Appendix C for indicators and values used to obtain ratings.

Pasture	Location	Rating	Vegetation	Season	Rationale for Ratings and Comments
1	04S02W25	Unsuitable	Wyoming big sagebrush	Breeding	Forb and grass ht and cover low; most grass in shelter of shrubs; Sage grouse scat
1	04S02W34	Marginal	Wyoming big sagebrush	Breeding	Forbs few and grass ht & cover marginal; Sage grouse scat
2	05S02W15	Suitable	Wyoming big sagebrush	Breeding	Forbs few but diverse; grass ht & cover marginal
3	05S02W22	Marginal	Mountain big sagebrush	Breeding	Grass ht ok, cover low; Forb cover ok but few species; Isolated mtn sage site in low sage; Cheatgrass, juniper
3	05S02W23	Marginal	Wyoming big sagebrush	Breeding	Grass cover low, & ht marginal; Forbs few; Cheatgrass, juniper
1	05S03W25	Suitable	Wet meadow	Brood rearing	Pickett Creek tributary: Minor erosion, forbs ok;. heavy grazing use

Riparian

Red Mountain Allotment contains Bates Creek in pasture 1, Pickett Creek in pastures 2 and 3, and Hart and Browns creeks in pasture 3. The Boone Peak Allotment includes Quicksilver Mountain which is the dividing ridge between the Owyhee and Snake river drainages. Therefore it contains the headwaters of a number of streams: Pickett, Hart, Bridge, and North Boulder (Snow and Lightning). Stahle FFR, Bridge Creek, and Quicksilver FFR allotments are arranged around the borders of the Boone Peak Allotment, and contain small pieces of streams.

Because the streams in the Boone Peak Allotment are the headwaters, and are steep and narrow, they do not generally support wide riparian shrub stands. The biggest stands of riparian shrubs, and thus the key wildlife habitat, are in the headwater springs, particularly of Pickett and Hart creeks.

The streams in the Red Mountain Allotment are rated in functioning at risk condition, though many reaches are at the upper end of that rating. The streams are on an upward trend with lots of shrubs and cottonwood sprouts. This is probably due to only spring use since the mid-1980's. Prior to that they received fall use also.

In the Boone Peak Allotment, the upper ends of some streams (Lightning Creek, a fork of North Boulder, and Bridge) are non-riparian. Where there is riparian vegetation (mainly forks of Pickett and Hart creeks), the streams are functioning at risk, with an apparent static trend. Understory herbaceous vegetation is sparse. In the steeper sections where access by cattle is more difficult, the streams are in better condition.

In the Bridge Creek Allotment, 0.8 mi of Bridge Creek with a willow community is rated non-functioning and 0.9 mi with a Douglas fir community is rated functioning at risk at the higher end. The willow communities are more important for songbirds and most other animals than the

fir community, because they produce more herbaceous and shrub growth for food and cover for wildlife. This is also why they are more attractive to cattle and get used more by them.

Appendices

Appendix A. Ecological sites with associated plant communities and landforms in the Boone Peak Core Area

Name[a]	Pristine Plant Community	Landform
Calcareous Loam 7-10”	Shadscale/Indian Ricegrass	Lakebeds
Saline Loamy 8-12”	Greasewood/Basin wildrye	Lakebeds
Sandy 8-12	Fourwing saltbush/Indian ricegrass	Lakebeds
Sandy Loam 8-12”	Wyoming big sagebrush/Indian ricegrass-Thurber needlegrass	Lakebeds
Loamy 8-10	Wyoming big sagebrush/Thurber needlegrass	Lakebeds
Loamy 10-13”	Wyoming big sagebrush/Bluebunch wheatgrass	Foothill
Stony South Slope 12-16	Wyoming big sagebrush/Bluebunch wheatgrass	Foothill
Loamy 13-16”	Mountain big sagebrush/Idaho fescue-bluebunch wheatgrass	Foothill
Loamy 10-12	Wyoming big sagebrush/Bluebunch wheatgrass-Thurber needlegrass	Foothill
South Slope 10-12	Wyoming big sagebrush/bluebunch wheatgrass-Thurber needlegrass	Foothill
Granitic 13-16	Mountain big sagebrush/bluebunch wheatgrass-Thurber needlegrass	Foothill
Shallow Claypan 11-13”	Low sagebrush/bluebunch wheatgrass	Foothill
Shallow Claypan 12-16”	Low sagebrush/Idaho fescue	Foothill
Loamy 16+”	Mountain big sagebrush/Idaho fescue-bluebunch wheatgrass	Mountain
Granitic 22+	Idaho fescue/mountain big sagebrush	Mountain
Mahogany Savanna 16-22”	Mountain mahogany/needlegrass-Idaho fescue	Mountain
North Slope Loamy 16+”	Mountain big sagebrush/Idaho fescue	Mountain
Mountain brush 18-22	Mountain big sagebrush-snowberry/mountain brome	Mountain
Ceanothus Thicket 18-22	Snowbrush ceanothus/mountain brome	Mountain
Quaking Aspen 16+	Quaking aspen/mountain brome	Mountain
Douglas Fir Woodland 22-32	Douglas fir-snowberry/mountain brome-elk sedge	Mountain
Shallow Stony Loam 16+	Low sagebrush/Idaho fescue	Mountain

Name[a]	Pristine Plant Community	Landform
Semi-wet Meadow	Carex	Mountain, Plateau

[a] Names describe the major site characteristics and average annual precipitation (inches).

Appendix B. Special status animals known to or likely to occur in the Boone Peak Core Area

Species	Status	Key Habitat Associations
Prairie Falcon (*Falco mexicanus*)	S	Cliff/canyon, big sagebrush, low sagebrush
Ferruginous Hawk (*Buteo regalis*)	S	Cliff, rock outcrop, open juniper, big sagebrush, low sagebrush
Northern Goshawk (*Accipiter gentiles)*	S	Aspen groves, Large diameter forest stands
Sage Grouse (*Centrocercus urophasianus)*	S	Big sagebrush, low sagebrush, meadow, riparian
Burrowing Owl (*Athene cunicularia)*	W	Various open or disturbed habitats
Flammulated Owl (*Otus flammeolus)*	S	Large open-grown Douglas fir
Calliope Hummingbird (*Stellula calliope)*	S	Woody riparian, big sagebrush, mountain shrub
Lewis Woodpecker (*Melanerpes lewis)*	S	Cottonwood groves, Riparian trees
Williamson's Sapsucker *(Sphyrapicus throideus)*	S	High elevation scattered large conifers
Willow Flycatcher (*Empidonax trailii)*	S	Woody riparian, mountain shrub, juniper, big sagebrush
Olive-sided Flycatcher *(Contopus borealis)*	S	Conifer forest
Loggerhead Shrike (*Lanius ludovicianus)*	S, SSC	Big sagebrush, open juniper
Brewer's Sparrow (*Spizella breweri)*	S	Big sagebrush
Sage Sparrow (*Amphispiza belli*)	S	Big sagebrush
Spotted Bat (*Euderma maculatum)*	S, SSC	Roosting/hibernation: Cliffs, canyons, rock outcrops Foraging: Juniper, sagebrush
Long-eared Myotis (*Myotis evotis)*	W	Roosting/hibernation: Trees, caves Foraging: Wetland/riparian, juniper, sagebrush
Long-legged Myotis (*Myotis volans)*	W	Roosting/hibernation: Rock outcrops, trees Foraging: juniper, wetland/ riparian
Yuma Myotis (*Myotis yumanensis)*	W	Roosting/hibernation: Caves, rock outcrops Foraging: Wetland/riparian, sagebrush, juniper
Townsend's Big-eared Bat (*Plecotus townsendii)*	S, SSC	Roosting/hibernation: Caves, trees. Foraging: Juniper, sagebrush, canyon.
Western Pipistrelle (*Pipistrellus hesperus)*	W, SSC	Roosting/hibernation: Caves, rock outcrops, burrows near water Foraging: Juniper, sagebrush, canyon

Species	Status	Key Habitat Associations
Piute Ground Squirrel *(Spermophilus mollis)*	S	Desert plains with deep soils
Western Toad (*Bufo boreas*)	S, SSC	Wetland/riparian, all upland habitats
Woodhouse toad *(Bufo woodhousei)*	S	Lower elevation sagebrush, breeds in quiet water
Columbia Spotted Frog *(Rana luteiventris)*	C	Ponds, slow moving streams
Mojave Black-collared Lizard	S	Desert rock outcrops
Long-nose Snake *(Rhinocheilus lecontei)*	S	Rocky canyons, deserts, grasslands
Western Ground Snake *(Sonora semiannulata)*	S	Deserts with sandy soil
Common garter snake *(Thamnophis sirtalis)*	S	Near water, all habitats
Redband Trout (*Oncorhynchus mykiss gibbsi)*	S, SSC	Aquatic

SSC = State of Idaho Species of Special Concern, S = BLM Sensitive Species, W = Insufficient data, may be added to sensitive species list with new information, C = Federal Candidate Species for Listing as Threatened or Endangered, T = Federal Threatened Species

Appendix C. Indicators Used for Sage Grouse Habitat Evaluations

Breeding Habitat

Habitat Indicator	Suitable Habitat	Marginal Habitat	Unsuitable Habitat
Average Sagebrush Canopy Cover	≥ 15% but ≤ 25%	10-<15% or >25%	<10%
Average Sagebrush Height Mesic Site Arid Site	 15-30" 12-30"	 10-14" or > 30" 10-11" or >30"	 <10" <10"
Sagebrush Growth Form	Spreading form, few, if any, dead branches for most plants	Mix of spreading and columnar growth forms present	Tall, columnar growth form with dead branches for most plants
Average Grass and Forb Height	≥ 7"	5 - < 7"	< 5"
Average Perennial Grass Canopy Cover Mesic Site Arid Site	 ≥ 15% ≥ 10%	 5 - <15% 5 - <10%	 <5% < 5%
Average Forb Canopy Cover Mesic Site Arid Site	 ≥ 10% ≥ 5%	 5 - <10% 3 - <5%	 < 5% < 3%
Preferred Forb Abundance and Diversity[1]	Forbs common with at least a few preferred species present	Forbs common but only 1 or 2 preferred species present	Forbs rare to sparsely present

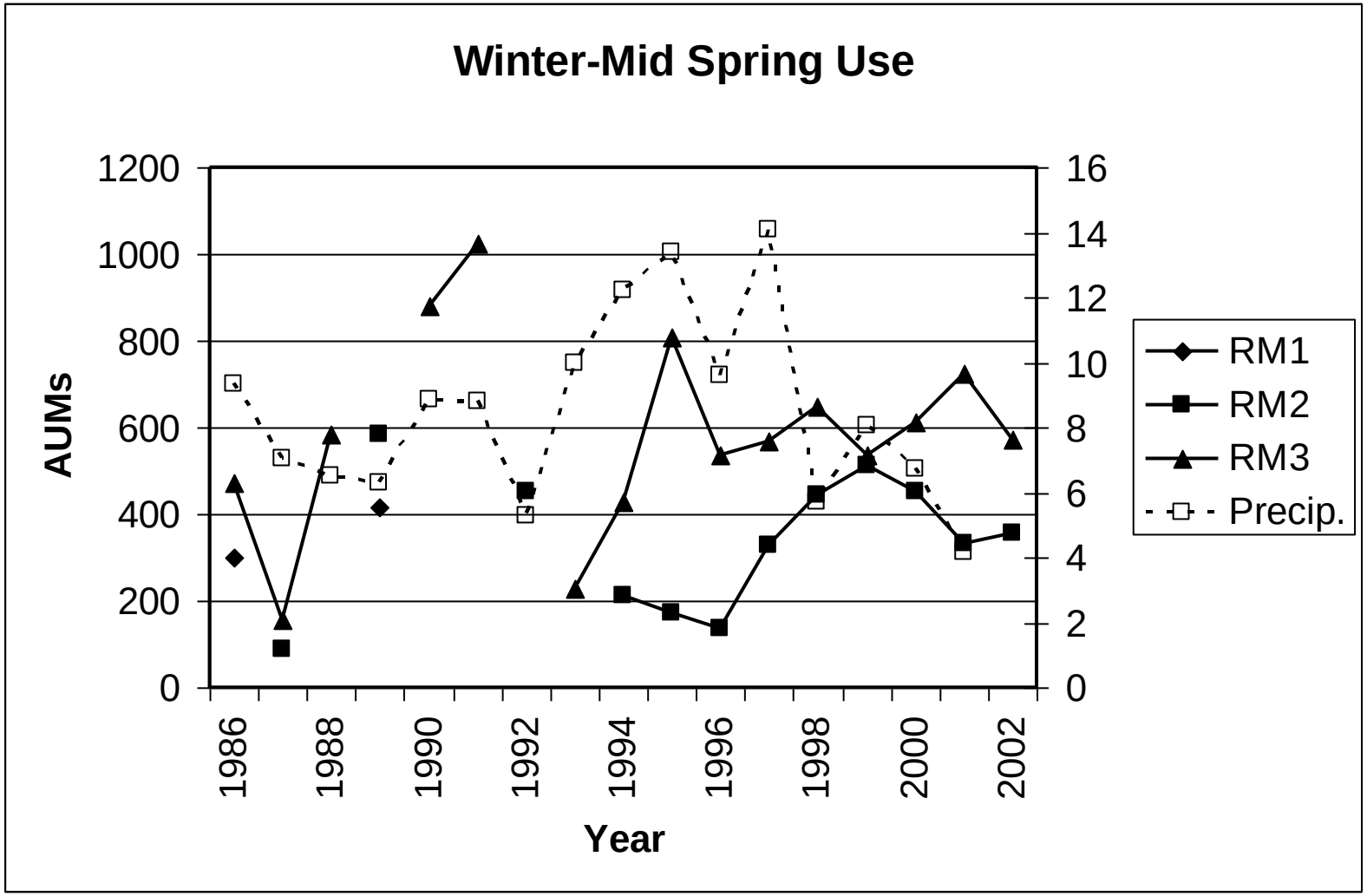
Late Brood-Rearing Habitat

Habitat Indicator	Suitable Habitat	Marginal Habitat	Unsuitable Habitat
Riparian and wet meadow plant community	Mesic or 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	Succulent, green forbs are readily available in terms of distribution and plant structure	Succulent, green forbs are available though distribution is spotty or plant structure limits effective use	Succulent, green forbs are scarce or not available
Proximity of sagebrush cover	Sagebrush cover is adjacent to brood-rearing	Sagebrush cover is in close proximity (> 100 yards but <	Sagebrush cover is unavailable (> 300 yards)

Habitat Indicator	Suitable Habitat	Marginal Habitat	Unsuitable Habitat
	area (<100 yards)	300 yards) of brood-rearing areas	
Overall Riparian/Wet Meadow Site Evaluation			
Forb availability	Succulent, green forbs are readily available in terms of distribution and plant structure	Succulent, green forbs are available though distribution is spotty or plant structure limits effective use	Succulent, green forbs are scarce or not available despite favorable growing conditions
Overall Upland Site Evaluation			

Appendix D. Site-specific management actions for Cinnabar Mountain RNA/ACEC designated by the Owyhee RMP, 1999

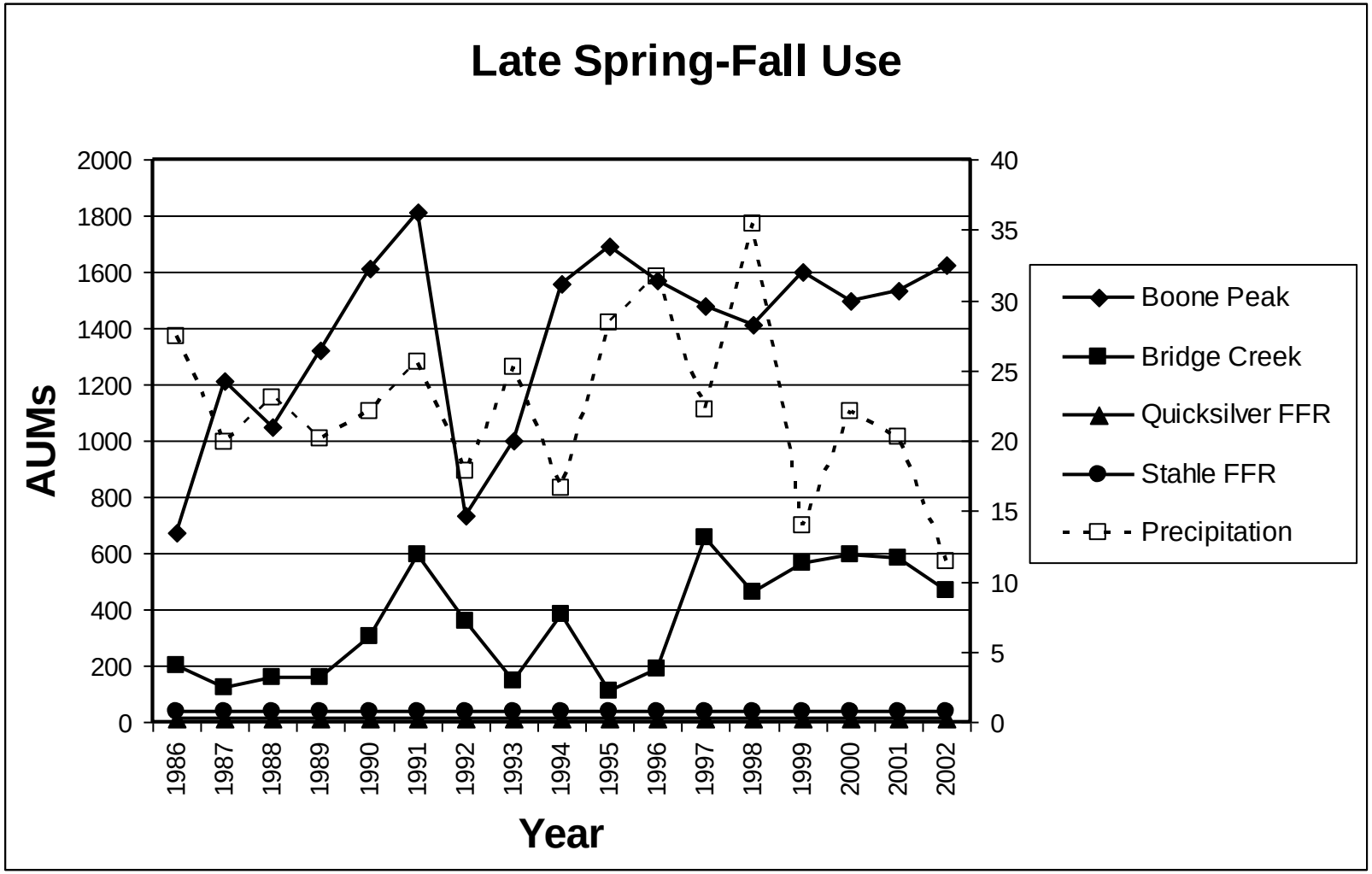
Actions	Management Action Limitations/Stipulations
Rights-of-Way (ROW)	Granting ROW within the area should be avoided, but ROW may be granted if there is minimal conflict with identified resource values and impacts can be mitigated.
Water Develop-ments: Spring, Pipeline, Wildlife, Reservoir	All new water developments are prohibited.
Livestock Manage-ment: Grazing	Domestic livestock grazing use (active preference) will not be increased within the area boundaries.
Livestock Manage-ment: Salting	Prohibited.
Fencing: Pasture, Exclosure	Allowed only where identified resource values will be enhanced or maintained and impacts can be mitigated.
Juniper Cutting or Burning	Prohibited.
Fire Management: Suppression	Mechanized, surface-disturbing equipment to be used only to protect life or property; vehicles restricted to existing roads.
Fire Management: Rehabilitation	Mechanized, surface-disturbing equipment is prohibited; only native species are to be used.
Minerals: Fluid or Mineral Materials	Closed.
Minerals: Locatable	Open.
Recreation: Use Level	Open.
Recreation: OHMV Use Level	Vehicles are limited to specific routes.



Appendix E. Actual Livestock Use and Use Periods, Pastures 1, 2, and 3 Red Mountain Allotment, Winter-Mid Spring Use Periods. Precipitation measured at Sinker Creek

Allotment	Red Mountain								
Pasture	1			2			3		
Year	AUMs	# LVST	Use Period	AUMs	# LVST	Use Period	AUMs	# LVST	Use Period
1986	302	367	3/29-4/22			REST	471	367	4/23-5/31
1987			REST	88	122	4/1-4/22	156	122	4/23-5/31
1988			REST			REST	586	445	5/1-5/31
1989	415	653	4/12 - 4/30	584	653	5/1 - 5/25			REST
1990			REST			REST	882	668	4/17 - 5/31
1991			REST			REST	1,025	800	4/23 - 5/31
1992			REST	453	292	4/10 - 6/3			REST
1993			REST			REST	229	194	4/26 - 5/31
1994			WINTER	214	450	4/1-4/22	430	450	4/23-5/31
1995			WINTER	174	435	4/1-4/15	810	495	4/16 - 6/15
1996			WINTER	136	276	4/1-4/21	538	374	4/22-5/30
1997			WINTER	327	450	4/1-4/15	568	450	4/16 - 5/31
1998				444	407	3/21-4/24	647	440	4/25 - 6/20
1999			WINTER	513	450	3/22-4/27	535	450	4/28 - 6/9
2000			REST	451	450	3/21-4/24	612	450	4/24 - 6/10
2001			WINTER	332	442	3/21-4/14	725	450	4/14 - 6/9
2002			REST	355	450	3/30-4/24	571	450	4/25 - 6/5
Avg	359			339			586		

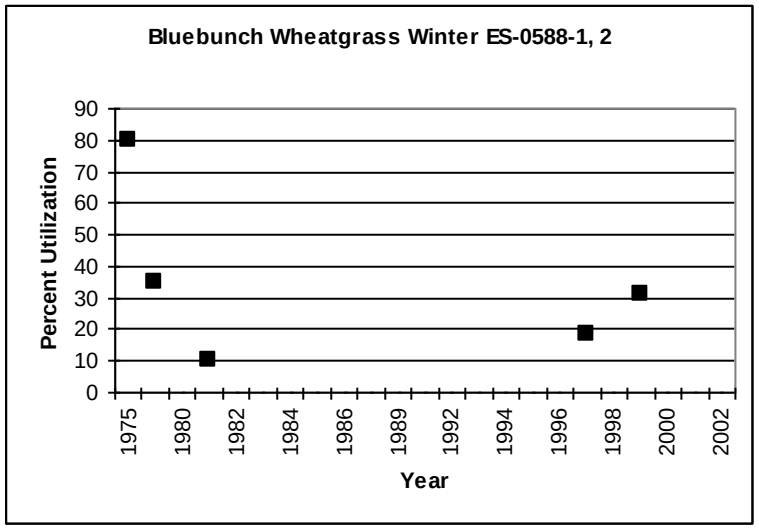
Appendix E (cont.). Actual Livestock Use and Use Periods, Pastures 1, 2, and 3 Red Mountain Allotment.

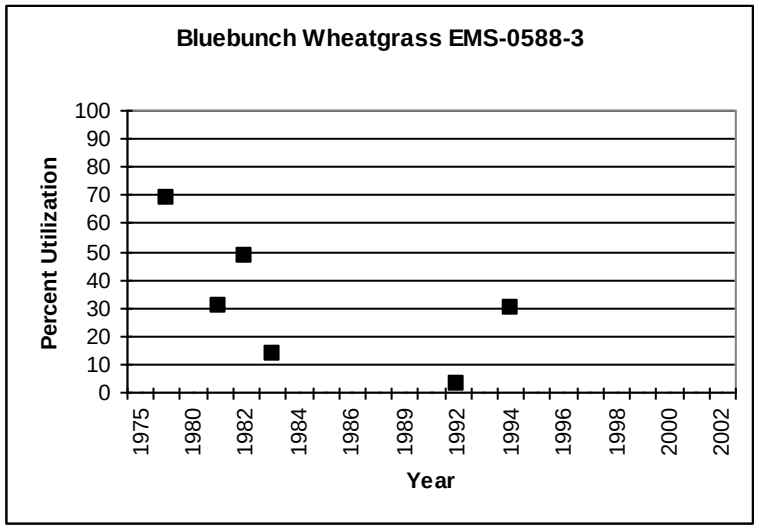


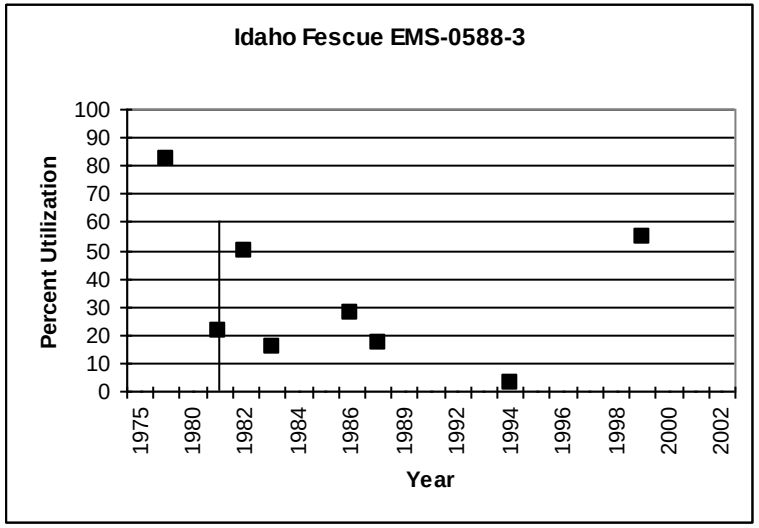
Appendix F. Actual Livestock Use and Use Periods, Boone Peak and Bridge Creek Allotments, Late Spring-Fall Use Periods; Licensed Use and Use Periods, Quicksilver FFR, and Stahle FFR Allotments; Precipitation measured at Silver City

Allotment	Boone Peak			Bridge Creek			Quicksilver FFR Pasture 1			Stahle FFR		
Year	AUMs	# LVST	Use Period	AUMs	# LVST	Use Period	AUMs	# LVST	Use Period	AUMs	# LVST	Use Period
1986	675	308	6/1-9/30	197	300	10/1-10/20	12	12	12/1-12/31	35	35	12/1-12/31
1987	1213	412	6/1-9/30	122	122	7/16-8/15	12	12	12/1-12/31	35	35	12/1-12/31
1988	1050	170	6/1-10/31	160	100	9/14-10/31	12	12	12/1-12/31	35	35	12/1-12/31
1989	1321	268	6/1-11/4	160	160	10/1-10/31	12	12	12/1-12/31	35	35	12/1-12/31
1990	1613	450	6/1-9/30	306	300	10/1-10/31	12	12	12/1-12/31	35	34	12/1-12/31
1991	1815	600	6/1-8/31	592	600	9/1-9/30	12	12	12/1-12/31	35	34	12/1-12/31
1992	732	325	5/28-10/10	357	325	8/28-10/13	12	12	12/1-12/31	35	34	12/1-12/31
1993	998	221	5/29-10/16	144	221	10/11-11/3	12	12	12/1-12/31	35	34	12/1-12/31
1994	1560	350	5/28-10/28	379	45	6/1-9/27	12	12	12/1-12/31	35	34	12/1-12/31
1995	1692	466	5/26-11/2	107	150	6/4-10/1	12	12	12/1-12/31	35	34	12/1-12/31
1996	1572	340	5/30-10/30	187	34	6/3-11/16	12	12	12/1-12/31	35	34	12/1-12/31
1997	1478	501	7/3-11/14	656	502	5/28-7/10	12	12	12/1-12/31	35	34	12/1-12/31
1998	1415	440	6/29-11/14	461	440	6/6-7/18	12	12	12/1-12/31	35	34	12/1-12/31
1999	1603	450	7/8-11/30	562	450	6/1-7/15	12	12	12/1-12/31	35	34	12/1-12/31
2000	1499	450	7/10-10/31	592	450	6/1-7/10	12	12	12/1-12/31	35	34	12/1-12/31
2001	1534	450	7/9-11/1	579	450	6/1-7/13	12	12	12/1-12/31	35	35	12/1-12/31
2002	1625	450	7/3-11/8	466	450	6/1-7/8	12	12	12/1-12/31	35	35	12/1-12/31
Avg	1376			355			12			35		

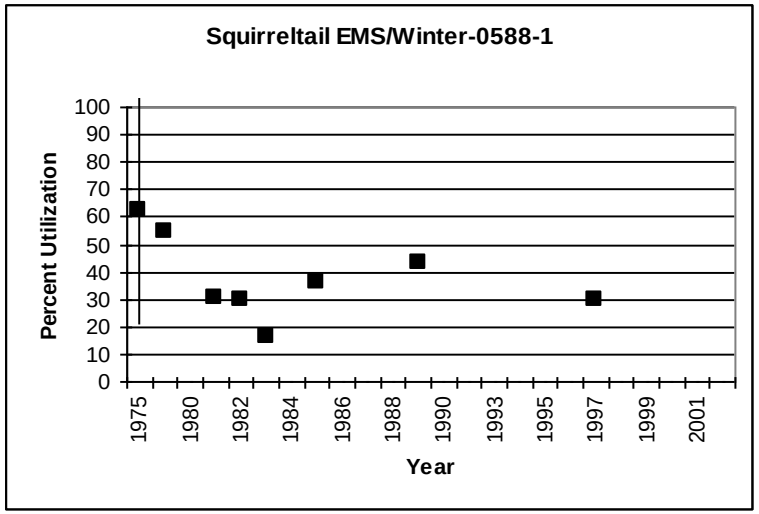
Appendix F (cont.). Actual Livestock Use and Use Periods, Boone Peak, Bridge Creek, Quicksilver FFR, and Stahle FFR Allotments, Late Spring-Fall Use Periods.

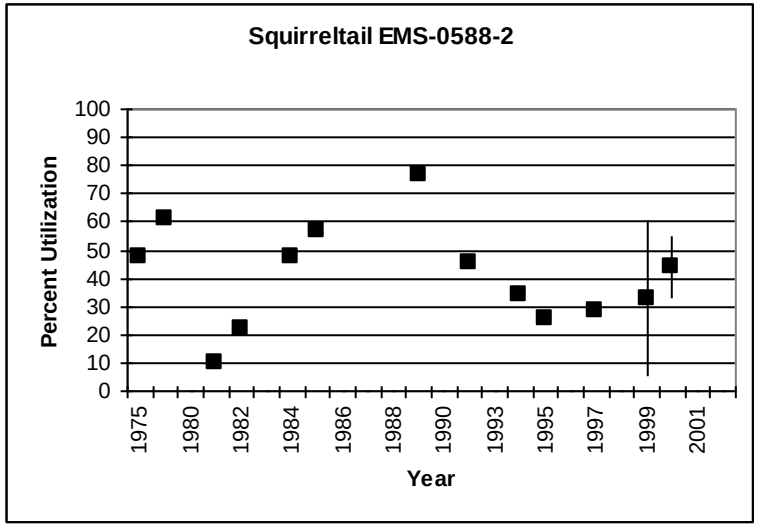


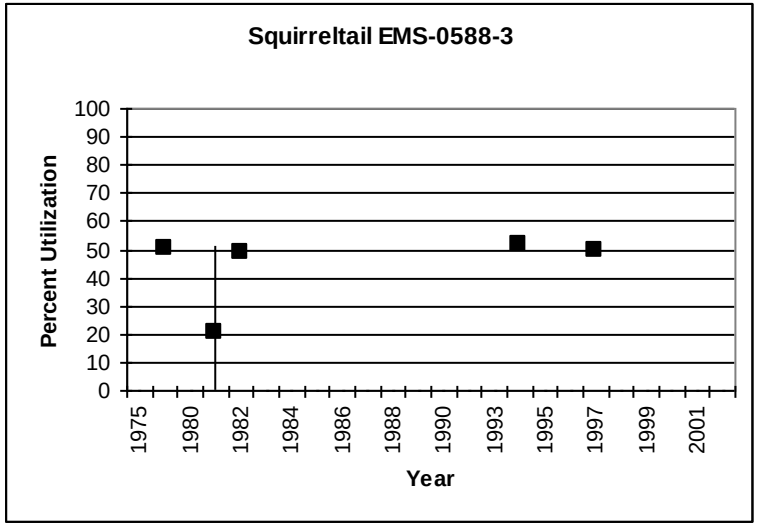




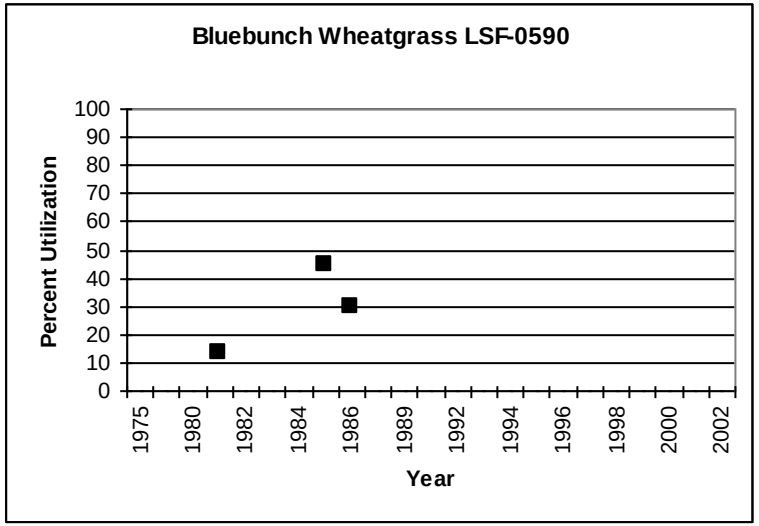
Appendix G. Utilization of Bluebunch Wheatgrass and Idaho Fescue, Winter-Mid Spring Use Areas, Red Mountain Allotment, 1976-2002

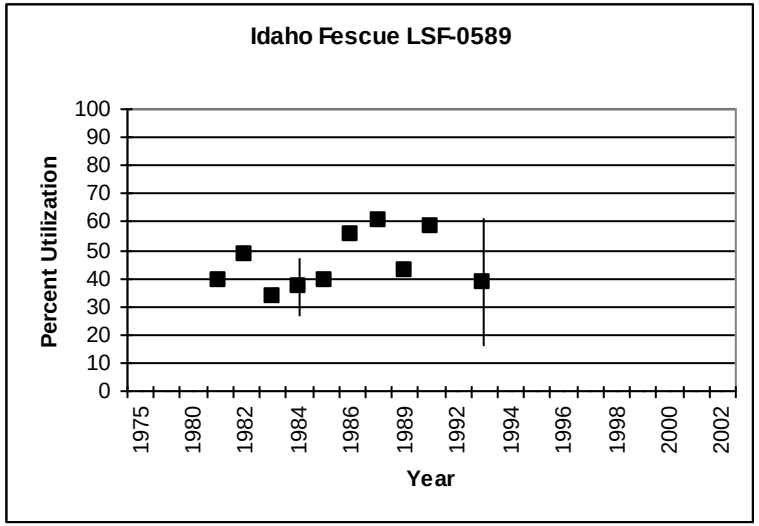

Squirreltail EMS/Winter-0588-1
Percent Utilization
100
90
80
70
60
50
40
30
20
10
0
1975
1980
1982
1984
1986
1988
1990
1993
1995
1997
1999
2001
Year

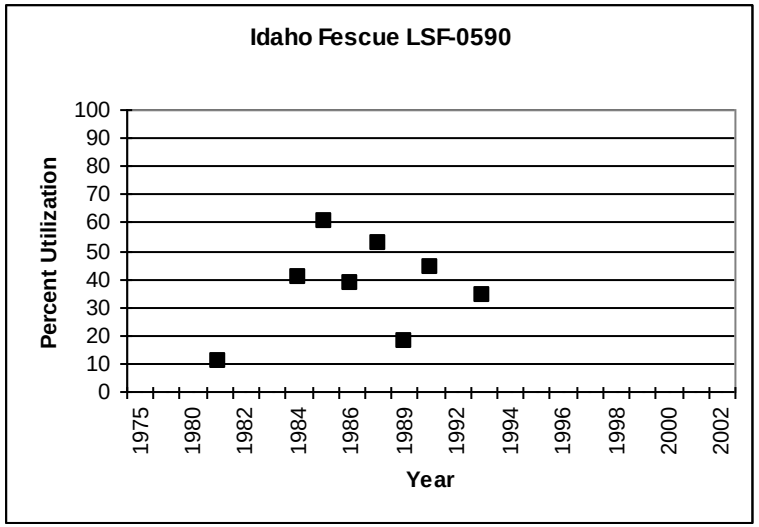

Squirreltail EMS-0588-2
Percent Utilization
100
90
80
70
60
50
40
30
20
10
0
1975
1980
1982
1984
1986
1988
1990
1993
1995
1997
1999
2001
Year

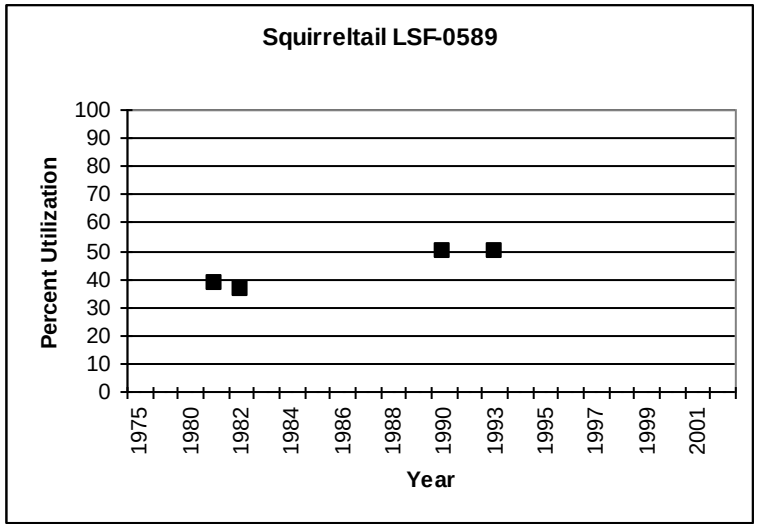

Squirreltail EMS-0588-3
Percent Utilization
100
90
80
70
60
50
40
30
20
10
0
1975
1980
1982
1984
1986
1988
1990
1993
1995
1997
1999
2001
Year

Appendix G (cont.). Utilization of Squirreltail, Winter-Mid Spring Use Areas, Red Mountain Allotment, 1976-2002









Appendix H. Utilization of Bluebunch Wheatgrass, Idaho Fescue, and Squirreltail, Late Spring-Fall Use Areas, Bridge Creek and Boone Peak Allotments, 1976-2002

Pasture		1			2		
Community		Shadscale	Wyoming big sagebrush		Wyoming big sagebrush		
Location		04S02W25	04S02W34	05S02W02A	05S02W02B	05S02W15	05S02W03
Ecological Site		Calcareous Loam 7-10	Loamy 8-10	Loamy 7-10	Loamy 10-13	Loamy 10-13”/ Shallow Claypan 11-13”	Loamy 8-10
Overall Rating		0	0	0-	0-	0-	0-
Indicator							
1. Rills	S,H	n-s	n-s	n-s	n-s	n-s	n-s
2. Water Flow Patterns	S,H	s-m	m-e	m	m	m	m
3. Pedestals/Terracettes	S,H	s-m	e	m-e-	m	m	m
4. Bare Ground	S,H	s-m	s-m	s-m+	s-m+	n-s+	n-s
5. Gullies	S,H	n-s	n-s	n-s	n-s	n-s	n-s
6. Wind Scoured, Blowouts and/or Depositions	S	n-s	n-s	n-s	n-s	n-s	n-s
7. Litter Movement	H	n-s	n-s	s-m-	s-m	n-s+	s-m
8. Soil Surface to Erosion	S,H,B	s-m	s-m	s-m+	m	s-m	s-m
9. Soil Surface Loss or Degradation	S,H,B	n-s+	m-e-	s-m+	s-m+	s-m	s-m+
10. Plant Community Comp. & Distribution Relative to Infiltration & Runoff	H	s-m	s-m	s-m+	s-m+	s-m	s-m+
11. Compaction Layer	S,H,B	n-s	n-s	n-s	n-s	n-s	n-s
12. Functional/Structural Groups	B	m-e	m-e	m	m	s-m+	s-m+
13. Plant Mortality/Decadence	B	m	m	m	s-m+	n-s	m
14. Litter Amount	H,B	s-m	s-m	m	s-m+	s-m	m
15. Annual Production	B	n-s	n-s	n-s	n-s	n-s	n-s
16. Invasive Plants	B	s-m	s-m	n-s	s-m	m	m
17. Reproductive Capability of Perennial Plants	B	n-s	n-s	n-s	n-s	n-s	s-m

Appendix I. Rangeland Health Evaluation Ratings, Winter and Early Spring Use Pastures, Red Mountain Allotment, 2002

(S = Soil/Site Stability Indicator, H = Hydrologic Function Indicator, B = Biotic Integrity Indicator; n-s = none-slight, s-m = slight-moderate, m = moderate, m-e = moderate-extreme, e = extreme)

Pasture		Red Mountain 3					Bridge Creek			Quicksilver FFR 2	Quicksilver FFR 3
Community		Low sagebrush					Mountain big sagebrush		Mountain big sagebrush (burned)	Basin big sagebrush	Mountain big sagebrush
Location		05S02W20	05S02W22	05S02W27	05S02W33	06S02W10	06S02W05	06S02W18	06S03W24	06S03W21	06S03W15
Ecological Site		Shallow Claypan 12-16	Shallow Claypan 11-13	Shallow Claypan 12-16”	Shallow Claypan 12-16”	Shallow Claypan 12-16”	Granitic 13-16	Granitic 13-16	Loamy 13-16	Loamy upland 12-16	Granitic 13-16
Overall Rating		+	0-	+	0-	+	-	-	-	+	0
Indicator											
1. Rills	S,H	n-s	n-s	n-s	n-s	n-s	n-s	n-s+	n-s	n-s	n-s
2. Water Flow Patterns	S,H	n-s	s-m	n-s	s-m	n-s	m	s-m+	n-s	n-s	s-m
3. Pedestals/Terracettes	S,H	n-s+	s-m+	n-s	s-m	n-s	s-m-	s-m	n-s	n-s	s-m-
4. Bare Ground	S,H	n-s	n-s	n-s	s-m	n-s	n-s	n-s	m-e	s-m	s-m+
5. Gullies	S,H	n-s	n-s	n-s	n-s	n-s	n-s	s-m	n-s	n-s	n-s+
6. Wind Scoured, Blowouts and/or Depositions	S	n-s	n-s	n-s	n-s	n-s	n-s	n-s	n-s	n-s	n-s
7. Litter Movement	H	n-s	n-s	n-s	n-s	n-s	n-s	n-s	n-s	n-s	n-s
8. Soil Surface to Erosion	S,H,B	n-s	s-m+	n-s	n-s+	n-s	n-s	s-m	m-e	n-s+	s-m
9. Soil Surface Loss or Degradation	S,H,B	n-s	s-m	n-s	n-s+	n-s	s-m-	s-m-	n-s	n-s	s-m-
10. Plant Community Comp. & Distribution Relative to Infiltration & Runoff	H	n-s+	s-m+	n-s	s-m-	n-s	m	m-e	m-e	n-s+	s-m
11. Compaction Layer	S,H,B	n-s	n-s	n-s	n-s	n-s	n-s	n-s	n-s	n-s	n-s
12. Functional/Structural Groups	B	n-s+	m-e-	n-s+	s-m	n-s+	s-m+	m	m	s-m-	s-m
13. Plant Mortality/Decadence	B	n-s	n-s	n-s	s-m+	n-s	s-m+	s-m+	s-m	n-s	n-s+
14. Litter Amount	H,B	n-s	n-s	n-s	n-s	s-m	m	m-	m-e	n-s	n-s
15. Annual Production	B	n-s	n-s	n-s	n-s	n-s	n-s	n-s	m	n-s	n-s
16. Invasive Plants	B	m	m	m	m	s-m	m-e	e	m	m-e	m
17. Reproductive Capability of Perennial Plants	B	n-s	n-s	n-s	n-s	s-m	s-m	s-m-	m	n-s	n-s

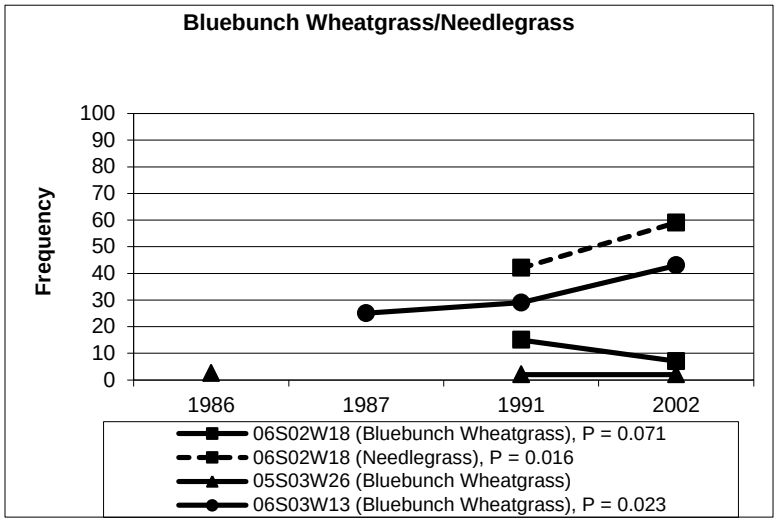
Appendix J. Rangeland Health Evaluation Ratings, Mid- and Late-Spring Use Pastures, Red Mountain, Bridge Creek and Quicksilver FFR Allotments, 2002

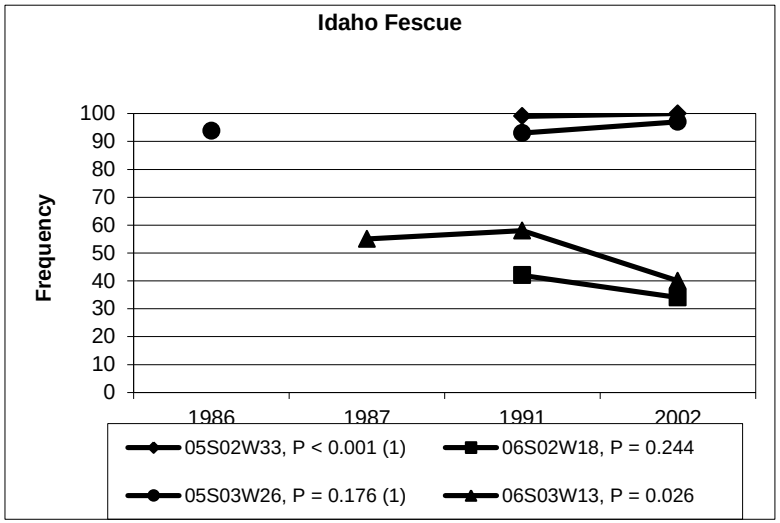
(S = Soil/Site Stability Indicator, H = Hydrologic Function Indicator, B = Biotic Integrity Indicator; n-s = none-slight, s-m = slight-moderate, m = moderate, m-e = moderate-extreme, e = extreme)

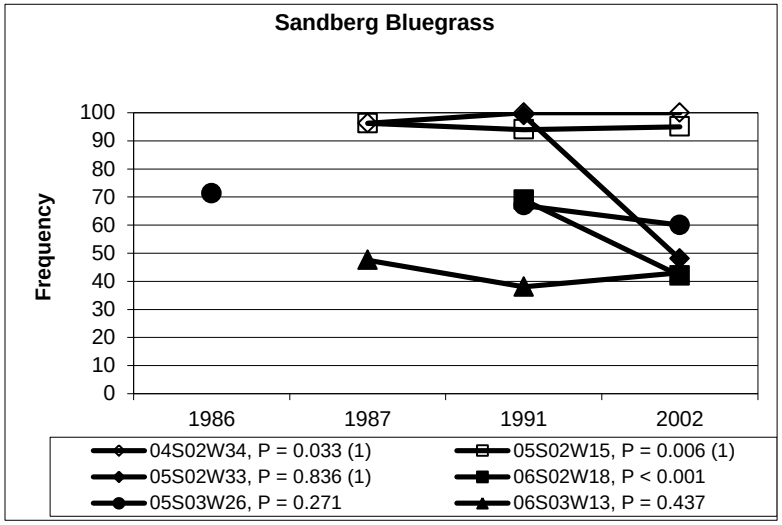
Pasture		Boone Peak 1							Quicksilver FFR 1	Stahle FFR
Community		Low sagebrush			Basin big sagebrush	Mountain big sagebrush	Mountain big sagebrush		Low sagebrush	Mountain big sagebrush
Location		05S03W13	05S03W26	06S02W05	05S02W17	06S03W02	06S03W12	06S03W15	05S02W20	05S02W28
Ecological Site		Shallow Stony Loam 16+	Shallow Stony Loam 16+	Shallow Claypan 11-13”	Loamy 12-16	Loamy 16+”/Mountain Shrub	Loamy 13-16	Loamy 13-16	Shallow Claypan 12-16”	Loamy 13-16
Overall Rating		+	0+	0+	(0-)	+	0-	0-	+	0-
Indicator										
1. Rills	S,H	n-s	n-s	n-s		n-s	n-s	n-s	n-s	n-s
2. Water Flow Patterns	S,H	s-m	n-s	s-m		n-s	s-m+	m	n-s+	n-s+
3. Pedestals/Terracettes	S,H	s-m	s-m-	s-m-		n-s	s-m	n-s	n-s+	n-s
4. Bare Ground	S,H	n-s	n-s	n-s		n-s	m	s-m	n-s	n-s
5. Gullies	S,H	n-s	n-s	n-s		n-s	n-s	n-s	n-s	n-s
6. Wind Scoured, Blowouts and/or Depositions	S	n-s	n-s	n-s		n-s	n-s	n-s	n-s	n-s
7. Litter Movement	H	n-s	n-s	n-s		n-s	n-s	n-s	n-s	n-s
8. Soil Surface to Erosion	S,H,B	n-s	n-s	n-s		n-s	s-m	n-s+	n-s	n-s
9. Soil Surface Loss or Degradation	S,H,B	n-s	n-s	n-s+		n-s	n-s+	n-s+	n-s	n-s
10. Plant Community Comp. & Distribution Relative to Infiltration & Runoff	H	n-s	s-m-	n-s+		n-s+	s-m	s-m	n-s	m
11. Compaction Layer	S,H,B	n-s	n-s	n-s		n-s	n-s	n-s	n-s	n-s
12. Functional/Structural Groups	B	n-s+	s-m-	n-s+		s-m+	s-m+	s-m	n-s+	m
13. Plant Mortality/Decadence	B	s-m	m-e	n-s		n-s	s-m	n-s+	n-s	s-m
14. Litter Amount	H,B	n-s	s-m-	n-s		n-s	s-m	n-s	n-s	m
15. Annual Production	B	n-s	n-s	n-s		n-s	s-m-	n-s	n-s	s-m
16. Invasive Plants	B	s-m	n-s	m		m-e	m-e-	m-e+	m	m-e
17. Reproductive Capability of Perennial Plants	B	n-s	n-s	n-s		n-s	n-s	m	n-s	n-s

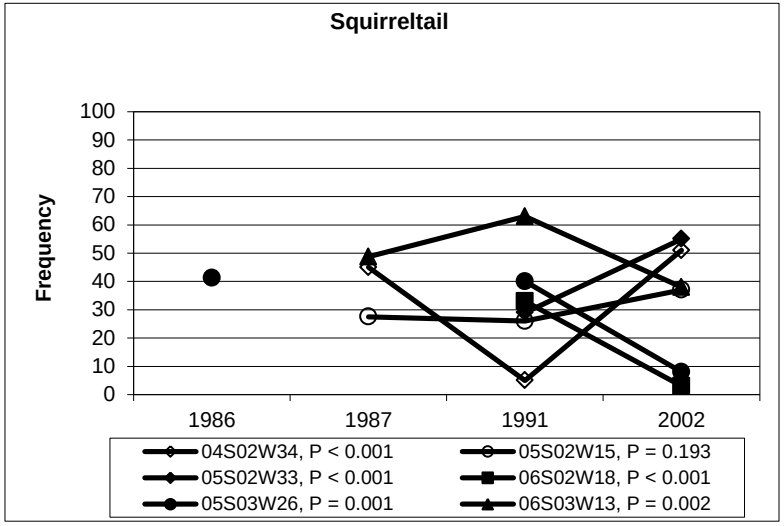
Appendix K. Rangeland Health Evaluation Ratings, Summer/Fall and Fall Use Pastures, Boone Peak, Quicksilver FFR, and Stahle FFR Allotments, 2002

(S = Soil/Site Stability Indicator, H = Hydrologic Function Indicator, B = Biotic Integrity Indicator; n-s = none-slight, s-m = slight-moderate, m = moderate, m-e = moderate-extreme, e = extreme)

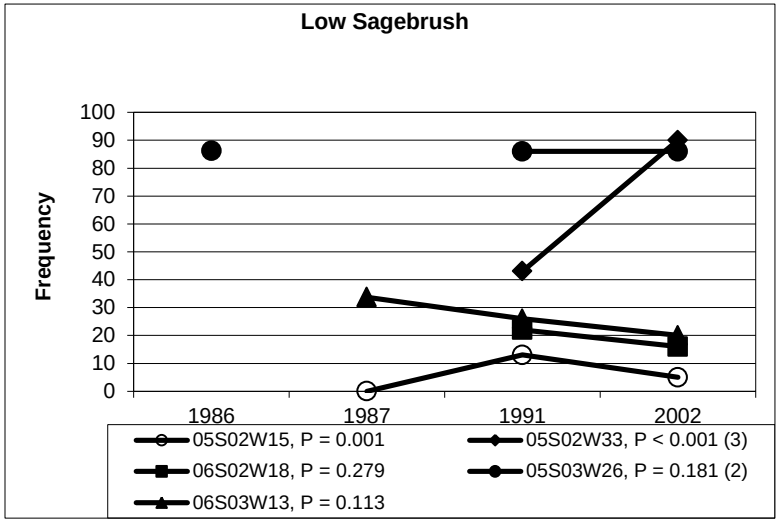


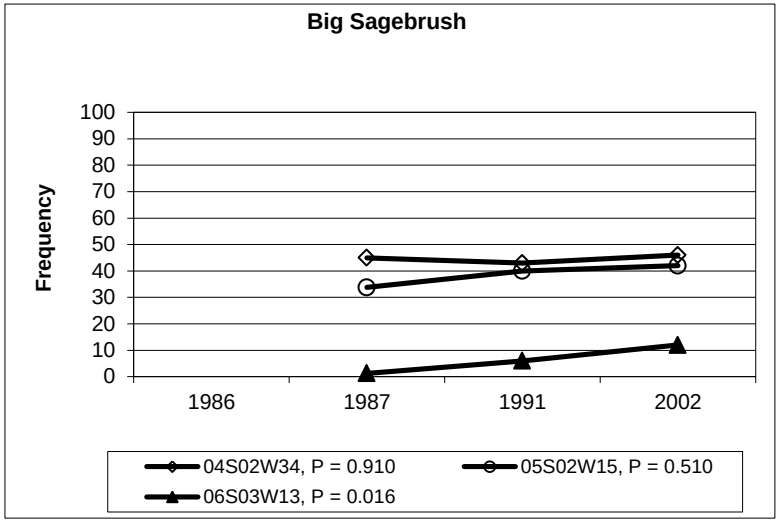


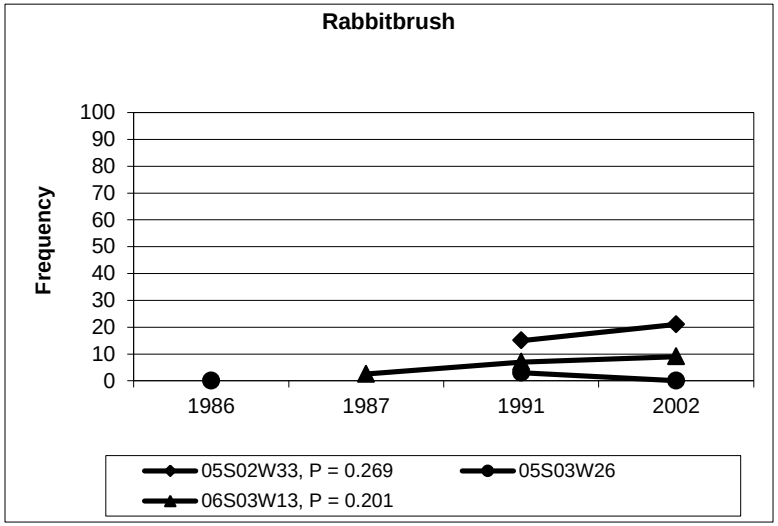


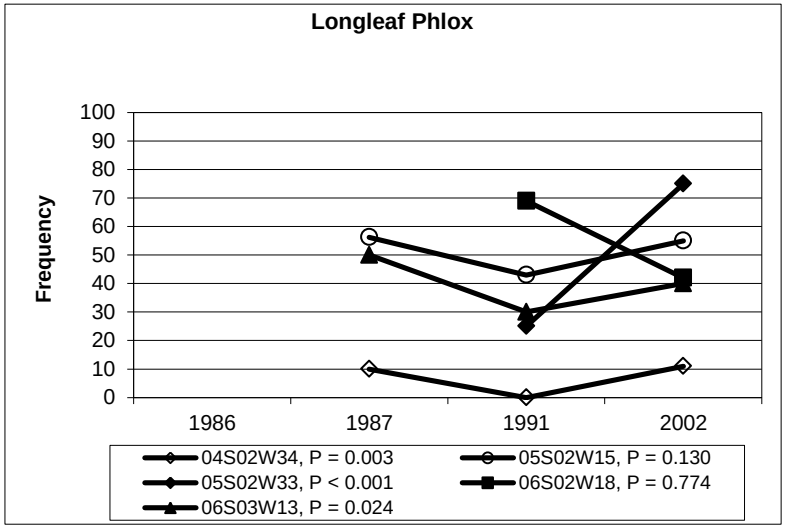


Appendix L. Frequencies of perennial grasses, Nested Plot Frequency Transects, Boone Peak Core Area, 1984-2001









Appendix M. Frequencies of shrubs and forbs, Nested Plot Frequency Transects, Boone Peak Core Area, 1984-2001

Appendix N. Functioning Condition Indicators (Standard 2) and Rating by Stream Segment

(Y=yes, N=no, Y/N=both), Boone Peak Core Area, 2001

Season of Use	Winter		Early-Spring		
Allotment	Red Mountain		Red Mountain		
Pasture	1		2		
BLM Stream Segment	Bates Cr. 001	Bates Cr. 002	Pickett Cr.002	Pickett Cr 003	Pickett Cr 004
Riparian/Wetland Indicators:					
Diverse age class/structure of hydric vegetation (6)	Y/N	Y/N	Y/N	Y	Y
Diverse composition of hydric vegetation (7)	Y/N	Y/N	Y/N	Y	Y
Vegetation reflects maintenance of soil moisture (8)	Y/N	Y/N	Y/N	Y/N	Y/N
Plant community comprised of bank stabilizing species (9)	Y/N	Y/N	N	Y/N	Y/N
Hydric vegetation exhibits high vigor (10)	Y	Y	Y/N	Y/N	Y
Adequate hydric vegetation cover to protect banks and dissipate energy (11)	Y/N	Y/N	N	Y/N	Y/N
Adequate large woody material (12)	Y	Y/N	Y/N	Y	Y
Point bars revegetating with hydric species (14)	Y/N	Y/N	N	N	N
Noxious weeds are not increasing	N	N	Y	N	N
Functioning condition*	FAR	FAR	FAR	FAR	FAR
Stream miles	1.18	1.17	0.88	1.17	1.49
Riparian acres	1.7	2.8	3.2	4.3	7.2

( ) - item # on functioning condition form

* PFC- proper functioning condition, FAR- functioning at risk, NF- non-functioning. Proper Functioning Condition is an overall rating applied to the reach, which considers indicators from both Standard 2 and Standard 3.

Appendix N (cont.). Functioning Condition Indicators (Standard 2) and Rating by Stream Segment (Y=yes, N=no, Y/N=both), Boone Peak Core Area, 2001.

Season of Use	Mid Spring				Late Spring		
Allotment	Red Mountain				Bridge Creek		Quicksilver FFR
Pasture	3				1		2
BLM Stream Segment	Hart 005	Hart 006	Browns 012	Pickett 005	Bridge 003	Bridge 004	North Boulder 005
Riparian/Wetland Indicators:							
Diverse age class/structure of hydric vegetation (6)	Y	Y	Y	Y	N	Y/N	Y/N
Diverse composition of hydric vegetation (7)	Y	Y	Y/N	Y	N	Y/N	N
Vegetation reflects maintenance of soil moisture (8)	Y/N	Y	N	Y/N	N	Y/N	Y/N
Plant community comprised of bank stabilizing species (9)	Y	Y	Y/N	Y	N	Y/N	Y/N
Hydric vegetation exhibits high vigor (10)	Y	Y/N	Y/N	Y	N	Y/N	Y/N
Adequate hydric vegetation cover to protect banks and dissipate energy (11)	Y	Y/N	Y/N	Y/N	N	Y/N	Y/N
Adequate large woody material (12)	Y	Y	N	Y	N	Y/N	Y
Point bars revegetating with hydric species (14)	Y	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
Noxious weeds are not increasing	Y	Y	Y	Y	Y	Y	N
Functioning condition*	FAR	FAR	FAR	FAR	FAR	FAR	FAR
Stream miles	1.1	1.23	1.74	0.99	0.77	0.86	0.15
Riparian acres	3.3	2.7	3.4	3.6	1.9	2.6	0.7

( ) - item # on functioning condition form
* PFC- proper functioning condition, FAR- functioning at risk, NF- non-functioning. Proper Functioning Condition is an overall rating applied to the reach, which considers indicators from both Standard 2 and Standard 3.

Appendix N (cont.). Functioning Condition Indicators (Standard 2) and Rating by Stream Segment (Y=yes, N=no, Y/N=both), Boone Peak Core Area, 2001.

Season of Use	Summer/Fall		
Allotment	Boone Peak		
Pasture	1		
BLM Stream Segment	Bridge 005	North Fork Boulder 006	Picket 006
Riparian/Wetland Indicators:			
Diverse age class/structure of hydric vegetation (6)	Y/N	Y/N	Y
Diverse composition of hydric vegetation (7)	Y/N	Y/N	Y
Vegetation reflects maintenance of soil moisture (8)	Y/N	Y	Y/N
Plant community comprised of bank stabilizing species (9)	Y/N	Y/N	Y
Hydric vegetation exhibits high vigor (10)	Y/N	Y/N	Y
Adequate hydric vegetation cover to protect banks and dissipate energy (11)	Y/N	Y/N	Y
Adequate large woody material (12)	Y/N	Y	Y
Point bars revegetating with hydric species (14)	Y/N	Y/N	Y/N
Noxious weeds are not increasing	Y	Y	Y
Functioning condition*	FAR	FAR	FAR
Stream miles	1.11	.6	1.49
Riparian acres	5.4	1.8	6.3

( ) - item # on functioning condition form
* PFC- proper functioning condition, FAR- functioning at risk, NF- non-functioning. Proper Functioning Condition is an overall rating applied to the reach, which considers indicators from both Standard 2 and Standard 3.

Appendix O. Functioning Condition Indicators (Standard 3) and Rating by Stream Segment

(Y=yes, N=no, Y/N=both), Boone Peak Core Area, 2001

Season of Use	Winter		Early-Spring		
Allotment	Red Mountain		Red Mountain		
Pasture	1		2		
BLM Stream Segment	Bates Cr. 001	Bates Cr. 002	Pickett Cr.002	Pickett Cr 003	Pickett Cr 004
Riparian/Wetland Indicators:					
Floodplain inundated frequently (1)	Y/N	Y/N	Y/N	Y/N	Y
Beaver dams are active and stable (2)	N	N	N	N	N
Sinuosity, w/d ratio, gradient in balance with landscape setting (3)	Y/N	Y/N	Y/N	N	Y/N
Riparian area is widening or has achieved potential extent (4)	Y/N	Y/N	Y/N	Y/N	Y/N
Upland watershed not contributing to riparian degradation (5)	Y/N	Y	Y/N	Y/N	Y/N
Floodplain and channel characteristics dissipate energy (13)	Y	Y	Y/N	Y	Y/N
Lateral stream movement associated with natural sinuosity (15)	Y/N	Y	Y/N	Y	Y
System is vertically stable (16)	Y	Y	Y	Y/N	Y
No excessive erosion or deposition (17)	Y/N	Y	Y	Y	Y
Functioning condition*	FAR	FAR	FAR	FAR	FAR
Stream miles	1.18	1.17	.88	1.17	1.49
Riparian acres	1.7	2.8	3.2	4.3	7.2

( ) - item # on functioning condition form
* PFC- proper functioning condition, FAR- functioning at risk, NF- non-functioning. Proper Functioning Condition is an overall rating applied to the reach, which considers indicators from both Standard 2 and Standard 3.

Appendix O (cont.). Functioning Condition Indicators (Standard 3) and Rating by Stream Segment (Y=yes, N=no, Y/N=both), Boone Peak Core Area, 2001.

Season of Use	Mid Spring				Late Spring		
Allotment	Red Mountain				Bridge Creek		Quicksilver FFR
Pasture	3				1		2
BLM Stream Segment	Hart 005	Hart 006	Browns 012	Pickett 005	Bridge 003	Bridge 004	North Boulder 005
Riparian/Wetland Indicators:							
Diverse age class/structure of hydric vegetation (6)	Y	Y	Y/N	Y/N	Y	Y	Y/N
Diverse composition of hydric vegetation (7)	N	N	N	N	N	N	N
Vegetation reflects maintenance of soil moisture (8)	Y	Y/N	Y/N	Y/N	N	Y/N	Y/N
Plant community comprised of bank stabilizing species (9)	Y	Y/N	Y/N	Y/N	N	Y/N	Y/N
Hydric vegetation exhibits high vigor (10)	Y	Y/N	Y/N	Y/N	Y/N	Y/N	Y
Adequate hydric vegetation cover to protect banks and dissipate energy (11)	Y	Y	Y/N	Y/N	N	Y	Y/N
Adequate large woody material (12)	Y	Y	Y	Y	Y/N	Y/N	Y/N
Point bars revegetating with hydric species (14)	Y	Y	Y	Y	Y	Y	Y
Noxious weeds are not increasing	Y	Y	Y	Y	Y/N	Y/N	Y
Functioning condition*	FAR	FAR	FAR	FAR	FAR	FAR	FAR
Stream miles	1.1	1.23	1.74	0.99	0.77	0.86	0.15
Riparian acres	3.3	2.7	3.4	3.6	1.9	2.6	0.7

( ) - item # on functioning condition form
* PFC- proper functioning condition, FAR- functioning at risk, NF- non-functioning. Proper Functioning Condition is an overall rating applied to the reach, which considers indicators from both Standard 2 and Standard 3.

Appendix O (cont.). Functioning Condition Indicators (Standard 3) and Rating by Stream Segment (Y=yes, N=no, Y/N=both), Boone Peak Core Area, 2001.

Season of Use	Summer/Fall		
Allotment	Boone Peak		
Pasture	1		
BLM Stream Segment	Bridge 005	North Fork Boulder 006	Picket 006
Riparian/Wetland Indicators:			
Diverse age class/structure of hydric vegetation (6)	Y	Y/N	Y/N
Diverse composition of hydric vegetation (7)	N	N	N
Vegetation reflects maintenance of soil moisture (8)	Y/N	Y/N	Y/N
Plant community comprised of bank stabilizing species (9)	Y/N	Y	Y
Hydric vegetation exhibits high vigor (10)	Y/N	Y	Y/N
Adequate hydric vegetation cover to protect banks and dissipate energy (11)	Y/N	Y	Y
Adequate large woody material (12)	Y/N	Y	Y/N
Point bars revegetating with hydric species (14)	Y	Y	Y
Noxious weeds are not increasing	Y/N	Y	Y/N
Functioning condition*	FAR	FAR	FAR
Stream miles	1.11	.6	1.49
Riparian acres	5.4	1.8	6.3

( ) - item # on functioning condition form
* PFC- proper functioning condition, FAR- functioning at risk, NF- non-functioning. Proper Functioning Condition is an overall rating applied to the reach, which considers indicators from both Standard 2 and Standard 3.

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DETERMINATION BOONE PEAK

Achieving Standards for Rangeland Health and Conforming with Guidelines for Livestock Grazing Management

Resource Area: **Owyhee** Watershed Name/Number**: Mid-Snake River/Succor Creek, Jordan Creek (17050103, 17050108)**

Grazing Allotment Name/Number: **Boone Peak (0589)**

Public Land (acres): **9,481**

Streams on Public Land (miles): **4**

Date(s) of Assessment: **April 18, 2003**

Name of Permittee(s): **Elmer Stahle**

Assessment Participants (Name & Discipline or Interest):

Mike Boltz - Rangeland Management Specialist

Valerie Geertson - Botanist

Steve Leonard – Riparian Specialist

Matt McCoy - Ecologist

Paul Seronko - Soils

Helen Ulmschneider- Wildlife Management Biologist

Standard 1 (Watersheds)

Watersheds provide for the proper infiltration, retention, and release of water appropriate to soil type, vegetation, climate, and landform to provide for proper nutrient cycling, hydrologic cycling and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

■ Meeting the Standard

☐ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

■ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s). 1, 3, 4, 8

Rationale/Information Sources:

There are areas in this allotment where this standard is not being fully met (particularly the more accessible loamy sites) and other areas where this standard is being met (these are primarily on the Shallow-Claypan sites). Current grazing practices do not appear to be a significant factor in the areas of this pasture that are not meeting the standard. The permit allows use as early as June 1 and until 1997 the allotment was used in May and June, coinciding with the critical growth period for grasses. Since 1999, use has occurred after the critical growth period. It is evident that this pasture has suffered from historic grazing practices that have not healed in general (although many areas have stabilized under current management). This is reflected in the vegetative community (imbalance of increaser to decreaser grass species, high shrub densities, low occurrence of biologic soil crusts, juniper encroachment, and interspatial areas devoid of vegetation) and the amount and degree of surface erosional features present (particularly the water flow paths and the associated pedestalled bunchgrass plants).

Standard 2 (Riparian Areas and Wetlands)

Riparian-wetland areas are in properly functioning condition appropriate to soil type, climate, geology, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

☐ Meeting the Standard

■ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

■ Not Meeting the Standard, but Making Significant Progress towards

■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

■ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s). 4, 5

Rationale/Information Sources:

The standard is not being met on lower gradient portions of streams, mainly at the upper ends. Historic and current grazing-caused changes in riparian plant composition are limiting the ability of riparian habitats to recover and rejuvenate. Livestock use of riparian plants has been high on some portions of the streams. Streams not meeting the standard are functioning at risk and are dominated by early seral, shallow rooted species, such as Kentucky bluegrass and red top. Bridge Creek has a slight upward trend in condition, North Boulder Creek has an upward trend in condition, and Picket Creek has a static trend in condition. Age class and structure of the hydric vegetation are poor, and small proportions of streambanks are vegetated with young willows and other riparian shrubs. Low gradient portions of stream channels have inadequate riparian-wetland vegetation present to protect streambanks and dissipate energy during high flows.

Wetland/riparian areas at eight springs located in the allotment did not meet the standard, and wetland/riparian areas at three springs did meet the standard. Riparian/wetland areas had elevated levels of bare ground (10-15%), and riparian/wetland vegetation received moderate to high levels of use by livestock.

Cattle are removed from this allotment too late in the year to allow riparian/wetland species sufficient time to re-grow to achieve and maintain healthy properly functioning conditions, and therefore grazing practices do not conform with Guideline #4. Additionally, the heavy utilization of riparian plants by livestock does not provide sufficient residual vegetation to improve, restore or maintain healthy riparian/wetland functions, and therefore grazing practices do not conform with Guideline #5.

Standard 3 (Stream Channel/Floodplain)

Stream channels and floodplains are properly functioning relative to the geomorphology (e.g., gradient, size shape, roughness, confinement, and sinuosity) and climate to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

☐ Meeting the Standard

■ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

■ Not Meeting the Standard, but Making Significant Progress towards

■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

■ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).____7

Rationale/Information Sources:

Low gradient portions of stream channels (4 miles), mainly at the upper ends, are functioning at risk and not meeting the standard. Riparian plant communities lack the vegetative cover and bank stabilizing species necessary for maintenance of stable channels and floodplains. Many channels and floodplains in these pastures are dependent on riparian vegetation for stability as they contain small amounts of rock.

Because this allotment is grazed during the hot season (July through September), livestock tend to forage near the stream, eliminating the hydric species that promote bank stability. Some segments are incised, laterally active and exhibit little floodplain development. Some are overly wide, shallow and lack sufficient sinuosity. Stream substrates are commonly gravels and other fine materials and when combined with the lack of stabilizing vegetation, streambanks and channels erode. Cattle congregating along the narrow streams cause streambank alteration, which in turn tends to increase stream width and decrease depth. This exposes more water to solar radiation, thus increasing water temperature in the summer and contributing to freezing in the winter. In addition to altering the water temperature, the water tables are lowered in many streams, resulting in greater fluctuations of water flows with lower flows in the summer and greater flows in the spring. There is excessive erosion and deposition on some streams.

The grazing management practices do not promote progress toward appropriate stream channel and streambank morphology and functions, therefore grazing practices do not conform with Guideline #7.

Standard 4 (Native Plant Communities)

Healthy, productive, and diverse native animal habitat and populations of native plants are maintained or promoted as appropriate to soil type, climate, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Check those that apply: [*One or more boxes must be checked.*] □ Standard doesn't apply

■ Meeting the Standard

□ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

□ Not Meeting the Standard, but Making Significant Progress towards

■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

□ Conforms with Guidelines for Livestock Grazing Management

■ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s). 4, 9, 12

Rationale/Information Sources:

The standard is being met in low sagebrush communities. Frequencies of perennial grasses are generally at acceptable levels and trend is static.

The standard is not being met in big sagebrush communities. Livestock grazing practices allowable under the permit and juniper encroachment are factors in these areas. Occurrence of decreaser grasses, especially in shrub interspaces, is less than expected. Occurrence of shrub, especially sagebrush, is greater than expected.

The permit allows use as early as June 1 and until 1997 the allotment was used in May and June, coinciding with the critical growth period for grasses. Since 1999, use has occurred after the critical growth period.

It is unknown if this standard is being met for plant communities in Cinnabar Mountain ACEC.

Standard 5 (Seedings)

Rangelands seeded with mixtures, including predominately non-native plants, are functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle.

Check those that apply: [*One or more boxes must be checked.*] ■ Standard doesn't apply

□ Meeting the Standard
□ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

□ Not Meeting the Standard, but Making Significant Progress towards
□ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

□ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

Standard 5 does not apply to this allotment.

Standard 6 (Exotic Plant Communities, Other than Seedings)

Exotic plant communities, other than seedings, will meet minimum requirements of soil stability and maintenance of existing native and seeded plants. These communities will be rehabilitated to perennial communities when feasible cost effective methods are developed.

Check those that apply: [*One or more boxes must be checked.*] ■ Standard doesn't apply

□ Meeting the Standard
□ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

□ Not Meeting the Standard, but Making Significant Progress towards
□ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

□ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

Standard 6 does not apply to this allotment.

Standard 7 (Water Quality)

Surface and ground water on public lands comply with the Idaho Water Quality Standards.

Check those that apply: [*One or more boxes must be checked.*] □ Standard doesn't apply

■ Meeting the Standard
□ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

■ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).___10

Rationale/Information Sources:

Monitoring of water temperatures in the Boone Peak Allotment indicated that two (Picket Creek and lower Bridge Creek) out of three sites met the State of Idaho criteria for the support of cold-water beneficial use. Pickett Creek, from its headwaters to its mouth, is on the 1998 Idaho DEQ 303(d) list of water quality impaired streams for flow alteration, sediment load and water temperature. Beneficial uses on Pickett and Bridge creeks include cold-water biota, salmonid spawning, secondary contact recreation, agricultural water supply, wildlife habitat and aesthetics. No bacteria samples were collected from the streams within the Boone Peak Allotment.

Current livestock grazing is the primary factor for not meeting the standard. Streambank alteration by livestock (trampling, pugging, shearing, soil compaction) results in bank and channel erosion that increases stream width and decreases depth, thereby exposing more water to solar radiation, increasing stream temperatures, and increasing sediment. Historic dredging is also a factor in not meeting the standard.

No bacterial sampling was conducted to evaluate compliance with State criteria for support of the primary and secondary contact recreation beneficial uses.

Stream temperatures are not meeting State of Idaho criteria for the support of cold-water aquatic life; therefore, grazing management practices do not conform with Guideline #10.

Standard 8 (Threatened and Endangered Plants and Animals)

Habitats are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

■ Meeting the Standard

■ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

☐ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

☐ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).___5____

Rationale/Information Sources:

This standard is not being met in the lower gradient riparian areas, which are functioning at risk. Bridge Creek has a slight upward trend in condition, North Boulder Creek has an upward trend in condition, and Picket Creek has a static trend in condition. Season-long grazing is the key

factor in the condition of these riparian systems. The major areas of concern are the headwater springs and aspen and willow riparian below them. The steep gradient streams under conifer canopies are not as important to wildlife.

For sage grouse, the standard is being met for late-brood rearing habitat and wintering habitat. Sage grouse use this allotment during summer, fall, and winter, and appear to come from leks on the Owyhee front. Counts at the lek associated with this country (from radio-telemetry data collected by Idaho Department of Fish and Game) have remained in the same range since the 1970's, varying from about 20 to 40 birds, with 48 birds in 2002.

It is unknown if this standard is being met for special status plants known to occur on BLM land in this allotment (*Astragalus conjunctus, Haplopappus bloomeri* var. *bloomeri*). The information that is available is out of date and insufficient to make a determination.

Determination:

I have determined that Standards 1, 2, 3, 4, 7, and 8 of the applicable Standards for Rangeland Health are not being met in the Boone Peak Allotment. Current livestock grazing management practices are significant factors in not meeting Standards 2, 3, 7, and 8. Livestock management practices do not conform with all applicable Guidelines for Livestock Grazing Management Guidelines 1, 3, 4, 5, 7, 8, 9, 10, and 12 for several Standards.

(s) Jenna Whitlock 7/7/2003
Field Manager Date

DETERMINATION RED MOUNTAIN

Achieving Standards for Rangeland Health and Conforming with Guidelines for Livestock Grazing Management

Resource Area: **Owyhee** Watershed Name/Number**:** **Mid Snake River-Succor Creek (17050103)**

Grazing Allotment Name/Number: **Red Mountain (0588)**

Public Land (acres): **14,483**

Streams on Public Land (miles): **11**

Date(s) of Assessment: **April 11, 2003**

Name of Permittee(s): **Elmer Stahle**

John Edwards (leased to Elmer Stahle)

Assessment Participants (Name & Discipline or Interest):

Mike Boltz - Rangeland Management Specialist

Valerie Geertson - Botanist

Steve Leonard – Riparian Specialist

Matt McCoy - Ecologist

Paul Seronko - Soils

Helen Ulmschneider- Wildlife Management Biologist

Standard 1 (Watersheds)

Watersheds provide for the proper infiltration, retention, and release of water appropriate to soil type, vegetation, climate, and landform to provide for proper nutrient cycling, hydrologic cycling and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

■ Meeting the Standard

☐ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

■ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s). 4

Rationale/Information Sources:

In pasture 1, the standard is not fully being met in most places. Current grazing practices are not a significant factor in why the pasture is not currently meeting the standard. These low elevation sites have suffered from historic grazing practices that have not healed properly in general. This is reflected in the vegetative community (dominated by increaser grass species, high shrub densities, and interspatial areas devoid of vegetation) and the amount and degree of surface erosional features present (particularly the water flow paths and the associated pedestalled bunchgrass plants with slope terracettes).

In pasture 2, the standard is not being fully met. Current grazing practices do not appear to be a significant factor in the areas of this pasture that are not meeting the standard but could influence the rate of further improvement. It is evident that pasture 2 has suffered from historic grazing practices that have not healed properly in general. This is reflected in the vegetative community (dominated by increaser grass species, high shrub densities, low amounts of biologic soil crusts, and interspatial areas devoid of vegetation) and the amount and degree of surface erosional features present (particularly the water flow paths and the associated pedastalled bunchgrass plants). Soil loss in the interspatial areas is also very evident and has lowered site productivity in places.

Pasture 3 has areas where this standard is not being fully met but for the most part is meeting this standard. Current livestock grazing occurs during the critical growth period every year and does not allow for rest. However, most of the pasture is steep and receives limited use. Many of the indicators that are not meeting the standard (water flow paths, pedastalled bunchgrass, and vegetative imbalances) are more closely tied to historic grazing practices that have not healed properly.

Standard 2 (Riparian Areas and Wetlands)

Riparian-wetland areas are in properly functioning condition appropriate to soil type, climate, geology, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

☐ Meeting the Standard

☐ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

■ Not Meeting the Standard, but Making Significant Progress towards

■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

☐ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

This standard is not being met on 11 miles of stream. Most streams not meeting the standard are functioning at risk with an upward trend. In pasture 3, Browns Creek has a static trend. Current livestock grazing management practices are not significant factors in stream segments not meeting the standard. Stream segments that are currently functioning at risk are generally in poor condition due to past impacts (i.e. loss of stable beaver dams, previous high levels of livestock use, or sediment delivery from upstream segments in poor condition). Seasons of grazing use and current levels of livestock use of riparian plants on streams in these pastures are generally conducive to habitat improvement. There is moderate to heavy browse on shrubs by wintering ungulates, but the trend in condition is upward on all streams in the allotment and current grazing management is conducive to continued habitat improvement.

Standard 3 (Stream Channel/Floodplain)

Stream channels and floodplains are properly functioning relative to the geomorphology (e.g., gradient, size shape, roughness, confinement, and sinuosity) and climate to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

☐ Meeting the Standard

☐ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

■ Not Meeting the Standard, but Making Significant Progress towards

■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

☐ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

This standard is not being met on 11 miles of stream. Most streams not meeting the standard are functioning at risk with upward trend. In pasture 3, Browns Creek has a static trend. Current livestock grazing management practices are not significant factors in stream segments not

meeting the standard. Stream segments that are currently functioning at risk are generally in poor condition due to past impacts (i.e. loss of stable beaver dams, previous high levels of livestock use, or sediment delivery from upstream segments in poor condition). Current livestock management is for the most part conducive to maintaining/improving stream channel conditions. Most segments that are in functioning at risk condition are degraded due to past impacts to channel shape and form.

Standard 4 (Native Plant Communities)

Healthy, productive, and diverse native animal habitat and populations of native plants are maintained or promoted as appropriate to soil type, climate, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

■ Meeting the Standard

☐ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

■ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s). 4

Rationale/Information Sources:

The standard is not being met in pastures 1 and 2; however, current livestock grazing management practices are generally not significant factors. Grazing generally occurs outside the critical growth period for perennial grasses in pastures 1 (primarily during the dormant period) and 2. The standard is not being met because of the lack of decreaser grasses, primarily the result of historic grazing practices. Increaser grasses dominate the understory. The current static trends are acceptable because of the high frequencies of Sandberg bluegrass. In pasture 1, there has been a substantial increase in squirreltail since 1991 under the current practice of winter use and voluntary non-use.

The standard is being met in pasture 3; however, currently livestock grazing occurs during the critical growth period every year and does not provide for rest. Grazing occurs primarily in the northeast flats and along the southern boundary of the pasture. Most of the pasture is steep and receives limited use. A static trend in condition is acceptable because of the high frequencies of Idaho fescue.

Standard 5 (Seedings)

Rangelands seeded with mixtures, including predominately non-native plants, are functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle.

Check those that apply: [*One or more boxes must be checked.*] ■ Standard doesn't apply

□ Meeting the Standard
Practices are Significant Factors

□ Not Meeting the Standard, Livestock Grazing Management

□ Not Meeting the Standard, but Making Significant Progress towards

□ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

□ Conforms with Guidelines for Livestock Grazing Management

□ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

Standard 5 does not apply to this allotment.

Standard 6 (Exotic Plant Communities, Other than Seedings)

Exotic plant communities, other than seedings, will meet minimum requirements of soil stability and maintenance of existing native and seeded plants. These communities will be rehabilitated to perennial communities when feasible cost effective methods are developed.

Check those that apply: [*One or more boxes must be checked.*] ■ Standard doesn't apply

□ Meeting the Standard
Practices are Significant Factors

□ Not Meeting the Standard, Livestock Grazing Management

□ Not Meeting the Standard, but Making Significant Progress towards

□ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

□ Conforms with Guidelines for Livestock Grazing Management

□ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

Standard 6 does not apply to this allotment.

Standard 7 (Water Quality)

Surface and ground water on public lands comply with the Idaho Water Quality Standards.

Check those that apply: [*One or more boxes must be checked.*] □ Standard doesn't apply

□ Meeting the Standard
Practices are Significant Factors

□ Not Meeting the Standard, Livestock Grazing Management

□ Not Meeting the Standard, but Making Significant Progress towards

□ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

□ Conforms with Guidelines for Livestock

□ Does not conform with Guidelines for Livestock

Grazing Management Grazing Management Guideline No(s).

Rationale/Information Sources:

No temperature monitoring data was collected on streams within the Red Mountain Allotment to examine if streams are meeting the State of Idaho criteria for the support of cold-water beneficial uses. No recent bacteria samples have been collected in the Red Mountain Allotment. Bacteria did not exceed the criteria for primary or secondary contact recreation in 1996.

Standard 8 (Threatened and Endangered Plants and Animals)

Habitats are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

☐ Meeting the Standard

☐ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

■ Not Meeting the Standard, but Making Significant Progress towards

☐ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

■ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s). 9, 12

Rationale/Information Sources:

It is unknown if this standard is being met for special status plants in this allotment because there is no information available on any special status plants that may occur there.

Significant progress is being made toward meeting the standard in the riparian areas of the Red Mountain Allotment, which have significant amounts of new sprouts of cottonwoods and willows. This upward trend on creeks is due to the change to grazing only in the spring (pastures 2 and 3) or winter (pasture 1); they used to be grazed in both the spring and fall every year.

Red Mountain Allotment is not meeting the standard for sage grouse habitat. Current spring grazing every year in pastures 2 and 3 is a contributing factor, as well as historical grazing. Upland habitats are marginal for sage grouse nesting habitat, due to reduced amounts of grasses and forbs to provide cover and food. However, they are suitable for wintering and lek habitat, and are currently used by sage grouse.

Determination:

I have determined that Standards 1, 2, 3, 4, and 8 of the applicable Standards for Rangeland Health are not being met in the Red Mountain Allotment. Current livestock grazing management practices are not significant factors where standards are not being met. Livestock management

practices do not conform with all applicable Guidelines for Livestock Grazing Management Guidelines 4, 9, and 12 for Standards 1, 4, and 8.

(s) Jenna Whitlock 7/7/2003
Field Manager Date

DETERMINATION BRIDGE CREEK

Achieving Standards for Rangeland Health

and

Conforming with Guidelines for Livestock Grazing Management

Resource Area: **Owyhee** Watershed Name/Number**: Mid Snake River-Succor Creek (17050103)**

Grazing Allotment Name/Number: **Bridge Creek (0590)**

Public Land (acres): **2,569**

Streams on Public Land (miles): **1.6**

Date(s) of Assessment: **April 18, 2003**

Name of Permittee(s): **Elmer Stahle**

Assessment Participants (Name & Discipline or Interest):

Mike Boltz - Rangeland Management Specialist

Valerie Geertson - Botanist

Steve Leonard – Riparian Specialist

Matt McCoy - Ecologist

Paul Seronko - Soils

Helen Ulmschneider- Wildlife Management Biologist

Standard 1 (Watersheds)

Watersheds provide for the proper infiltration, retention, and release of water appropriate to soil type, vegetation, climate, and landform to provide for proper nutrient cycling, hydrologic cycling and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

☐ Meeting the Standard

☐ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

■ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s). 1, 3, 4, 8

Rationale/Information Sources:

The allotment is not meeting this standard fully in many areas particularly where western juniper encroachment is occurring. Current grazing practices are a factor in why the pasture is not currently meeting the standard but not to a significant degree. It is evident that this pasture has suffered from historic grazing practices that have not healed in general (although many areas have stabilized under current management). This is reflected in the vegetative community (dominated by increaser grass species, high shrub densities, low amounts of biological soil crusts, juniper encroachment, and interspatial areas devoid of vegetation) and the amount and degree of surface erosional features present (particularly the water flow paths and the associated pedestalled bunchgrass plants). The recent use during the critical growth period appears to be responsible for accentuating these processes along with the continuing encroachment of juniper.

Standard 2 (Riparian Areas and Wetlands)

Riparian-wetland areas are in properly functioning condition appropriate to soil type, climate, geology, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

☐ Meeting the Standard

☐ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

☐ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

The standard is not being met on 1.63 miles of Bridge Creek primarily because historic dredging has left inadequate soil to support hydric species. Current livestock management (spring use) is not a significant factor in the stream not meeting the standard. Bridge Creek is functioning at risk with no apparent trend and is dominated by early seral, shallow rooted species, such as Kentucky bluegrass and red top. Age class and structure of the hydric vegetation are poor; however, small portions of streambanks are vegetated with a strong shrub community. Typically, there is inadequate riparian-wetland vegetation present to protect streambanks and dissipate energy during high flows. There is moderate to heavy browse on shrubs by wintering ungulates

Standard 3 (Stream Channel/Floodplain)

Stream channels and floodplains are properly functioning relative to the geomorphology (e.g., gradient, size shape, roughness, confinement, and sinuosity) and climate to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

☐ Meeting the Standard

☐ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

☐ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

The standard is not being met on 1.63 miles of Bridge Creek. Historic dredging has changed the channel shape and little floodplain development has occurred. Stream segments are incised, laterally active and exhibit little floodplain development, and are overly wide, shallow and lack sufficient sinuosity. Stream substrates are commonly cobbles and gravels. Water is exposed to higher amounts of solar radiation, thus increasing water temperature in the summer and contributing to freezing in the winter. In addition to altering the water temperature, the water table is lowered, resulting in greater fluctuations of water flows with lower flows in the summer and greater flows in the spring.

Standard 4 (Native Plant Communities)

Healthy, productive, and diverse native animal habitat and populations of native plants are maintained or promoted as appropriate to soil type, climate, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

☐ Meeting the Standard

■ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

■ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s). 4

Rationale/Information Sources:

The standard is not being met and current livestock grazing practices are a significant factor. Grazing during the past nine years occurred during the critical growth period for most perennial grasses, especially decreaser grasses. Moderate use levels occurred on Idaho fescue and rest was not being provided. Populations of perennial grasses are below expected levels and some are declining. The trend data is inconclusive. Trend in needlegrass is up; however, trend in other perennial grass is static or downward. Expansion of juniper is also a factor in this allotment; however, areas burned to remove juniper are dominated by shrubs and have limited recovery of bunchgrasses.

Standard 5 (Seedings)

Rangelands seeded with mixtures, including predominately non-native plants, are functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle.

Check those that apply: [*One or more boxes must be checked.*] ■ Standard doesn't apply

☐ Meeting the Standard

☐ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

☐ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

☐ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

Standard 5 does not apply to this allotment.

Standard 6 (Exotic Plant Communities, Other than Seedings)

Exotic plant communities, other than seedings, will meet minimum requirements of soil stability and maintenance of existing native and seeded plants. These communities will be rehabilitated to perennial communities when feasible cost effective methods are developed.

Check those that apply: [*One or more boxes must be checked.*] ■ Standard doesn't apply

□ Meeting the Standard
□ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

□ Not Meeting the Standard, but Making Significant Progress towards
□ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

□ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

Standard 6 does not apply to this allotment.

Standard 7 (Water Quality)

Surface and ground water on public lands comply with the Idaho Water Quality Standards.

Check those that apply: [*One or more boxes must be checked.*] □ Standard doesn't apply

□ Meeting the Standard
□ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

□ Not Meeting the Standard, but Making Significant Progress towards
□ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

□ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s). 10

Rationale/Information Sources:

No data was collected for stream temperature to examine whether streams supported cold-water beneficial uses such as cold-water biota, salmonid spawning, agricultural water supply and wildlife habitat.

No bacterial sampling was conducted to evaluate compliance with State criteria for support of the primary and secondary contact recreation beneficial uses.

Standard 8 (Threatened and Endangered Plants and Animals)

Habitats are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

☐ Meeting the Standard

☐ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

☐ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

The standard is not being met in the riparian areas, which are in functioning at risk condition. The late spring grazing season should be good for the riparian areas, but historic dredge mining of Bridge Creek has left limited potential for improvement.

The standard is not being met for sage grouse habitat; however, it is not due to current cattle grazing, it is due to juniper invasion. Most of the sagebrush habitat in the allotment is being invaded by juniper, and so it is losing its value for sage grouse.

It is unknown if this standard is being met for special status plants. There is no information available on any special status plants that may occur here.

Determination:

I have determined that Standards 1, 2, 3, 4, and 8 of the applicable Standards for Rangeland Health are not being met in the Bridge Creek Allotment. Current livestock grazing management practices are significant factors in not meeting Standard 4. Livestock management practices do not conform with all applicable Guidelines for Livestock Grazing Management Guidelines 1, 3, 4, and 8 for Standards 1 and 4.

(s) Jenna Whitlock — 7/7/2003

Field Manager — Date

DETERMINATION STAHLE FFR

Achieving Standards for Rangeland Health

and

Conforming with Guidelines for Livestock Grazing Management

Resource Area: **Owyhee** Watershed Name/Number: **Middle Snake River-Succor Creek (17050103)**

Grazing Allotment Name/Number: **Stahle FFR (0641)**

Public Land (acres): **192**

Streams on Public Land (miles): **0**

Date(s) of Assessment: **April 18, 2003**

Name of Permittee(s): **Elmer Stahle**

Assessment Participants (Name & Discipline or Interest):

Mike Boltz - Rangeland Management Specialist

Valerie Geertson - Botanist

Steve Leonard – Riparian Specialist

Matt McCoy - Ecologist

Paul Seronko - Soils

Helen Ulmschneider- Wildlife Management Biologist

Standard 1 (Watersheds)

Watersheds provide for the proper infiltration, retention, and release of water appropriate to soil type, vegetation, climate, and landform to provide for proper nutrient cycling, hydrologic cycling and energy flow.

Check those that apply: [*One or more boxes must be checked.*] □ Standard doesn't apply

□ Meeting the Standard

□ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

■ Not Meeting the Standard, but Making Significant Progress towards

□ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

□ Conforms with Guidelines for Livestock Grazing Management

□ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

In the Stahle FFR, the only indicator for this standard that was not being met was the plant community indicator. Historic grazing practices are responsible for these vegetative community changes (lack of decreaser bunchgrass with annual grass invasion and the encroachment of western juniper). Current grazing practices do not appear to be a significant factor in why the vegetative community is in its present condition in relation to watershed function.

Standard 2 (Riparian Areas and Wetlands)

Riparian-wetland areas are in properly functioning condition appropriate to soil type, climate, geology, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ■ Standard doesn't apply

□ Meeting the Standard

□ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

□ Not Meeting the Standard, but Making Significant Progress towards

□ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

□ Conforms with Guidelines for Livestock Grazing Management

□ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

This standard does not apply to this Allotment.

Standard 3 (Stream Channel/Floodplain)

Stream channels and floodplains are properly functioning relative to the geomorphology (e.g., gradient, size shape, roughness, confinement, and sinuosity) and climate to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ■ Standard doesn't apply

□ Meeting the Standard
□ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors
□ Not Meeting the Standard, but Making Significant Progress towards
□ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors
□ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

This standard does not apply to this Allotment.

Standard 4 (Native Plant Communities)

Healthy, productive, and diverse native animal habitat and populations of native plants are maintained or promoted as appropriate to soil type, climate, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Check those that apply: [*One or more boxes must be checked.*] □ Standard doesn't apply

□ Meeting the Standard
□ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors
□ Not Meeting the Standard, but Making Significant Progress towards
■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors
□ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

This standard is not being met and current livestock use is not a factor. Decreaser grasses are reduced in the understory. Cheatgrass is dominant in the understory. Juniper is common. Historic livestock use and juniper encroachment are the primary reasons for reduced decreaser grasses.

Standard 5 (Seedings)

Rangelands seeded with mixtures, including predominately non-native plants, are functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle.

Check those that apply: [*One or more boxes must be checked.*] ■ Standard doesn't apply

□ Meeting the Standard
□ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

□ Not Meeting the Standard, but Making Significant Progress towards
□ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

□ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

Standard 5 does not apply to this allotment.

Standard 6 (Exotic Plant Communities, Other than Seedings)

Exotic plant communities, other than seedings, will meet minimum requirements of soil stability and maintenance of existing native and seeded plants. These communities will be rehabilitated to perennial communities when feasible cost effective methods are developed.

Check those that apply: [*One or more boxes must be checked.*] ■ Standard doesn't apply

□ Meeting the Standard
□ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

□ Not Meeting the Standard, but Making Significant Progress towards
□ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

□ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

Standard 6 does not apply to this allotment.

Standard 7 (Water Quality)

Surface and ground water on public lands comply with the Idaho Water Quality Standards.

Check those that apply: [*One or more boxes must be checked.*] ■ Standard doesn't apply

□ Meeting the Standard

□ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

□ Not Meeting the Standard, but Making Significant Progress towards

□ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

□ Conforms with Guidelines for Livestock Grazing Management

□ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

Standard 7 does not apply to this allotment.

Standard 8 (Threatened and Endangered Plants and Animals)

Habitats are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.

Check those that apply: [*One or more boxes must be checked.*] ■ Standard doesn't apply

□ Meeting the Standard

□ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

□ Not Meeting the Standard, but Making Significant Progress towards

□ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

□ Conforms with Guidelines for Livestock Grazing Management

□ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s)._____

Rationale/Information Sources:

The amount of BLM land in this allotment is too small to influence population viability for sage grouse or any sensitive animal species known here.

It is unknown if this standard is being met for special status plants. There is no information available on any special status plants that may occur here.

Determination:

I have determined that Standards 1 and 4, of the applicable Standards for Rangeland Health are not being met in the Stahle FFR Allotment. Current livestock grazing management practices are not significant factors in not meeting Standards 1 and 4.

(s) Jenna Whitlock 7/7/2003
Field Manager Date

DETERMINATION QUICKSILVER FFR

Achieving Standards for Rangeland Health

and

Conforming with Guidelines for Livestock Grazing Management

Resource Area: **Owyhee** Watershed Name/Number: **Mid-Snake River/Succor Creek, Jordan Creek (17050103, 17050108)**

Grazing Allotment Name/Number: **Quicksilver FFR (0483)**

Public Land (acres): **177**

Streams on Public Land (miles): **0.15**

Date(s) of Assessment: **April 18, 2003**

Name of Permittee(s): **Elmer Stahle**

Assessment Participants (Name & Discipline or Interest):

Mike Boltz - Rangeland Management Specialist

Valerie Geertson - Botanist

Steve Leonard – Riparian Specialist

Matt McCoy - Ecologist

Paul Seronko - Soils

Helen Ulmschneider- Wildlife Management Biologist

Standard 1 (Watersheds)

Watersheds provide for the proper infiltration, retention, and release of water appropriate to soil type, vegetation, climate, and landform to provide for proper nutrient cycling, hydrologic cycling and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

■ Meeting the Standard

☐ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

■ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s). 1, 3

Rationale/Information Sources:

This standard is being met in pasture 1.

Pasture 2 appears to be meeting this standard in most areas. In the area where the Rangeland Health Evaluation Summary Worksheet was completed, there was some concern with mechanical damage to the soil surface from trampling and better livestock distribution may help alleviate these kinds of problems.

In pasture 3, this standard is being met in many areas but there appears to be problems associated with livestock trampling in the interspatial areas. In general current grazing practices appear not to be a significant factor in the areas where this standard is not being fully met but appear to be playing a role in curtailing more improvement in these pastures. Historic grazing practices are responsible for some of the erosional features (flow paths dominantly) and vegetative community changes (reduced interspatial key bunchgrass, shrub density, and western juniper encroachment) that were identified in the assessment but current grazing (yearly during the early part of the critical growth period) is contributing.

Standard 2 (Riparian Areas and Wetlands)

Riparian-wetland areas are in properly functioning condition appropriate to soil type, climate, geology, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

☐ Meeting the Standard

■ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

☐ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock

■ Does not conform with Guidelines for Livestock

Grazing Management Grazing Management Guideline No(s).___4, 5

Rationale/Information Sources:

This standard is not being met on the 0.15 miles of North Fork Boulder Creek on public lands. Livestock grazing is a contributing factor in streams not meeting the standard.

Stream banks are dominated by early seral, shallow rooted species, such as Kentucky bluegrass and red top. Age class and structure of the hydric vegetation are poor. Typically, there is inadequate riparian-wetland vegetation present to protect streambanks and dissipate energy during high flows. Grazing has resulted in these vegetative shifts and is limiting the riparian areas' abilities to recover and rejuvenate.

Cattle are removed from Quicksilver FFR late in the year so the riparian species are not allowed a sufficient time frame to regrow to achieve and maintain healthy properly functioning conditions, and therefore grazing practices do not conform with Guideline #4.

The heavy utilization by livestock along North Fork Boulder creek does not provide sufficient residual vegetation to improve, restore or maintain healthy riparian functions, and therefore grazing practices do not conform with Guideline #5.

Standard 3 (Stream Channel/Floodplain)

Stream channels and floodplains are properly functioning relative to the geomorphology (e.g., gradient, size shape, roughness, confinement, and sinuosity) and climate to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

☐ Meeting the Standard

■ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

☐ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

■ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).____7

Rationale/Information Sources:

This standard is not being met on 0.15 miles of North Fork Boulder creek. The current grazing management practices do not promote progress toward appropriate stream channel and stream bank morphology and functions, therefore grazing practices do not conform with Guideline #7.

This stream segment is laterally active and exhibits little floodplain development. It is overly wide, shallow and lacks sufficient sinuosity. Stream substrates are commonly gravels and other fine materials, which combined with the lack of stabilizing vegetation results in bank and channel erosion. There is excessive erosion and deposition. Indicating the stream is out of balance with the landscape setting. Cattle congregating along the stream cause stream bank alteration, which in turn tends to increase stream width and decrease depth. This exposes more

water to solar radiation, thus increasing water temperature in the summer and contributing to freezing in the winter. In addition to altering the water temperature, the water tables are lowered, resulting in greater fluctuations of water flows with lower flows in the summer and greater flows in the spring.

Standard 4 (Native Plant Communities)

Healthy, productive, and diverse native animal habitat and populations of native plants are maintained or promoted as appropriate to soil type, climate, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Check those that apply: [*One or more boxes must be checked.*] ☐ Standard doesn't apply

■ Meeting the Standard

☐ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

■ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

■ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s). 4, 9, 12

Rationale/Information Sources:

This standard is being met in pasture 1.

This standard is not being met in pastures 2 and 3. Current livestock use is not a significant factor, but grazing does occur during the critical growth period which impedes recovery. Occurrence of decreaser bunchgrasses is less than expected, especially in shrub interspaces in pasture 3. Occurrence of rabbitbrush is greater than expected in both pastures. Juniper is common in these pastures and is contributing to the pastures not meeting the standard.

Standard 5 (Seedings)

Rangelands seeded with mixtures, including predominately non-native plants, are functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle.

Check those that apply: [*One or more boxes must be checked.*] ■ Standard doesn't apply

☐ Meeting the Standard

☐ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

☐ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

☐ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

Standard 5 does not apply to this allotment.

Standard 6 (Exotic Plant Communities, Other than Seedings)

Exotic plant communities, other than seedings, will meet minimum requirements of soil stability and maintenance of existing native and seeded plants. These communities will be rehabilitated to perennial communities when feasible cost effective methods are developed.

Check those that apply: [*One or more boxes must be checked.*] ■ Standard doesn't apply

□ Meeting the Standard

□ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

□ Not Meeting the Standard, but Making Significant Progress towards

□ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

□ Conforms with Guidelines for Livestock Grazing Management

□ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

Standard 6 does not apply to this allotment.

Standard 7 (Water Quality)

Surface and ground water on public lands comply with the Idaho Water Quality Standards.

Check those that apply: [*One or more boxes must be checked.*] □ Standard doesn't apply

□ Meeting the Standard

□ Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors

□ Not Meeting the Standard, but Making Significant Progress towards

□ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

□ Conforms with Guidelines for Livestock Grazing Management

□ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s).

Rationale/Information Sources:

No data were collected for stream temperature to examine whether streams supported cold-water beneficial uses such as cold-water biota, salmonid spawning, agricultural water supply and wildlife habitat.

No bacterial sampling was conducted to evaluate compliance with State criteria for support of the primary and secondary contact recreation beneficial uses.

Standard 8 (Threatened and Endangered Plants and Animals)

Habitats are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.

Check those that apply: [*One or more boxes must be checked.*] ■ Standard doesn't apply

□ Meeting the Standard

□ Not Meeting the Standard, Livestock Grazing Management

Practices are Significant Factors

☐ Not Meeting the Standard, but Making Significant Progress towards

☐ Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors

☐ Conforms with Guidelines for Livestock Grazing Management

☐ Does not conform with Guidelines for Livestock Grazing Management Guideline No(s)._____

Rationale/Information Sources:

The acreages of BLM land within any of the four pastures of the Quicksilver FFR Allotment are too small to affect the viability of any population of sensitive animal species. The length of stream segment of North Boulder Creek within pasture 2 (0.15 mi) is likewise too small to affect the viability of any wildlife species.

There is no information available on any special status plants that may occur here. It is unknown if this standard is being met for special status plants.

Determination:

I have determined that Standards 1, 2, 3, and 4 of the applicable Standards for Rangeland Health are not being met in the Quicksilver FFR Allotment. Current livestock grazing management practices are significant factors in not meeting Standards 2 and 3. Livestock management practices do not conform with all applicable Guidelines for Livestock Grazing Management Guidelines 1, 3, 4, 5, 7, 9, and 12 for several Standards.

(s) Jenna Whitlock 7/7/2003
Field Manager

2013 Rangeland Health Determinations

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations (Boone Peak (0589), Red Mountain (0588), Bridge Creek (0590), Stahle FFR (0641), and Quicksilver FFR (0483) allotments

List of reviewers (2013)

Name	Title
Jake Vialpando	Project Manager
Bonnie Claridge	Fisheries Biologist
Jason Sutter	Wildlife Biologist
Jayson Murgoitio	GIS Specialist
Brian McCabe	Archaeologist
Steve Christensen	Range Management Specialist
Ryan Homan	Recreation Specialist
Gina Rone	Soils
Susan Filkins	Botanist
Jessica Gottlieb	Writer/Editor

Boone Peak Allotment

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Boone Peak (0589) Allotment

2013 Evaluation Findings and Determination

Standard 1 (Watersheds)

Watersheds provide for the proper infiltration, retention, and release of water appropriate to soil type, vegetation, climate, and landform to provide for proper nutrient cycling, hydrologic cycling and energy flow.

Standard

□ Standard does not apply

■ Meeting the Standard

□ Not meeting the Standard, Current livestock grazing management practices are significant factors

□ Not Meeting the Standard; Making significant progress toward meeting
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines
■ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). __

Rationale for Evaluation Finding and Determination
Watershed indicators show some departure from expected conditions for the ecological sites though none were excessive enough to determine that Standard 1 would not be met in the Boone Peak allotment. While water flow patterns and pedestals are elevated in some locations, primarily towards the southern part of the allotment, there is little indication of accelerated sediment movement and the majority of the erosional features present are related to past events.

Departure from reference conditions due to altered fire regimes, increased shrub dominance, loss of deep-rooted native perennial grasses, and increasing juniper density were identified as sources of concern regarding the biotic component. As a result, the allotment is deemed at-risk for potential declines in soil and hydrologic function due to a departure of the plant community and invasive species. Despite the reduction in biotic function, however, soil and hydrologic indicators show that watershed function still maintains proper nutrient and hydrologic cycling, and energy flow.

Trends in ground cover using indicators of bare ground, persistent cover, and canopy cover have also been indicating a general static or improving trend in the Boone Peak allotment. Bare ground has decreased or is static and at low levels, which supports the decision that the ORMP objective to improve unsatisfactory and maintain satisfactory watershed health/condition has been met. Overall, current livestock management remains compatible with attainment of Standard 1 and ORMP objectives for the Boone Peak allotment.

Standard 2 (Riparian Areas and Wetlands)
Riparian-wetland areas are in properly functioning condition appropriate to soil type, climate, geology, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Standard
□ Standard does not apply
□ Meeting the Standard
□ Not meeting the Standard, Current livestock grazing management practices are

significant factors
■ Not Meeting the Standard; Making significant progress toward meeting
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines
■ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). __

Rationale for Evaluation Finding and Determination
Standard 2 is not being met, but is making significant progress in the single pasture of the Boone Peak allotment. Three named streams traverse BLM lands within the allotment (Bridge, North Boulder, and Pickett Creek). Approximately 3.2 miles have been assessed; 0.6 miles (19 percent) were most recently rated FAR, and 2.6 miles (81 percent) were most recently in PFC. Issues identified for North Boulder Creek where the stream was most recently FAR include areas with inadequate soil moisture to support hydric species that stabilize stream banks, the presence of noxious weeds, upland species encroaching, and sheared and eroded stream banks.

Fifteen springs have been assessed; 11 were in PFC, three were FAR, and one was NF. The springs that were below the minimal standard for functionality had issues identified that include heavy livestock use of both herbaceous and woody species, hoof alterations of wetland soils, and noxious weed presence.

Current livestock grazing management practices are not significant causal factors for not meeting Standards 2 and 3. Therefore, current livestock grazing management practices conform with the Idaho Guidelines for Livestock Grazing Management applicable to Standards.

Standard 3 (Stream Channel/Floodplain)
Stream channels and floodplains are properly functioning relative to the geomorphology (e.g., gradient, size shape, roughness, confinement, and sinuosity) and climate to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Standard
□ Standard does not apply
□ Meeting the Standard
□ Not meeting the Standard, Current livestock grazing management practices are significant factors
■ Not Meeting the Standard; Making significant progress toward meeting
□ Not Meeting the Standard; Current livestock grazing management practices are not

significant factors

Guidelines

■ Conforms with Guidelines for Livestock Grazing Management

□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s).

—

Rationale for Evaluation Finding and Determination

Standard 3 is not being met, but is making significant progress, in the single pasture of the Boone Peak allotment. Three named streams traverse BLM lands within the allotment (Bridge, North Boulder, and Pickett Creek). Approximately 3.2 miles have been assessed; 0.6 miles (19 percent) were most recently rated FAR, and 2.6 miles (81 percent) were most recently in PFC. Issues identified for North Boulder Creek where the stream was most recently FAR included: areas with inadequate soil moisture to support hydric species that stabilize stream banks, the presence of noxious weeds, upland species encroaching, and sheared and eroded stream banks.

Current livestock grazing management practices are not significant causal factors for not meeting Standard 3. Therefore, current livestock grazing management practices conform with the Idaho Guidelines for Livestock Grazing Management applicable to Standard 3.

Standard 4 (Native Plant Communities)

Healthy, productive, and diverse native animal habitat and populations of native plants are maintained or promoted as appropriate to soil type, climate, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Standard

□ Standard does not apply

■ Meeting the Standard

□ Not meeting the Standard, Current livestock grazing management practices are significant factors

□ Not Meeting the Standard; Making significant progress toward meeting

□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

■ Conforms with Guidelines for Livestock Grazing Management

□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s).

Rationale for Evaluation Finding and Determination

Standard 4 is met in the one pasture of the Boone Peak allotment with at most slight-to-moderate

departure of biotic integrity from reference site conditions within low sagebrush vegetation communities and similar but greater departure in mountain big sagebrush vegetation communities. Departure from reference site conditions in mountain big sagebrush communities is due to altered fire regimes resulting in increased shrub dominance, loss of deep-rooted native perennial bunchgrasses, and the increasing density of juniper. The limited departure of indicators contributing to biotic integrity leads to a conclusion that the composition of native plants is maintain to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

When one considers data from both trend sites in the one pasture of the Boone Peak allotment, a static trend in vegetation condition is concluded. These static trend data indicate that the ORMP objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas has not been met in the Boone Peak allotment (PORMP-FEIS Table VEGE-2; Boone Peak allotment was 55 percent early seral, 20 percent mid-seral, and 25 percent late-seral).

Standard 5 (Seedings)
Rangelands seeded with mixtures, including predominately non-native plants, are functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle.

Standard 5 does not apply to this allotment.

Standard 6 (Exotic Plant Communities, Other than Seedings)
Exotic plant communities, other than seedings, will meet minimum requirements of soil stability and maintenance of existing native and seeded plants. These communities will be rehabilitated to perennial communities when feasible cost effective methods are developed.

Standard 6 does not apply to this allotment.

Standard 7 (Water Quality)
Surface and ground water on public lands comply with the Idaho Water Quality Standards.
Standard
□ Standard does not apply
□ Meeting the Standard
■ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

□ Conforms with Guidelines for Livestock Grazing Management
■ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). _10_

Rationale for Evaluation Finding and Determination
Idaho Department of Environmental Quality (IDEQ) designates basins, sub-basins, and assessment units in order to manage the state's waterways. The 2010 Integrated Report (303(d)/305(b)) uses assessment units (AUs) within the sub-basin. Assessment units are groups of similar streams within a sub-basin that have similar land use practices, ownership, or land management. Assessment units are assessed for pollutants and assigned beneficial uses with associated Water Quality Standards. The Beneficial Use Reconnaissance Program (BURP) is a field assessment of stream segments (all IDEQ data and standards mentioned here are available on the IDEQ web site http://www.deq.idaho.gov).

According to the Clean Water Act, each state must develop Total Maximum Daily Loads (TMDLs) for all the waters on the 303(d) list. The objective of a TMDL is to determine the loading capacity of the water body and to allocate that load among different pollutant sources so that the appropriate control actions can be taken and water quality standards achieved. The TMDL process is important for improving water quality because it links the development and implementation of control actions to the attainment of water quality standards. Once a TMDL is developed for a particular pollutant or pollution, it is effectively removed from the 303(d) list.

Standard 7 is not being met in the Boone Peak allotment. There are 7.7 miles of stream that traverse the BLM portions of the allotment and are not supporting the watershed's beneficial uses, and 5.7 miles that have not been assessed by IDEQ. The allotment contains portions of 5 AUs with associated beneficial uses and pollutants (Table RIPN-8). Three of the AUs are currently not supporting the beneficial uses. The streams that occur within AU# ID17050103SW016_02 are also on the 303(d) list of impaired waters, and the streams within AUs # ID17050103SW014_02a all have an approved TMDL removing them from the list. The streams within AU# ID17050108SW015_02 have an approved TMDL for *temperature*, but remain on the 303(d) list for flow alteration.

Potential Natural Vegetation (PNV) TMDLs were developed for temperature for AUs # ID17050103SW014_02a and ID17050108SW015_02. Idaho water quality standards include a provision (IDAPA 58.01.02.200.09), which establishes that if natural conditions exceed numeric water quality criteria, exceedance of the criteria is not considered to be a violation of water quality standards. In these situations, natural conditions essentially become the water quality standard, and the natural level of shade and channel width become the target of the TMDL. The in-stream temperature that results from attainment of these conditions is consistent with the water quality standards, even though it may exceed numeric temperature criteria. However,

current IDEQ information indicates that segments of streams that occur on BLM lands within the allotment and have been evaluated for temperature using the PNV approach are not meeting the shade target established.

Based on the streams presence on the 303(d) list of impaired waters, Standard 7 is not being met in AU# ID17050103SW016_02 for temperature and in AU# ID17050108SW015_02 for flow alteration in the Boone Peak allotment and the allotment is not in conformance with Guideline #10 for Livestock Grazing Management.

Table RIPN-8: Boone Peak allotment IDEQ water quality

AU #	AU Name	Beneficial Use Not Being Met	Pollutant/ Pollution	TMDL
ID17050103SW014_02a	North Fork Castle Creek	CWAL[1] SS[2]	temperature	Yes- all streams
ID17050103SW016_02	Pickett Creek - 1st & 2nd order	CWAL	sedimentation/siltation temperature	No Yes- all streams
ID17050103SW018_02	Hart and Little Hart Creeks - 1st and 2nd order	not assessed	NA	NA
ID17050108SW007_02	North Boulder Creek - 1st and 2nd order	not assessed	NA	NA
ID17050108SW015_02	Spring and Meadow Creeks - 1st and 2nd order	CWAL	flow alterations temperature	No No

[1]CWAL = cold water aquatic life
[2]SS = salmonid spawning

Standard 8 (Threatened and Endangered Plants and Animals)
Habitats are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.
Standard
□ Standard does not apply
■ Meeting the Standard
□ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

■ Conforms with Guidelines for Livestock Grazing Management

□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s).

Rationale for Evaluation Finding and Determination

Botany

Standard 8 for botany is met in the Boone Peak allotment. There are no federally listed plant species and there is insufficient information to determine site-specific impacts of livestock grazing on any special status plants that occur in this allotment.

Wildlife

Overall, Standard 8 for wildlife is being met in the Boone Peak allotment. Upland and riparian habitats are providing adequate conditions for many shrub-obligate and riparian dependent species. Standard 8 for wildlife in upland habitat is met in the allotment. Abundance and diversity of grasses, forbs and shrubs are generally as expected. Functional and structural groups are near to what is expected for the sites and are likely to be providing habitat that is adequate for the needs of most dependent special status and other wildlife species. Sage-grouse usage is not expected to be similar across the allotment as some portions currently support Douglas-fir stands and varying densities of juniper woodlands. Results from SG HAs showed suitable breeding, upland summer, and winter habitat conditions.

Standard 8 for wildlife in riparian habitats also is being met in the allotment. Riparian habitats within the allotment were PFC and have shown improvements in conditions. Riparian habitats are providing adequate breeding and foraging conditions for many dependent wildlife species. Riparian woody species in Bridge, North Boulder, and Pickett Creeks display diverse species and age-classes with multiple canopies which are providing structurally complex breeding, nesting, and foraging habitat for dependent species. These components result in suitable habitat for a diversity of species including migratory birds, small mammals, spotted frogs, and redband trout. In addition, lentic areas are providing suitable brood-rearing and riparian summer habitat for sage-grouse and their broods.

Because the condition, abundance, structural stage, and distribution of plant communities required for diverse and desired wildlife populations are being maintained or enhanced and because special status species' habitats are adequate to increase or maintain populations so as to preclude an impetus for listing, current livestock grazing management practices are in conformance with the Idaho Guidelines for Livestock Grazing Management and conform with ORMP objectives WDLF-1 and SPSS-1.

Determination

I have determined that Standards 2, 3, and 7 of the applicable Standards for Rangeland Health are not being met in the Boone Peak allotment. Although significant progress is being made toward meeting Standards 2 and 3, current livestock management practices are contributing toward not meeting Standard 7. Standards 1, 4, and 8 are met, whereas Standards 5 and 6 are not applicable to the allotment. Current livestock management practices do not conform with the applicable Livestock Grazing Management Guideline 10 for Standard 7.

Field Manager **Owyhee Field Office**	10/21/13 **Date**

Red Mountain Allotment

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations Red Mountain (0588)Allotment

2013 Evaluation Findings and Determination

Standard 1 (Watersheds)

Watersheds provide for the proper infiltration, retention, and release of water appropriate to soil type, vegetation, climate, and landform to provide for proper nutrient cycling, hydrologic cycling and energy flow.

Standard

□ Standard does not apply
□ Meeting the Standard
■ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

□ Conforms with Guidelines for Livestock Grazing Management
■ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). _1, 3, 4, 8__

Rationale for Evaluation Finding and Determination

Current and past livestock grazing management practices are significant causal factors for not meeting upland watershed Standard 1 in pastures 1 and 2 of the Red Mountain allotment; pasture 3 is meeting Standard 1. The reduction in soil and hydrologic function is associated with altered plant community composition and distribution due to decreased relative abundance of large, deep-rooted native perennial bunchgrasses. As a result, erosional processes have created severe water flow paths and pedestaling of plants.

While much of the departures in watershed function from reference conditions for pastures 1 and 2 are historic, annual spring use during wet conditions has influenced the rate of further improvement due to physical damage from hoof action and mechanical damage by livestock. Soils are in various stages of recovery although impaired soils continue to affect soil stability and the biological soil crust component, especially in interspatial areas.

The generally static and declining ground cover trend in pastures 1, 2, and 3 does not project

improvement, especially when no rest and limited livestock grazing deferment have been practiced. With bare ground not improving and data indicating a general long-term downward trend, the ORMP objective to improve unsatisfactory and maintain satisfactory watershed health/condition has not been met.

The decreased ecological function and impaired soils indicate that soil and hydrologic function are compromised. Current and past livestock management is the primary contributing factor for not meeting Standard 1 and ORMP objectives for the Red Mountain allotment.

Standard 2 (Riparian Areas and Wetlands)
Riparian-wetland areas are in properly functioning condition appropriate to soil type, climate, geology, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Standard
□ Standard does not apply
□ Meeting the Standard
□ Not meeting the Standard, Current livestock grazing management practices are significant factors
■ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines
■ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). __

Rationale for Evaluation Finding and Determination
Standard 2 is making progress in the Red Mountain allotment. Four named streams traverse the pastures within the allotment (Bates, Pickett, Browns, and Hart Creeks). Approximately 12.7 miles have been assessed and 6.0 miles (47 percent) were most recently rated FAR, and 6.7 miles (53 percent) were most recently in PFC. Issues identified included: areas with inadequate soil moisture to support hydric species that stabilize stream banks, the presence of noxious weeds, upland species encroaching, and sheared and eroded stream banks.

Since the allotment is making progress toward meeting the Standard, current livestock grazing management practices are not significant causal factors for not meeting Standard 2, and the allotment conforms with the Idaho Guidelines for Livestock Grazing Management applicable to Standard 2.

Standard 3 (Stream Channel/Floodplain)

Stream channels and floodplains are properly functioning relative to the geomorphology (e.g., gradient, size shape, roughness, confinement, and sinuosity) and climate to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Standard

□ Standard does not apply
□ Meeting the Standard
□ Not meeting the Standard, Current livestock grazing management practices are significant factors
■ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

■ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). __

Rationale for Evaluation Finding and Determination

Standard 3 is not being met in the Red Mountain allotment, but is making progress towards meeting the Standard. Four named streams traverse the pastures within the allotment (Bates, Pickett, Browns, and Hart Creeks). Approximately 12.7 miles have been assessed and 6.0 miles (47 percent) were most recently rated FAR, and 6.7 miles (53 percent) were most recently in PFC. Issues identified include: areas with inadequate soil moisture to support hydric species that stabilize stream banks, over-wide channel, and sheared and eroded stream banks.

Since the allotment is making progress towards meeting the Standard, current livestock grazing management practices are not significant causal factors for not meeting Standard 3, and the allotment conforms with the Idaho Guidelines for Livestock Grazing Management applicable to Standard 3.

Standard 4 (Native Plant Communities)

Healthy, productive, and diverse native animal habitat and populations of native plants are maintained or promoted as appropriate to soil type, climate, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Standard

□ Standard does not apply

□ Meeting the Standard
■ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines
□ Conforms with Guidelines for Livestock Grazing Management
■ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). 4, 8, 9, 12

Rationale for Evaluation Finding and Determination
Land health Standard 4 is not met in all pastures of the Red Mountain allotment. Historic grazing management contributed to the near loss of native deep-rooted perennial bunchgrass plants in pastures 1 and 2, while historic grazing management contributed toward the large decline of native deep-rooted perennial bunchgrass plants in pasture 3. Recent trend monitoring in pastures 1 and 2 identify improving conditions within the constraints of limited seed to establish deep-rooted bunchgrass plants. At the same time, recent trend monitoring in pasture 3 indicates a decline in deep-rooted bunchgrasses and increasing frequency of shallow-rooted bunchgrass. Pastures 1 and 2 are making significant progress toward meeting the standard, as evidenced by upward trend. These data lead to the conclusion that current livestock management practices that schedule grazing prior to the active growing season for native perennial bunchgrasses (May 1 - June 30 is the active growing season) in pastures 1 and 2 are not a factor contributing toward not meeting Standard 4. Conversely, annual grazing scheduled during the active growing season in pasture 3 is a contributing factor to not meeting Standard 4.

Trend data indicate that the ORMP objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas has been met in pastures 1 and 2 with upward trend recorded, while not met in pasture 3, with its downward trend (PORMP-FEIS Table VEGE-2; Red Mountain Allotment was 70 percent early seral, 20 percent mid-seral, and 10 percent late-seral).

Standard 5 (Seedings)
Rangelands seeded with mixtures, including predominately non-native plants, are functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle.

Standard 5 does not apply to this allotment.

Standard 6 (Exotic Plant Communities, Other than Seedings)

Exotic plant communities, other than seedings, will meet minimum requirements of soil stability and maintenance of existing native and seeded plants. These communities will be rehabilitated to perennial communities when feasible cost effective methods are developed.

Standard 6 does not apply to this allotment.

Standard 7 (Water Quality)

Surface and ground water on public lands comply with the Idaho Water Quality Standards.

Standard

□ Standard does not apply
□ Meeting the Standard
□ Not meeting the Standard, Current livestock grazing management practices are significant factors
■ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

■ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s).
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Rationale for Evaluation Finding and Determination

Idaho Department of Environmental Quality (IDEQ) designates basins, sub-basins, and assessment units in order to manage the state's waterways. The 2010 Integrated Report (303(d)/305(b)) uses assessment units (AUs) within the sub-basin. Assessment units are groups of similar streams within a sub-basin that have similar land use practices, ownership, or land management. Assessment units are assessed for pollutants and assigned beneficial uses with associated Water Quality Standards. Subsequently, a validation using the Beneficial Use Reconnaissance Program (BURP) is made in the field and streams and stream segments may be placed on the 303(d) list of impaired waters. According to the Clean Water Act, each state must develop Total Maximum Daily Loads (TMDLs) for all the waters on the 303(d) list. The objective of a TMDL is to determine the loading capacity of the water body and to allocate that load among different pollutant sources so that the appropriate control actions can be taken and water quality standards achieved. The TMDL process is important for improving water quality because it links the development and implementation of control actions to the attainment of water quality standards. Once a TMDL is developed for a particular pollutant or pollution, it is effectively removed from the 303(d) list.

Current IDEQ information identifies that the BLM portions of the Red Mountain allotment contain approximately 11.3 miles of stream that are not supporting the watershed's beneficial uses, and 29.6 miles that have not been assessed. The allotment contains portions of 5 AUs with associated beneficial uses and pollutants (Table RIPN-9). Two of the AUs (that occur in pastures 2 and 3) are currently not supporting the watershed's beneficial uses, and all of the streams that occur within them are also on the 303(d) list of impaired waters. The remaining three AUs have not been assessed by IDEQ.

Based on the streams presence on the 303(d) list of impaired waters, Standard 7 is not being met in pastures 2 and 3 of the Red Mountain allotment. However, based on the determination that both Standards 2 and 3 are making significant progress, an assumption was made that Standard 7 is also making progress and therefore conforms with the Guidelines for Livestock Grazing Management. Standard 7 is not currently applicable in pasture 1 since the AUs have not been assessed.

Table RIPN-9: Red Mountain allotment IDEQ water quality

AU #	AU Name	Pasture AU occurs in	Beneficial Use Not Being Met	Pollutant/ Pollution	TMDL
ID17050103SW013_02	Fossil Creek - 1st and 2nd order	1	not assessed	NA	NA
ID17050103SW016_02	Pickett Creek - 1st & 2nd order	2, 3	CWAL[1]	sedimentation/ siltation temperature	No No
ID17050103SW017_02	Bates Creek - 1st and 2nd order	1, 2	not assessed	NA	NA
ID17050103SW018_02	Hart and Little Hart Creeks - 1st and 2nd order	2, 3	not assessed	NA	NA
ID17050103SW019_02	Brown Creek - 1st & 2nd order	3	CWAL	sedimentation/ siltation	No

[1]CWAL = cold water aquatic life

Standard 8 (Threatened and Endangered Plants and Animals)

Habitats are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.

Standard

□ Standard does not apply

□ Meeting the Standard

■ Not meeting the Standard, Current livestock grazing management practices are significant factors

□ Not Meeting the Standard; Making significant progress toward

□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

□ Conforms with Guidelines for Livestock Grazing Management

■ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). 5, 8, 12

Rationale for Evaluation Finding and Determination

Botany

Standard 8 for botany is met in the Red Mountain allotment. There are no federally listed plant species and there is insufficient information to determine site-specific impacts of livestock grazing on any special status plants that occur in this allotment.

Wildlife

Standard 8 for wildlife is not met in the Red Mountain allotment. Upland habitats in Wyoming big sagebrush ecological sites are not providing adequate conditions for many shrub-obligate and ground dwelling, nesting and foraging species. Although shrub cover has remained consistent and continues to provide adequate woody cover, structure, and forage for shrub-obligate and dependent species, the quality of the herbaceous understory has not improved overall. Herbaceous understory conditions in sagebrush communities continue to limit habitat quality for sage-grouse and other upland species. Deep-rooted, tall-statured perennial bunchgrasses are generally absent and cheatgrass is locally abundant. Results from SG HAs showed variable breeding, upland summer, and winter habitat conditions. Overall, sage-grouse breeding and upland summer habitat conditions are marginal due primarily to lack of herbaceous perennial cover and forage. Winter habitat conditions are suitable as the shrub component is not a limiting factor within the predominant ecological sites in all pastures. Although understory conditions in mountain big sagebrush sites are slightly better than Wyoming big sagebrush sites, the conversion of shrub steppe habitats to juniper woodlands in these ecological sites is affecting habitat suitability for obligate and dependent species.

Riparian habitats are making progress toward meeting the standard and are providing at least minimally adequate breeding and foraging conditions for many dependent wildlife species. The

majority of riparian habitats within the allotment was in PFC and has shown improvements in conditions. In many areas, riparian woody species in Bates, Pickett, Hart, and Browns Creeks display diverse species and age-classes with multiple canopies which are providing structurally complex breeding, nesting, and foraging habitat for dependent species. These components result in suitable habitat for a diversity of species including migratory birds, small mammals, and redband trout.

The allotment lacks lentic areas and the types (i.e., intermittent, ephemeral) and locations (i.e., relatively deep, narrow valleys and canyons; closed riparian canopies) of most lotic systems limit their availability for sage-grouse use and render them marginal habitat at best. In addition, the local population exhibits an elevational migration to moister habitats which reduces the importance of these areas as late-brood rearing habitat for sage-grouse and their broods.

The causal factor for not meeting Standard 8 in upland habitats in pastures 1 and 2 is historic grazing practices that reduced the composition of deep-rooted perennial herbaceous vegetation. However, current livestock grazing management practices in pasture 3 are significant causal factors for not meeting Standard 8 because deep-rooted perennial bunchgrasses have displayed a downward trend due to growing season grazing practices.

Because the condition, abundance, structural stage, and distribution of plant communities required for diverse and desired wildlife populations are not maintained or enhanced and because special status species' habitats are inadequate to increase or maintain populations so as to preclude an impetus for listing (for sagebrush and shrub obligates and dependent species in particular), these major ecological site alterations from their reference states discussed above do not conform with ORMP objectives WDLF-1 and SPSS-1.

Determination

I have determined that Standards 1, 2, 3, 4, 7, and 8 of the applicable Standards for Rangeland Health are not being met in the Red Mountain allotment. Current livestock grazing management practices are significant factors in not meeting Standards 1, 4, and 8, whereas significant progress is being made toward meeting Standards 2, 3, and 7. Standards 5 and 6 are not applicable to the allotment. Current livestock management practices do not conform with the applicable Livestock Grazing Management Guidelines 1, 3, 4, 5, 8, 9, and 12 for several Standards.

Joseph V Claudi — 10/21/13

Field Manager — **Date**
Owyhee Field Office

Bridge Creek Allotment

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Bridge Creek (0590)Allotment

2013 Evaluation Findings and Determination

Standard 1 (Watersheds)

Watersheds provide for the proper infiltration, retention, and release of water appropriate to soil type, vegetation, climate, and landform to provide for proper nutrient cycling, hydrologic cycling and energy flow.

Standard

□ Standard does not apply
□ Meeting the Standard
□ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
■ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

■ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). __

Rationale for Evaluation Finding and Determination

Juniper encroachment and past livestock grazing management practices are significant causal factors for not meeting watershed standards in the Bridge Creek allotment. While soils are currently stabilized in a degraded state, hydrologic function is altered and primarily connected to historic grazing practices that contributed to the loss of deep-rooted perennial bunchgrasses. Watershed function is dependent on biotic integrity and declines with a reduction in vegetation and where Western juniper encroachment and dominance is not part of site potential. Where not recently burned, the encroachment of juniper is negatively affecting soil stability due to bare soils and the often complete absence of understory and interspatial vegetation, especially in more mature stands.

In soils dominated by granitic parent material, the reduction in infiltration capacity from displacement of sagebrush and deep-rooted perennial bunchgrasses influences water holding capacity while subsequent runoff results in sheet erosion and rilling. The long-term lack of species diversity and reduction of organic material and litter have compromised soil nutrient

replenishment and the ability for proper nutrient cycling, hydrologic cycling, and energy flow. Little to no indication of current mechanical impact is present as recent grazing with light intensity of use occurs after the active growing season. While this has allowed an upward trend in condition of native perennial bunchgrass composition, ground cover conditions reflect a slight downward trend over the long-term with greater declines over the more recent years.

The decreased ecological function and impaired soils indicate that soil and hydrologic function are compromised. Juniper encroachment and historic livestock grazing indicate that the Bridge Creek allotment is not meeting Standard 1 and the ORMP soil management objective of improving unsatisfactory watershed health/conditions.

Standard 2 (Riparian Areas and Wetlands)

Riparian-wetland areas are in properly functioning condition appropriate to soil type, climate, geology, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Standard

□ Standard does not apply
□ Meeting the Standard
■ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

□ Conforms with Guidelines for Livestock Grazing Management
■ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). _5_

Rationale for Evaluation Finding and Determination

Standard 2 is not being met in the single pasture of the Bridge Creek allotment. Two named streams traverse the pastures (Bridge and Ditch Creek). Approximately 3.4 miles have been assessed and 2.5 miles (74 percent) were most recently rated FAR, and 0.9 mile (26 percent) was most recently in PFC. Issues identified for the reaches that were FAR include areas with inadequate soil moisture to support hydric species that stabilize stream banks, a lack of age-class of woody species, and sheared and eroded stream banks.

Current livestock grazing management practices are significant causal factors for not meeting Standard 2. Residual vegetation has not been sufficient to maintain or improve riparian-wetland

function, and the recent grazing schedule has not allowed for rest years. Therefore, current livestock grazing management practices do not conform with the Idaho Guidelines for Livestock Grazing Management applicable to Standard 2.

Standard 3 (Stream Channel/Floodplain)

Stream channels and floodplains are properly functioning relative to the geomorphology (e.g., gradient, size shape, roughness, confinement, and sinuosity) and climate to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Standard

□ Standard does not apply
□ Meeting the Standard
■ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

□ Conforms with Guidelines for Livestock Grazing Management
■ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). _7_

Rationale for Evaluation Finding and Determination

Standard 3 is not being met in the single pasture of the Bridge Creek allotment. Two named streams traverse the pastures (Bridge and Ditch Creek). Approximately 3.4 miles have been assessed and 2.5 miles (74 percent) were most recently rated FAR, and 0.9 mile (26 percent) was most recently in PFC. Issues identified for the reaches that were FAR include areas with inadequate soil moisture to support hydric species that stabilize stream banks, an over-wide stream channel, and sheared and eroded stream banks.

Current livestock grazing management practices are significant causal factors for not meeting Standard 3. Residual vegetation has not been sufficient to maintain or improve riparian-wetland function, the recent grazing schedule has not allowed for rest years, and the management has not allowed progress toward appropriate stream channel and stream bank morphology and function. Therefore, current livestock grazing management practices do not conform with the Idaho Guidelines for Livestock Grazing Management applicable to Standard 3.

Standard 4 (Native Plant Communities)

Healthy, productive, and diverse native animal habitat and populations of native plants are maintained or promoted as appropriate to soil type, climate, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Standard

□ Standard does not apply
□ Meeting the Standard
□ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
■ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

■ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s).

Rationale for Evaluation Finding and Determination

Standard 4 is not met in the one pasture of the Bridge Creek allotment with moderate departure of biotic integrity from reference site conditions within mountain big sagebrush and mahogany savannah vegetation communities. Departure from reference site conditions is influenced by functional-structural groups of plants with greatly reduced deep-rooted bunchgrasses within the pasture and the common occurrence of juniper, and reduced occurrence of mountain big sagebrush, bitterbrush, and other mountain shrub species, including those portions of the pasture that have not recently burned. As noted in the 2006 assessment, fire in the southwest portion of the allotment has set back the encroachment by juniper into approximately 100 acres of shrub-steppe vegetation communities. As a result of this fire, mountain big sagebrush dominance consistent with potential was enhanced, while continuing to lack the potential herbaceous component including bunchgrasses.

The causal factor for failure to meet standard 4 in the one pasture Bridge Creek allotment is juniper dominance in excess of potential at reference site conditions which resulted from altered natural fire regimes. Historic livestock grazing contributed to the loss of deep-rooted perennial bunchgrasses, while recent grazing practices with light intensity of use following the active growing season has allowed an upward trend in condition of native perennial bunchgrass composition. Residual deep-rooted bunchgrasses and a seed source for establishment of additional plants can provide opportunity for recovery toward reference site conditions with co-dominance of vegetation communities by Idaho fescue and bluebunch wheatgrass upon natural or planned reduction in competition from juniper.

Trend data indicate that the ORMP objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas has been met in the Bridge Creek allotment, with its upward trend (PORMP-FEIS Table VEGE-2; Bridge Creek allotment was 35 pecent early seral, 50 percent mid-seral, and 15 percent late-seral).

Standard 5 (Seedings)

Rangelands seeded with mixtures, including predominately non-native plants, are functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle.

Standard 5 does not apply to this allotment.

Standard 6 (Exotic Plant Communities, Other than Seedings)

Exotic plant communities, other than seedings, will meet minimum requirements of soil stability and maintenance of existing native and seeded plants. These communities will be rehabilitated to perennial communities when feasible cost effective methods are developed.

Standard 6 does not apply to this allotment.

Standard 7 (Water Quality)

Surface and ground water on public lands comply with the Idaho Water Quality Standards.

Standard

□ Standard does not apply
□ Meeting the Standard
□ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
■ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

■ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). —

Rationale for Evaluation Finding and Determination

Idaho Department of Environmental Quality (IDEQ) designates basins, sub-basins, and assessment units in order to manage the state's waterways. The 2010 Integrated Report (303(d)/305(b)) uses assessment units (AUs) within the sub-basin. Assessment units are groups of similar streams within a sub-basin that have similar land use practices, ownership, or land management. Assessment units are assessed for pollutants and assigned beneficial uses with

associated Water Quality Standards. According to the Clean Water Act, each state must develop Total Maximum Daily Loads (TMDLs) for all the waters on the 303(d) list. The objective of a TMDL is to determine the loading capacity of the water body and to allocate that load among different pollutant sources so that the appropriate control actions can be taken and water quality standards achieved. The TMDL process is important for improving water quality because it links the development and implementation of control actions to the attainment of water quality standards. Once a TMDL is developed for a particular pollutant or pollution, it is effectively removed from the 303(d) list.

Current IDEQ information identifies that the Bridge Creek allotment contain approximately 6.6 miles of stream that are not supporting the watershed's beneficial uses. The allotment contains portions of 2 AUs with associated beneficial uses and pollutants (Table RIPN-10). Both AUs are currently not supporting the watershed's beneficial uses, and all of the streams that occur within AU# ID17050108SW015_02 are also on the 303(d) list of impaired waters for flow alteration. Both AUs have been removed for the 303(d) list for temperature because TMDLs have been developed and approved.

Potential Natural Vegetation (PNV) TMDLs were developed for temperature for the AUs that occur within the allotment. Idaho water quality standards include a provision (IDAPA 58.01.02.200.09), which establishes that if natural conditions exceed numeric water quality criteria, exceedance of the criteria is not considered to be a violation of water quality standards. In these situations, natural conditions essentially become the water quality standard, and the natural level of shade and channel width become the target of the TMDL. The in-stream temperature that results from attainment of these conditions is consistent with the water quality standards, even though it may exceed numeric temperature criteria. (Jordan Creek TMDL, 2009). However, current IDEQ information indicates that the reach of the North Fork Castle Creek that traverses the allotment and has been evaluated for temperature using the PNV approach is not meeting the shade target established.

Based on the streams presence on the 303(d) list of impaired waters for flow alteration, Standard 7 is not being in the Bridge Creek allotment; however, the Standard is not being met based on flow alterations and is therefore in conformance with the Guidelines for Livestock Grazing Management.

Table RIPN-10: Bridge Creek allotment IDEQ water quality

AU #	AU Name	Beneficial Use Not Being Met	Pollutant/ Pollution	TMDL
ID17050103SW014_02a	Castle Creek - 1st & 2nd	CWAL[1] SS[2]	temperature	Yes- all streams

	order forested tributaries			
ID17050108SW015_02	Spring and Meadow Creeks - 1st and 2nd order	CWAL	temperature flow alteration	All Streams No

[1]CWAL= cold water aquatic life
[2]SS = salmonid spawning

Standard 8 (Threatened and Endangered Plants and Animals)

Habitats are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.

Standard

□ Standard does not apply
□ Meeting the Standard
■ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

□ Conforms with Guidelines for Livestock Grazing Management
■ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). 5, 8, 12

Rationale for Evaluation Finding and Determination

Botany

Standard 8 for botany is met in the Bridge Creek allotment. There are no federally listed plant species and there is insufficient information to determine site-specific impacts of livestock grazing on any special status plants that occur in this allotment.

Wildlife

Standard 8 for wildlife is not met in the Bridge Creek allotment. Upland and riparian habitats are not providing adequate conditions for many shrub-obligate and riparian dependent species. Overall, upland habitats are not providing adequate conditions for many shrub-obligate and

ground dwelling, nesting and foraging species due to an increase in juniper cover and concomitant reductions in shrub and perennial herbaceous understory cover. Although results from SG HAs showed suitable breeding and upland summer, and habitat conditions at survey sites, advanced stages of juniper encroachment into formerly usable sage-grouse habitats across the majority of the allotment is substantially limiting habitat suitability for sage-grouse. Conversion to juniper woodlands comes at the expense of shrub steppe habitats which are the proper plant community reference state and condition for the ecological sites that predominate within the allotment. Juniper encroachment is a primary causal factor for the Bridge Creek allotment not meeting Standard 8 for wildlife in upland habitats.

The majority of riparian habitats within the allotment are not in PFC (see Standard 2). Along most reaches riparian habitats are not providing adequate breeding and foraging conditions for many dependent wildlife species due to a lack of structural diversity, inadequate soil moisture for hydric vegetation, and unstable banks. These factors result in inadequate habitat for a diversity of species including migratory birds, redband trout, and Columbia spotted frogs. Because there are no known riparian habitats outside of juniper dominated areas and drainages in the allotment, riparian habitat is unavailable and unsuitable for sage-grouse. Current livestock grazing management practices are the causal factor for not meeting Standard 8 wildlife in riparian habitats.

Because the condition, abundance, structural stage, and distribution of plant communities required for diverse and desired wildlife populations are not maintained or enhanced and because special status species' habitats are inadequate to increase or maintain populations so as to preclude an impetus for listing (for sagebrush and shrub obligates and dependent species in particular), these major ecological site alterations from their reference states discussed above do not conform with ORMP objectives WDLF-1 and SPSS-1.

Determination

I have determined that Standards 1, 2, 3, 4, 7, and 8 of the applicable Standards for Rangeland Health are not being met in the Bridge Creek allotment. Current livestock grazing management practices are significant factors in not meeting Standards 2, 3, and 8, but are not the significant causal factors for not meeting Standards 1, 4, and 7. Standards 5 and 6 are not applicable to the allotment. Livestock management practices do not conform with the applicable Guidelines for Livestock Grazing Management Guidelines 5, 7, 8, and 12 for several Standards.

10/21/13

Field Manager **Date**
Owyhee Field Office

Stahle FFR Allotment

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Stahle FFR (0641) Allotment

2013 Evaluation Findings and Determination

Standard 1 (Watersheds)

Watersheds provide for the proper infiltration, retention, and release of water appropriate to soil type, vegetation, climate, and landform to provide for proper nutrient cycling, hydrologic cycling and energy flow.

Standard

□ Standard does not apply
■ Meeting the Standard
□ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

■ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). __

Rationale for Evaluation Finding and Determination

Standard 1 is met in the Stahle FFR allotment with watershed indicators showing little departure from expected conditions for the ecological site. Soil and hydrologic function-related indicators are primarily none-to-slight and reflect stable soils with abundant gravel in place to reduce erosion potential. The biotic integrity, however, shows a departure from reference site conditions so that watershed health is considered to be at risk.

Much of the decline in biotic function can be associated with a change in deep-rooted bunchgrasses, like bluebunch wheatgrass, to more shallow-rooted species, such as Sandberg bluegrass. The lack of species diversity and the localized invasion of Western juniper have been the result of past livestock grazing management and altered natural fire regimes that would periodically reduce juniper dominance.

Despite the departure of biotic integrity, soils have remained stable and intact, erosion relics are weakly defined to absent, and bare ground is minimal. While indicators of hydrologic function associated with litter amount and infiltration show some departure, overall soil and hydrologic

integrity and their associated attributes are still maintained. Standard 1 is being met but soils are considered to be at risk due to declining biotic conditions.

Standard 2 (Riparian Areas and Wetlands)

Riparian-wetland areas are in properly functioning condition appropriate to soil type, climate, geology, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

This standard does not apply to this allotment.

Standard 3 (Stream Channel/Floodplain)

Stream channels and floodplains are properly functioning relative to the geomorphology (e.g., gradient, size shape, roughness, confinement, and sinuosity) and climate to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

This standard does not apply to this allotment.

Standard 4 (Native Plant Communities)

Healthy, productive, and diverse native animal habitat and populations of native plants are maintained or promoted as appropriate to soil type, climate, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Standard

□ Standard does not apply
□ Meeting the Standard
□ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
■ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

■ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s).

Rationale for Evaluation Finding and Determination

Standard 4 is not met in the Stahle FFR allotment, with the overall moderate departure of biotic integrity from reference site conditions for a mountain big sagebrush vegetation community. The loss of deep-rooted native perennial bunchgrass species with increased dominance by cheatgrass and accompanied by increasing juniper dominance contribute to the failure to meet the standard.

Altered natural fire regimes that would periodically reduce juniper dominance and historic livestock management practices are the causal factors for failure to meet the standard. Current spring and fall grazing with a short duration are not likely to impact native perennial bunchgrass health and vigor. No vegetation trend data are available for the Stahle FFR allotment, precluding a conclusion about whether the Owyhee Resource Management Plan objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas has been met (PORMP-FEIS Table VEGE-2; Stahle FFR allotment was 40 percent early seral and 60 percent mid-seral).

Standard 5 (Seedings)

Rangelands seeded with mixtures, including predominately non-native plants, are functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle.

Standard 5 does not apply to this allotment.

Standard 6 (Exotic Plant Communities, Other than Seedings)

Exotic plant communities, other than seedings, will meet minimum requirements of soil stability and maintenance of existing native and seeded plants. These communities will be rehabilitated to perennial communities when feasible cost effective methods are developed.

Standard 6 does not apply to this allotment.

Standard 7 (Water Quality)

Standard 7 does not apply to this allotment.

Standard 8 (Threatened and Endangered Plants and Animals)

Habitats are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.

Standard

□ Standard does not apply
□ Meeting the Standard
□ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
■ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

■ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s).

Rationale for Evaluation Finding and Determination
Botany
Standard 8 for botany is met in the Stahle FFR allotment. There are no federally listed plant species and there is insufficient information to determine site-specific impacts of livestock grazing on any special status plants that occur in this allotment.

Wildlife
Overall, Standard 8 for wildlife is not met in the Stahle FFR allotment. Upland habitats are not providing adequate conditions for many shrub-obligate and dependent species. Upland habitat conditions in the Stahle FFR allotment exhibit moderate departure of biotic integrity from reference conditions (see Standard 4). The loss of deep-rooted bunchgrasses and an increase in cheatgrass is negatively affecting habitat quality for many dependent species. Advanced stages of juniper encroachment into formerly usable sage-grouse habitats is substantially limiting habitat suitability for sage-grouse. The reduction of shrubs and bunchgrasses and conversion of shrub steppe habitats to juniper woodlands is affecting habitat suitability for most obligate and dependent wildlife and is probably not providing adequate habitat conditions for these species. Conversion to juniper woodlands comes at the expense of shrub steppe habitats which are the proper plant community reference state and condition for the ecological sites that predominate within the allotment. Juniper encroachment is a primary causal factor for the Stahle FFR allotment not meeting Standard 8 for wildlife in upland habitats.

Because the condition, abundance, structural stage, and distribution of plant communities required for diverse and desired wildlife populations are not maintained or enhanced and because special status species' habitats are inadequate to increase or maintain populations so as to preclude an impetus for listing (for sagebrush and shrub obligates and dependent species in particular), these major ecological site alterations from their reference states discussed above do not conform with ORMP objectives WDLF-1 and SPSS-1.

Determination
I have determined that Standards 4 and 8 of the applicable Standards for Rangeland Health are not being met in the Stahle FFR allotment, but current livestock grazing management practices are not significant factors in not meeting these Standards. Standard 1 is met and Standards 2, 3, 5, 6, and 7 are not applicable to the allotment.

Lowell V Clark — 10/21/13

Field Manager — **Date**
Owyhee Field Office

Quicksilver FFR Allotment

2013 Supplement to the Boone Peak Group Rangeland Health Standards and Guidelines Assessment and Determinations, Quicksilver FFR (0483) Allotment

2013 Evaluation Findings and Determination

Standard 1 (Watersheds)

Watersheds provide for the proper infiltration, retention, and release of water appropriate to soil type, vegetation, climate, and landform to provide for proper nutrient cycling, hydrologic cycling and energy flow.

Standard

□ Standard does not apply
■ Meeting the Standard
□ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

■ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s).

Rationale for Evaluation Finding and Determination

Standard 1 is met in the Quicksilver FFR allotment with watershed indicators showing little departure from expected conditions for the ecological sites. Soil and hydrologic function-related indicators vary between none-to-slight and slight-to-moderate and reflect stable soils that display past and some active impacts though abundant gravel, adequate litter, and fair plant diversity are in place to reduce erosion potential.

Recent documented and undocumented fires have controlled juniper to a limited degree in localized areas. Where remaining juniper has not been affected by natural fire regimes, it has the potential to contribute to not meeting Standard 1 in the future so that pastures 1 and 3 are considered to be at-risk. Pasture 2 burned in a 2007 wildfire and the significant beneficial reduction of juniper and the otherwise satisfactory watershed condition present before the fire suggest that the integrity of the site remains.

Soil and hydrologic indicators show that watershed function is maintained with proper nutrient and hydrologic cycling, and energy flow. Overall, current livestock management remains

compatible with attainment of Standard 1 and ORMP objectives for the Quicksilver FFR allotment.

Standard 2 (Riparian Areas and Wetlands)

Riparian-wetland areas are in properly functioning condition appropriate to soil type, climate, geology, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Standard

□ Standard does not apply
□ Meeting the Standard
■ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

□ Conforms with Guidelines for Livestock Grazing Management
■ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). _5_

Rationale for Evaluation Finding and Determination

Approximately 0.2 mile of North Boulder Creek occurs on BLM land within pasture 2 of the Quicksilver allotment. There reach was assessed FAR in 2001 because there was a lack of species with root masses capable of protecting stream banks. There had also been as shift from hydric species to those species more suited to drier sites.

Current livestock grazing management practices are significant causal factors for not meeting Standard 2. Residual vegetation has not been sufficient to maintain or improve riparian-wetland function, and the recent grazing schedule has not allowed for rest years. Therefore, current livestock grazing management practices do not conform with the Idaho Guidelines for Livestock Grazing Management applicable to Standard 2.

Standard 3 (Stream Channel/Floodplain)

Stream channels and floodplains are properly functioning relative to the geomorphology (e.g., gradient, size shape, roughness, confinement, and sinuosity) and climate to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Standard

□ Standard does not apply
□ Meeting the Standard
■ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines
□ Conforms with Guidelines for Livestock Grazing Management
■ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). _7_

Rationale for Evaluation Finding and Determination
See information under Standard 2 above.

Standard 4 (Native Plant Communities)

Healthy, productive, and diverse native animal habitat and populations of native plants are maintained or promoted as appropriate to soil type, climate, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Standard
□ Standard does not apply
■ Meeting the Standard
□ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines
■ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s).

Rationale for Evaluation Finding and Determination
Standard 4 is met in pastures 1, 2, and 3 of the Quicksilver FFR allotment with the overall none-to-slight departure of biotic integrity from reference site conditions recorded within the low sagebrush communities of pasture 1 and the mountain big sagebrush communities of pasture 2, while the overall slight-to-moderate departure of biotic integrity from reference site conditions is recorded in pasture 3. Although recent undocumented fires have controlled juniper to a limited

degree in localized areas, remaining juniper uncontrolled by natural fire regimes has the potential to contribute to not meeting Standard 4 in the future. Current spring and fall grazing with a short duration are not likely to impact native perennial bunchgrass health and vigor. No vegetation trend data are available for the Quicksilver FFR allotment, precluding a conclusion about whether the Owyhee Resource Management Plan objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas has been met (PORMP-FEIS Table VEGE-2; Quicksilver FFR allotment was 100 percent early seral).

Standard 5 (Seedings)

Rangelands seeded with mixtures, including predominately non-native plants, are functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle.

Standard 5 does not apply to this allotment.

Standard 6 (Exotic Plant Communities, Other than Seedings)

Exotic plant communities, other than seedings, will meet minimum requirements of soil stability and maintenance of existing native and seeded plants. These communities will be rehabilitated to perennial communities when feasible cost effective methods are developed.

Standard 6 does not apply to this allotment.

Standard 7 (Water Quality)

Surface and ground water on public lands comply with the Idaho Water Quality Standards.

Standard

□ Standard does not apply
□ Meeting the Standard
■ Not meeting the Standard, Current livestock grazing management practices are significant factors
□ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

□ Conforms with Guidelines for Livestock Grazing Management
■ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). _10__

Rationale for Evaluation Finding and Determination

Idaho Department of Environmental Quality (IDEQ) designates basins, sub-basins, and assessment units in order to manage the state's waterways. The 2010 Integrated Report (303(d)/305(b)) uses assessment units (AUs) within the sub-basin. Assessment units are groups of similar streams within a sub-basin that have similar land use practices, ownership, or land management. Assessment units are assessed for pollutants and assigned beneficial uses with associated Water Quality Standards. According to the Clean Water Act, each state must develop Total Maximum Daily Loads (TMDLs) for all the waters on the 303(d) list. The objective of a TMDL is to determine the loading capacity of the water body and to allocate that load among different pollutant sources so that the appropriate control actions can be taken and water quality standards achieved. The TMDL process is important for improving water quality because it links the development and implementation of control actions to the attainment of water quality standards. Once a TMDL is developed for a particular pollutant or pollution, it is effectively removed from the 303(d) list.

Current IDEQ information identifies that the BLM portions of the three pastures within the Quicksilver allotment contain approximately 0.2 mile of stream that are not supporting the watershed's beneficial uses, and 0.3 mile that has not been assessed. The allotment contains portions of four AUs with associated beneficial uses and pollutants (Table RIPN-11). AU# ID17050103SW016_02 is currently not supporting the beneficial uses, and all of the streams that occur within the AU are also on the 303(d) list of impaired waters. However, the streams that occur within the remaining three AUs have not been assessed; thus, Standard 7 does not apply to pastures 2 and 3.

Based on the streams presence on the 303(d) list of impaired waters, Standard 7 is not being met in pastures 1 of the Quicksilver FFR allotment due to sediment and temperature, and is not in conformance with the Guidelines for Livestock Grazing Management. Standard 7 is not currently applicable in pastures 2 and 3 since the streams have not been assessed by IDEQ.

Table RIPN-11: IDEQ Water Quality Summary for the Quicksilver FFR allotment

AU #	AU Name	Pasture AU occurs in	Beneficial Use Not Meeting	Pollutant/ Pollution	TMDL
ID17050103SW016_02	Pickett Creek - 1st & 2nd order	1	CWAL	sedimentation/ siltation temperature	No No
ID17050108SW007_02	North Boulder Creek - 1st and 2nd order	2	not assessed	NA	NA
ID17050108SW008_02	Mammoth Creek -	2	not assessed	NA	NA

	entire drainage				
ID17050108SW007_02	North Boulder Creek - 1st and 2nd order	3	not assessed	NA	NA

[1]CWAL = cold water aquatic life

Standard 8 (Threatened and Endangered Plants and Animals)

Habitats are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.

Standard

□ Standard does not apply
□ Meeting the Standard
□ Not meeting the Standard, Current livestock grazing management practices are significant factors
■ Not Meeting the Standard; Making significant progress toward
□ Not Meeting the Standard; Current livestock grazing management practices are not significant factors

Guidelines

■ Conforms with Guidelines for Livestock Grazing Management
□ Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s).

Rationale for Evaluation Finding and Determination

Botany

Standard 8 for botany is met in the Quicksilver FFR allotment. There are no federally listed plant species and there is insufficient information to determine site-specific impacts of livestock grazing on any special status plants that occur in this allotment.

Wildlife

Overall, Standard 8 for wildlife is making significant progress toward being met in the Quicksilver FFR allotment. Although the standard is not being met in pasture 1, significant progress toward meeting the standard is occurring in pasture 2, and the standard is being met in pasture 3. In general, many indicators of upland rangeland health were near reference conditions in all pasture. However, pasture 1 was affected by conversion to juniper woodlands and exhibited a moderate departure from ecological site reference conditions. The conversion of shrub steppe habitats to juniper woodlands is affecting habitat suitability for most obligate and dependent wildlife and is probably not providing adequate habitat conditions for these species. However,

upland and riparian habitats are providing at least minimally adequate conditions for many shrub-obligate and riparian dependent species in pastures 2 and 3 (uplands only). Functional and structural groups are near to what is expected for the sites and are likely to be providing habitat that is adequate for the needs of most dependent special status and other wildlife species. Juniper woodlands of moderate to high densities are limiting if not excluding sage-grouse use of BLM lands within pasture 1 which is the only pasture that falls firmly within the range of the local sage-grouse population.

Riparian habitat is only found in pasture 2 and although the assessed segment of North Fork Boulder Creek was FAR, the pasture is making progress toward meeting Standard 8. Although some issues were noted such as noxious weeds and low herbaceous hydric species diversity, woody species displayed diverse age-classes which are providing structurally complex breeding, nesting, and foraging habitat which is at least minimally adequate for dependent migratory bird species and other wildlife species.

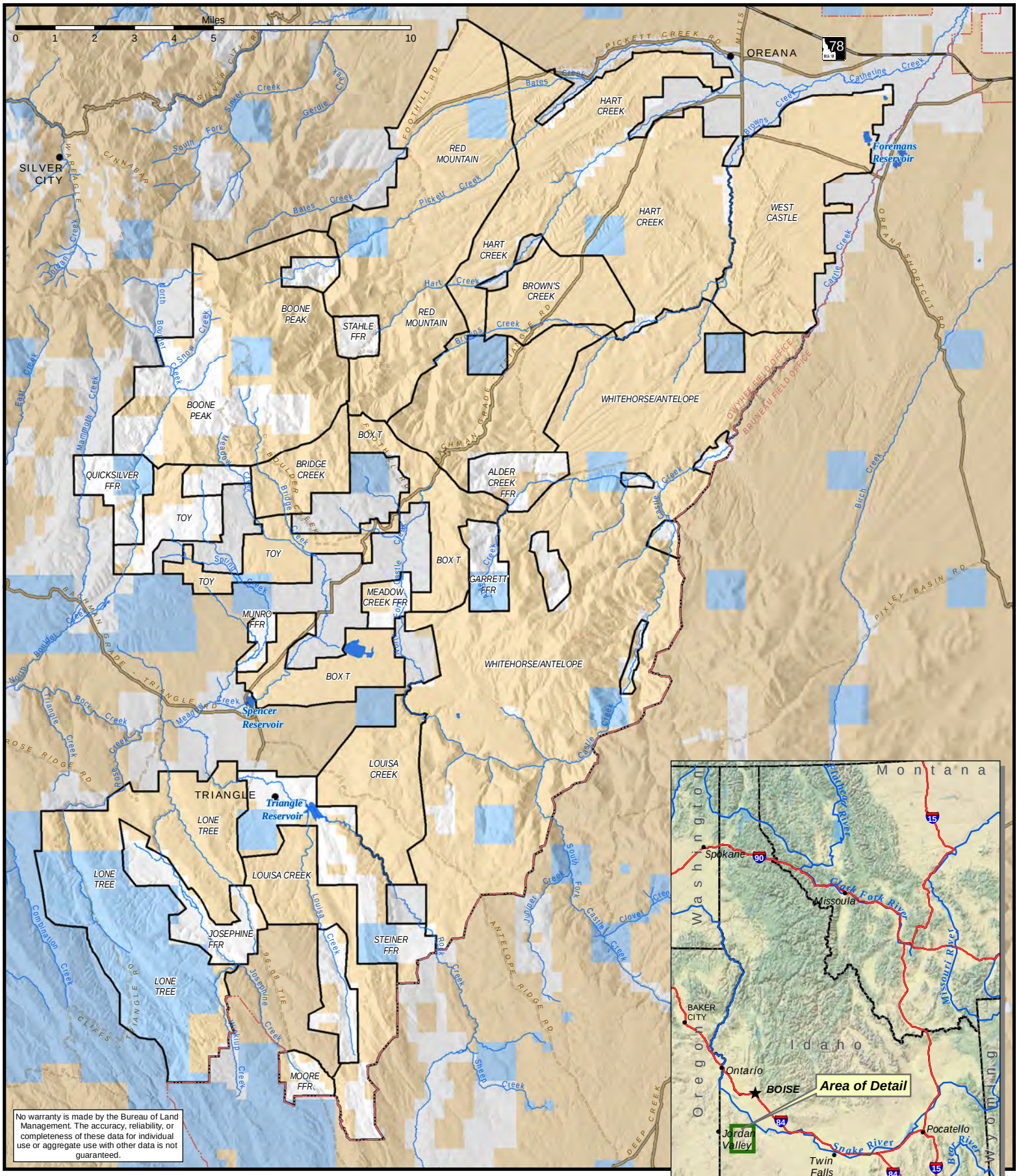
Because the condition, abundance, structural stage, and distribution of plant communities required for diverse and desired wildlife populations are being maintained or enhanced and because special status species' habitats are adequate to increase or maintain populations so as to preclude an impetus for listing, current livestock grazing management practices are in conformance with the Idaho Guidelines for Livestock Grazing Management and conform with ORMP objectives WDLF-1 and SPSS-1.

Determination

I have determined that Standards 2, 3, 7, and 8 of the applicable Standards for Rangeland Health are not being met in the Quicksilver FFR allotment, whereas Standards 1 and 4 are met. Current livestock grazing management practices are significant factors in not meeting Standards 2, 3, and 7. Although Standard 8 is not met, significant progress in being made. Standards 5 and 6 are not applicable to the allotment. Livestock management practices do not conform with all applicable Livestock Grazing Management Guidelines 5, 7, and 10 for several Standards.

Field Manager **Owyhee Field Office**	10/21/13 **Date**

GEN-1, Toy Mountain Allotments Overview



Legend

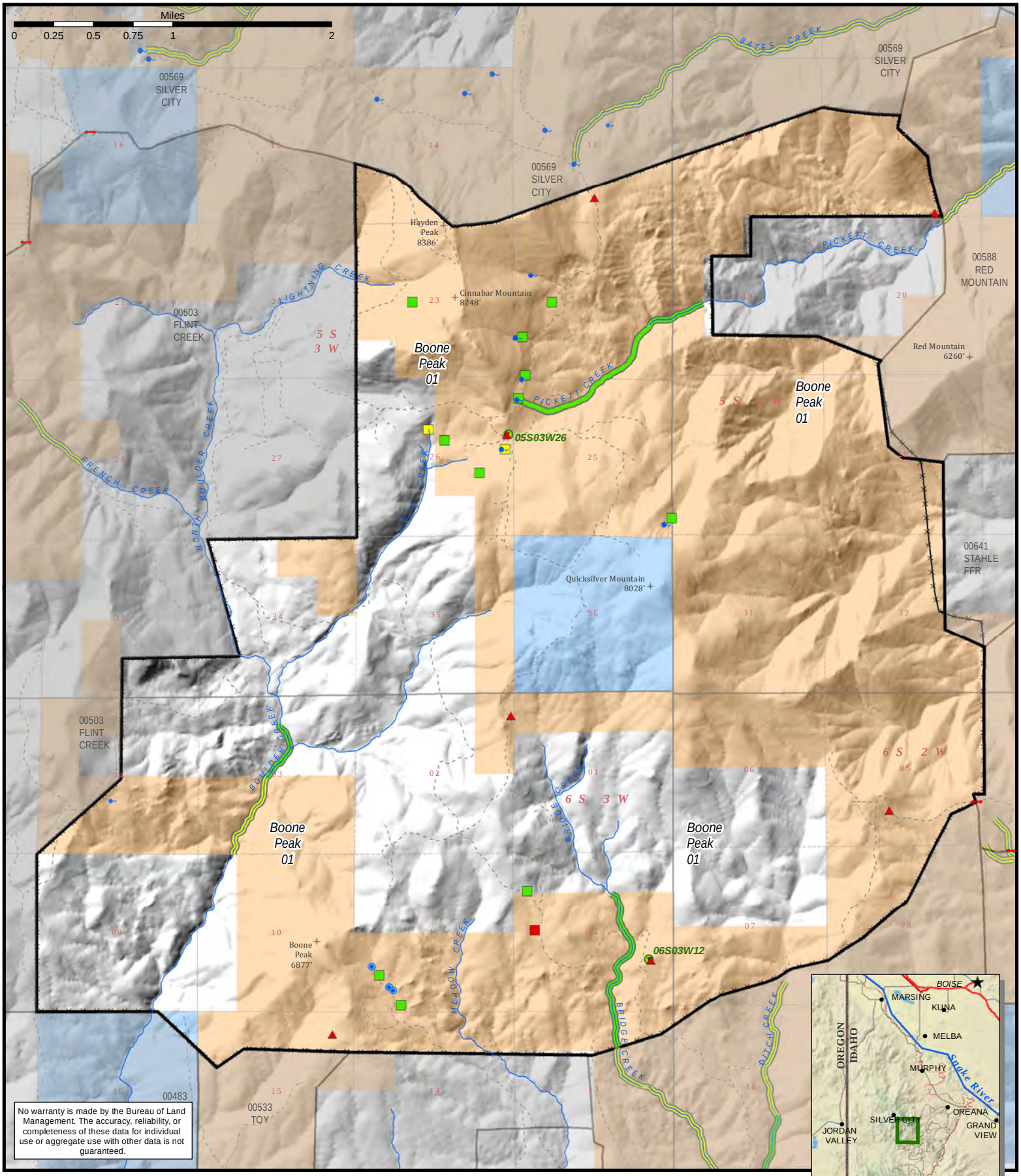
- Allotment Boundary
- Highway
- Improved Road
- Unimproved Road
- Perennial Stream
- Lake/Reservoir
- Town/City
- BLM Field Office Boundary

Surface Management Agency

- *Bureau of Land Management*
- *Private*
- *State*

1:200,000

RNGE-1A: Boone Peak (00589), Range and Riparian Overview



- Nested Plot Frequency Trend
- Rangeland Health Assessment Point
- Allotment of Interest Boundary
- Pasture Boundary
- Other Allotment Boundary
- Exclosure

Spring/Stream Assessment Rating

- *PFC (Proper Functioning Condition)*
- *FAR (Functioning At Risk)*
- *NF (Non-Functioning)*
- MIM Riparian Monitoring
- Perennial Stream

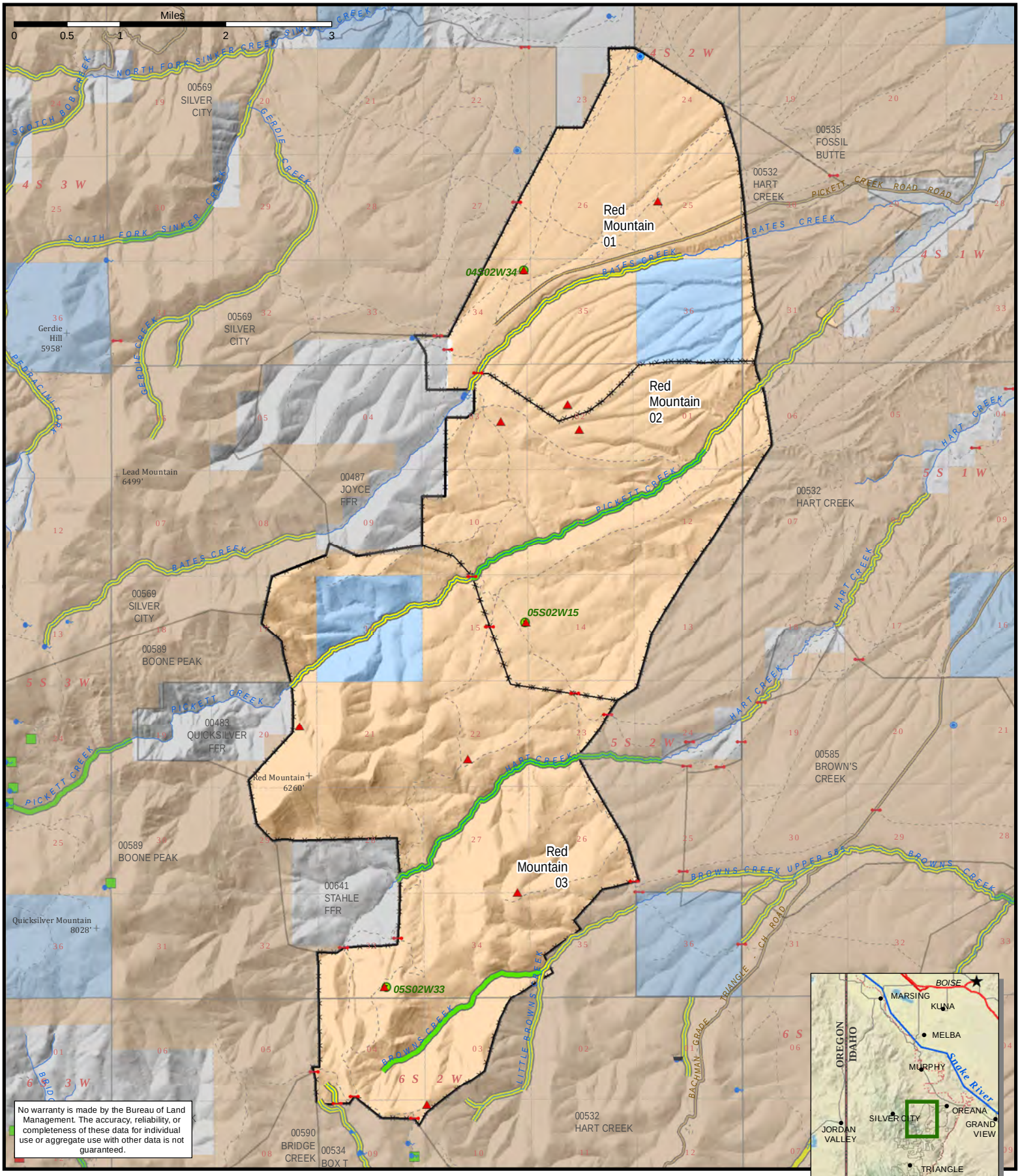
- Improved Road
- 4WD Road
- Gate
- Stock Pond
- Spring
- Trough

Management

- BLM
- State
- Private
- Lake/Reservoir

1:50,000

RNGE-1B: Red Mountain (00588), Range and Riparian Overview



Nested Plot Frequency Trend
Rangeland Health Assessment Point
Allotment of Interest Boundary
Other Allotment Boundary
Pasture Boundary
Exclosure

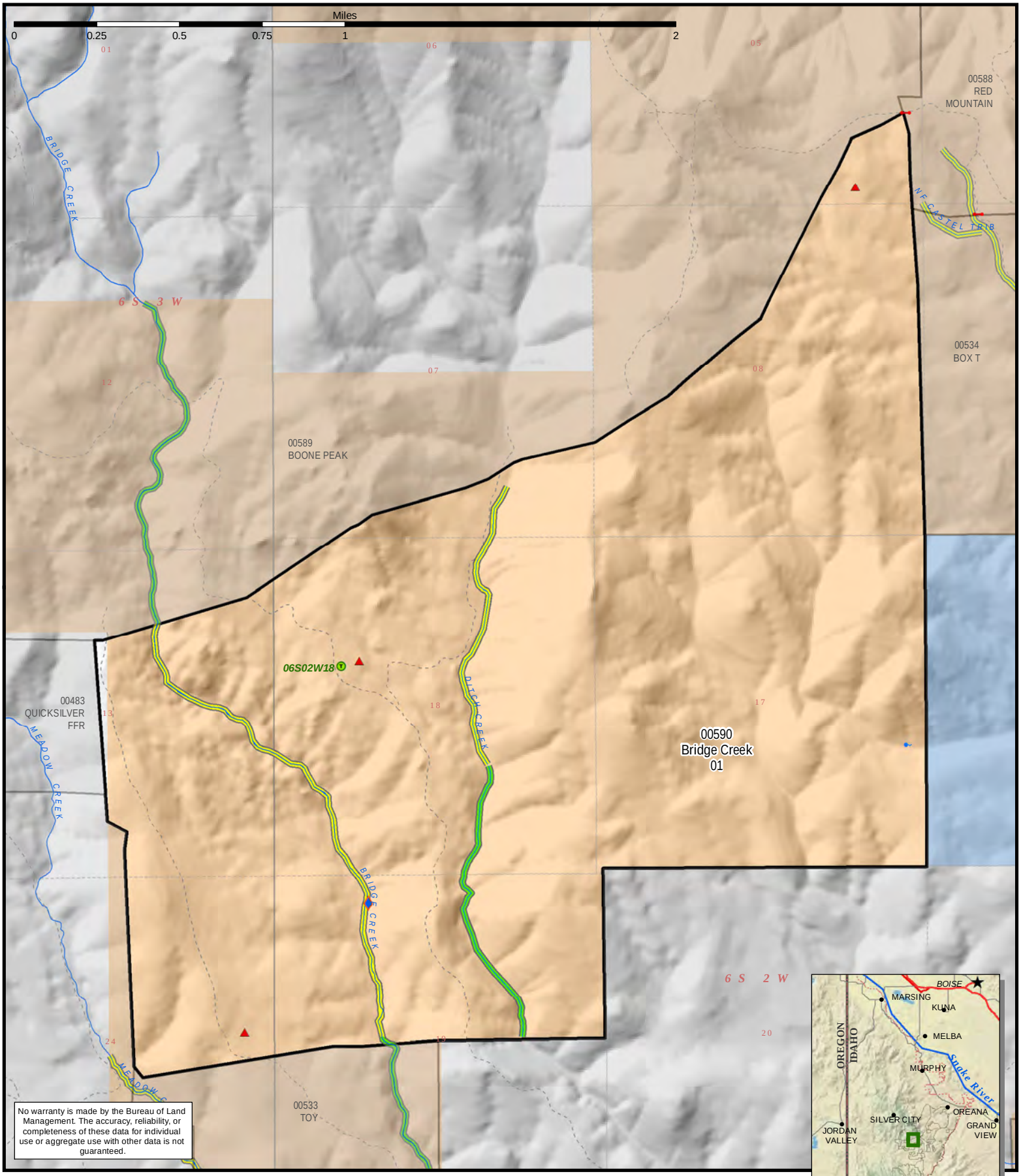
Spring/Stream Assessment Rating
PFC (Proper Functioning Condition)
FAR (Functioning At Risk)
NF (Non-Functioning)
MIM Riparian Monitoring
Perennial Stream

Improved Road
4WD Road
Gate
Stock Pond
Spring
Trough

Management
BLM
State
Private
Lake/Reservoir

1:75,000

RNGE-1C: Bridge Creek (00590), Range and Riparian Overview



Nested Plot Frequency Trend
Rangeland Health Assessment Point
Allotment of Interest Boundary
Pasture Boundary
Other Allotment Boundary
Exclosure

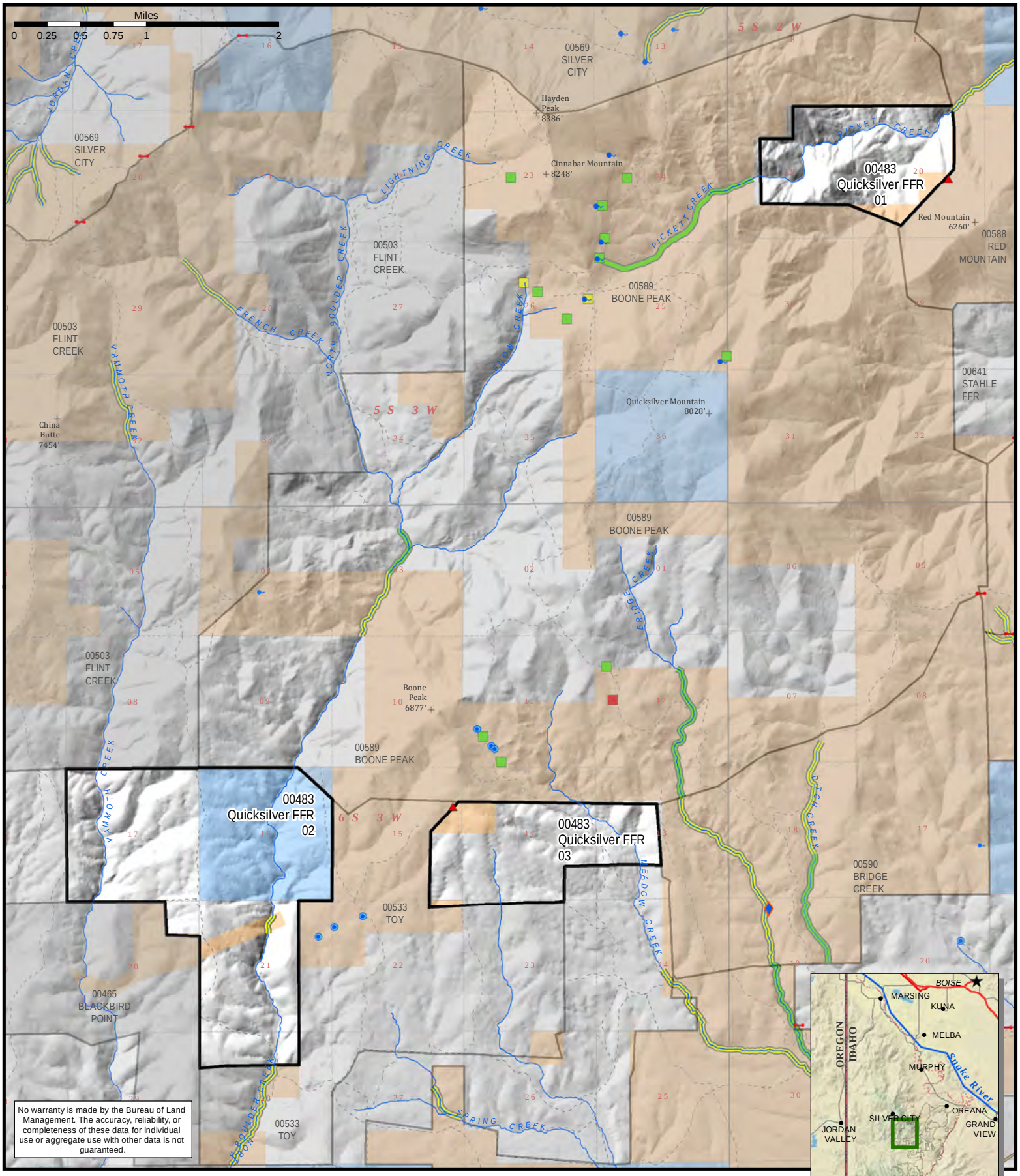
Spring/Stream Assessment Rating
PFC (Proper Functioning Condition)
FAR (Functioning At Risk)
NF (Non-Functioning)
MIM Riparian Monitoring
Perennial Stream

Improved Road
4WD Road
Gate
Stock Pond
Spring
Trough

Management
BLM
State
Private
Lake/Reservoir

1:24,000

RNGE-1D: Quicksilver FFR (00483), Range and Riparian Overview



- Nested Plot Frequency Trend
- Rangeland Health Assessment Point
- Allotment of Interest Boundary
- Pasture Boundary
- Other Allotment Boundary
- Exclosure

Spring/Stream Assessment Rating

- *PFC (Proper Functioning Condition)*
- *FAR (Functioning At Risk)*
- *NF (Non-Functioning)*
- MIM Riparian Monitoring
- Perennial Stream

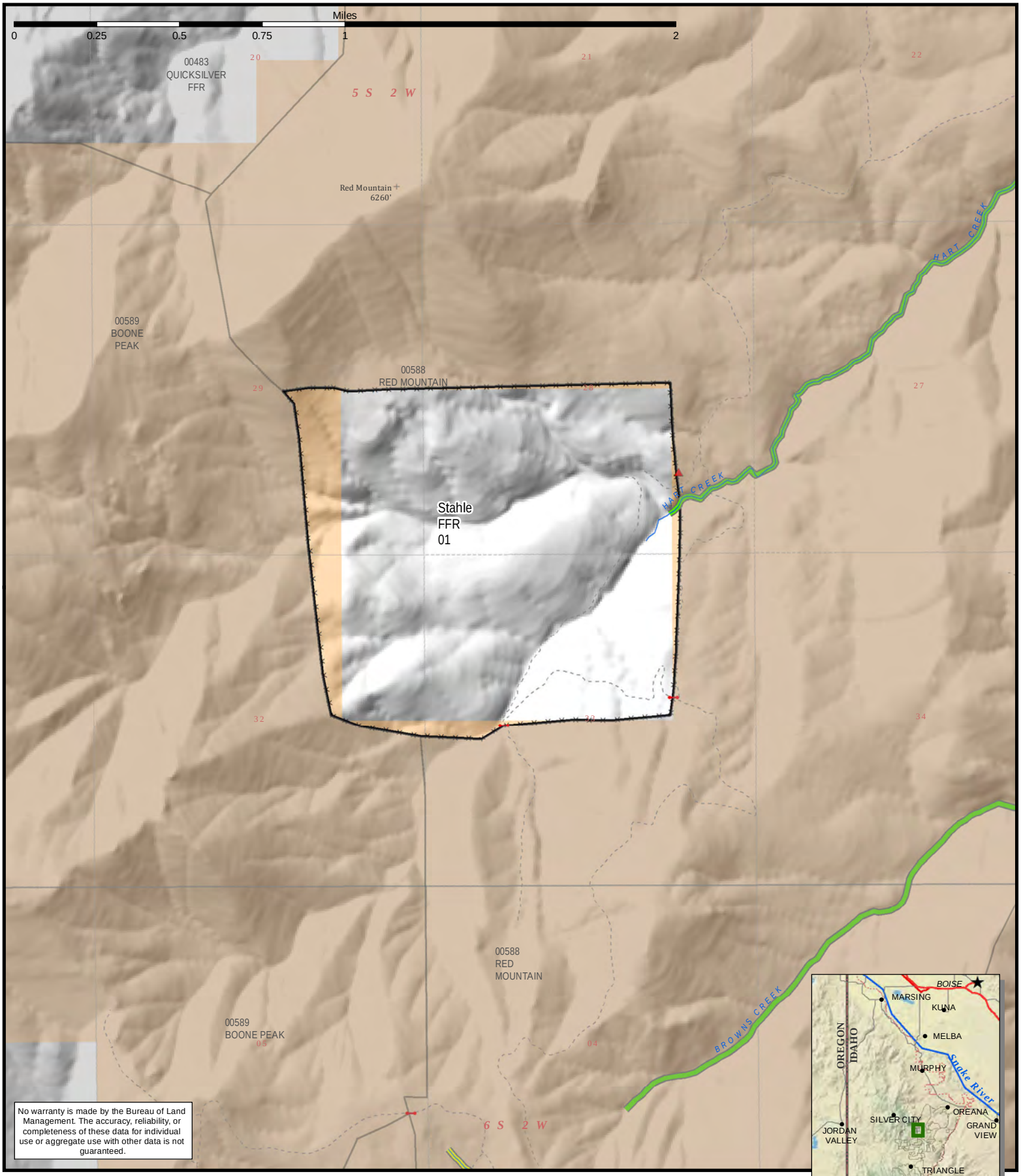
- Improved Road
- 4WD Road
- Gate
- Stock Pond
- Spring
- Trough

Management

- BLM
- State
- Private
- Lake/Reservoir

1:60,000

RNGE-1E: Stahle FFR (00641), Range and Riparian Overview



Nested Plot Frequency Trend
Rangeland Health Assessment Point
Allotment of Interest Boundary
Other Allotment Boundary
Pasture Boundary
Exclosure

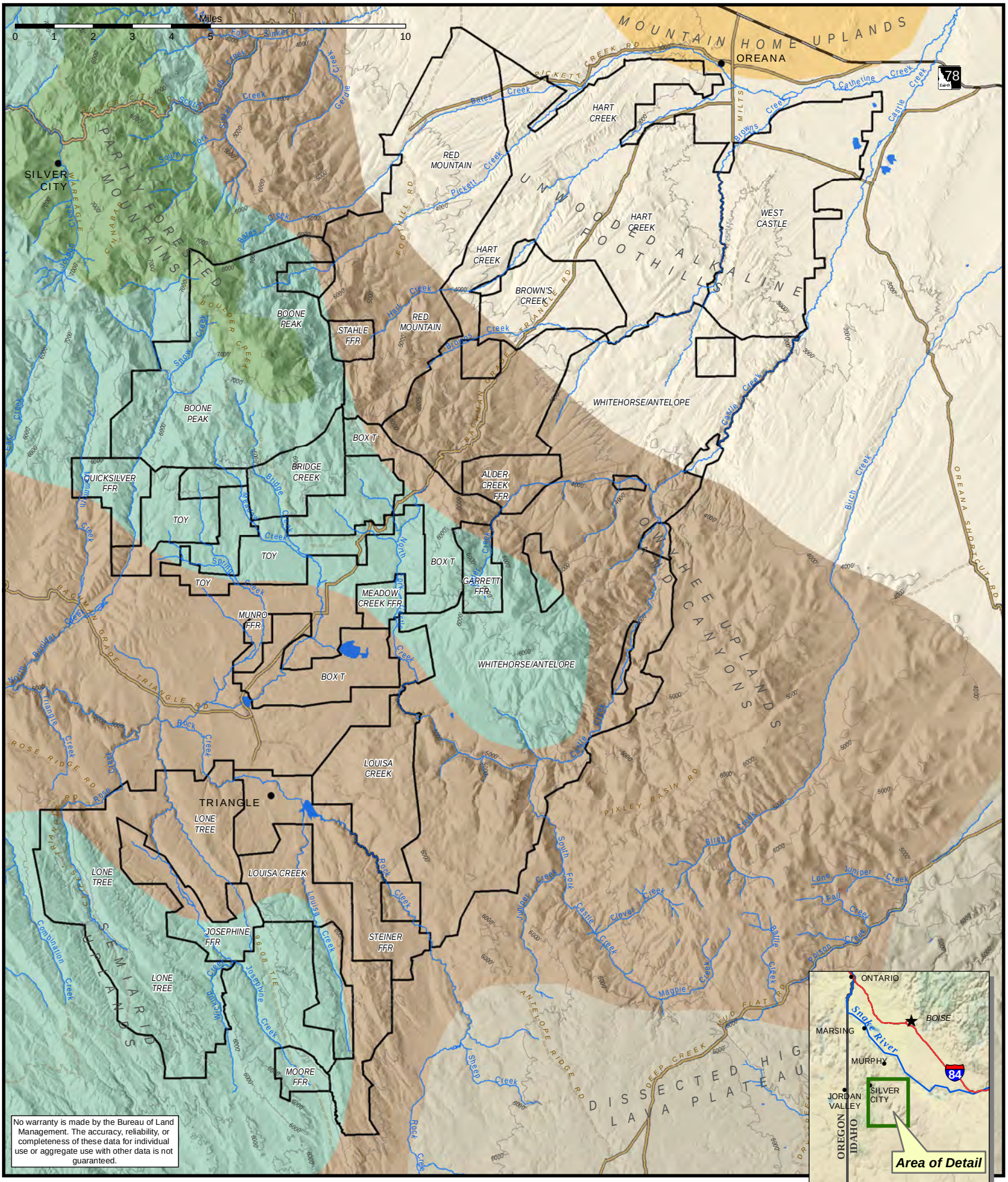
Spring/Stream Assessment Rating
PFC (Proper Functioning Condition)
FAR (Functioning At Risk)
NF (Non-Functioning)
MIM Riparian Monitoring
Perennial Stream

Improved Road
4WD Road
Gate
Stock Pond
Spring
Trough

Management
BLM
State
Private
Lake/Reservoir

1:24,000

WDLF-1, Ecoregions, Toy Mountain Allotments



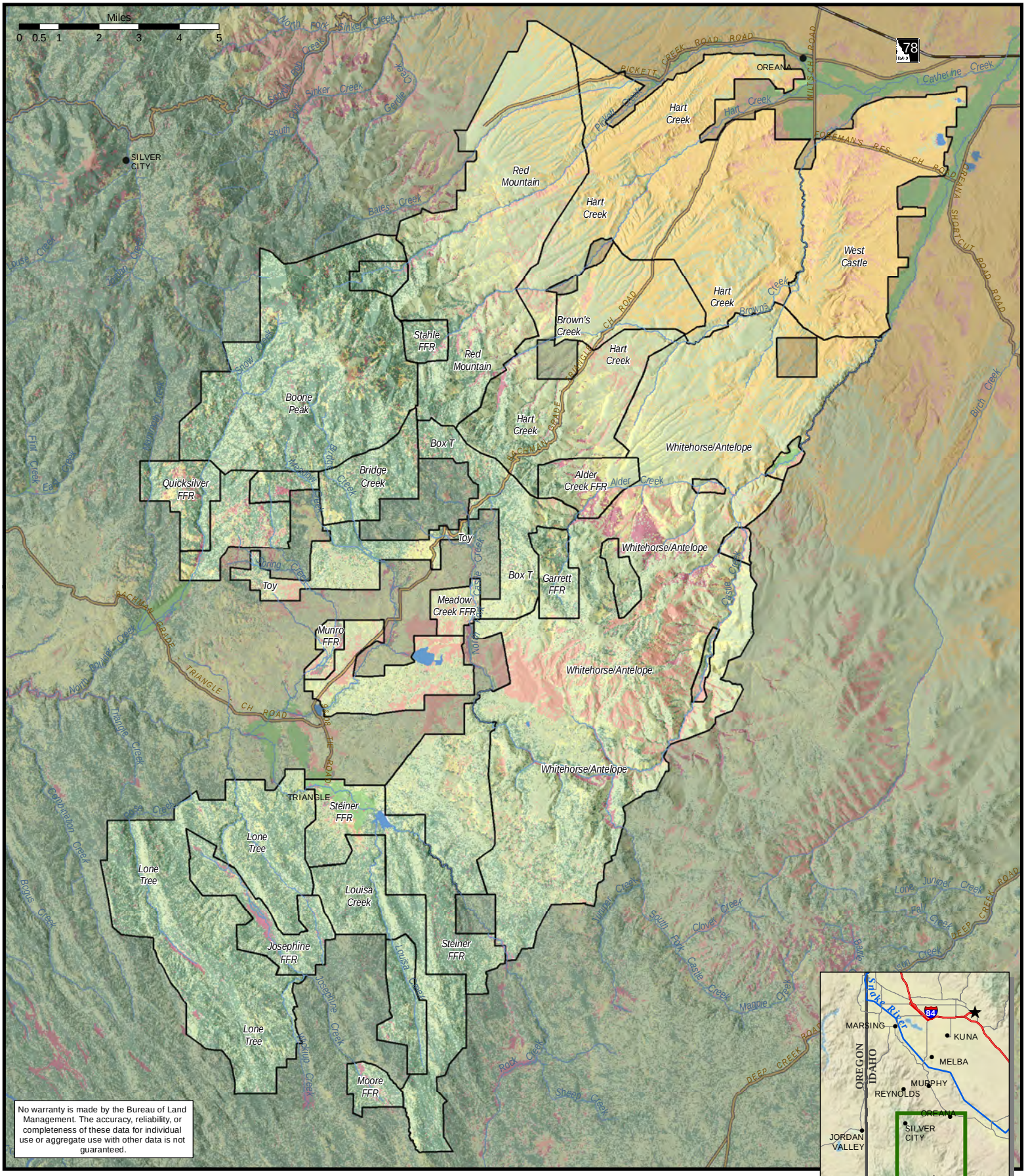
Allotment Boundary
Highway
Improved Road
Unimproved Road
Perennial Stream
Lake/Reservoir
Town/City
1000' Contour

Ecoregion Classification

Dissected High Lava Plateau
Mountain Home Uplands
Owyhee Uplands and Canyons
Partly Forested Mountains
Semiarid Uplands
Unwooded Alkaline Foothills

1:200,000

WDLF-2: Habitat/General Cover Types, Toy Mountain Allotments



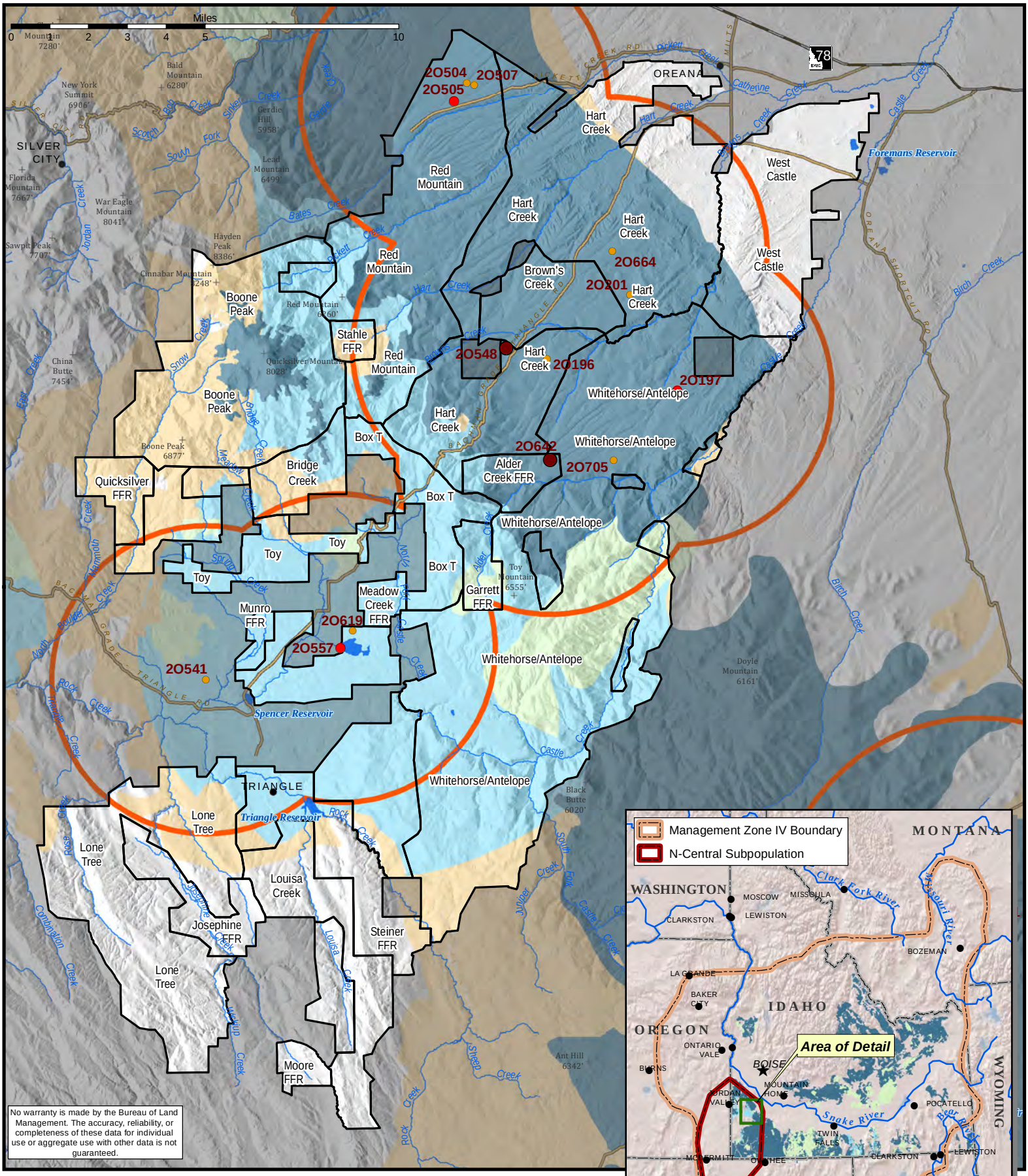
Allotment Boundary
Highway
Improved Road
Perennial Stream
Lake/Reservoir

Vegetation Cover Classification

- Agriculture
- Forest
- Shrub Steppe
- Grassland
- Non-native/Disturbed
- Salt Desert Shrub
- Urban
- Riparian

1:200,000

WDLF-3, Sage-grouse Overview, Toy Mountain Allotments



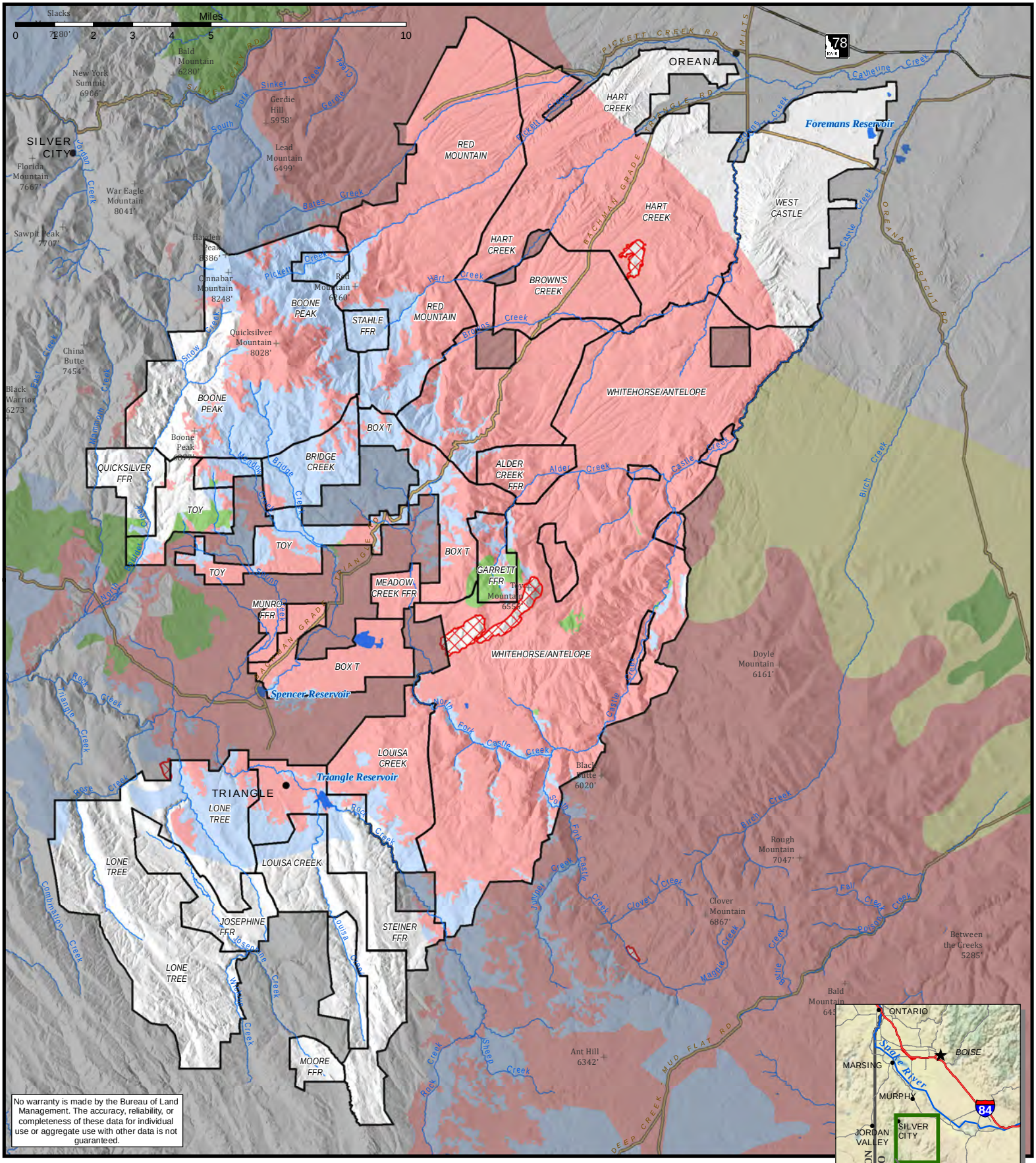
Allotment Boundary
Perennial Stream
Lake/Reservoir
Highway
Improved Road

Idaho Occupied Sage-grouse Leks
Maximum Count (2008-2012)
- 2 - 9
- 10 - 29
- 30 - 49
- More than 50

Idaho Sage-grouse Habitat Classes
- *PPH - Sagebrush*
- *PPH - Perennial grassland*
- *PPH - Conifer encroachment*
- *PGH - All subtypes*
- 75% Breeding Bird Density

1:205,000

WDLF-4, Key Habitat Overview, Toy Mountain Allotments



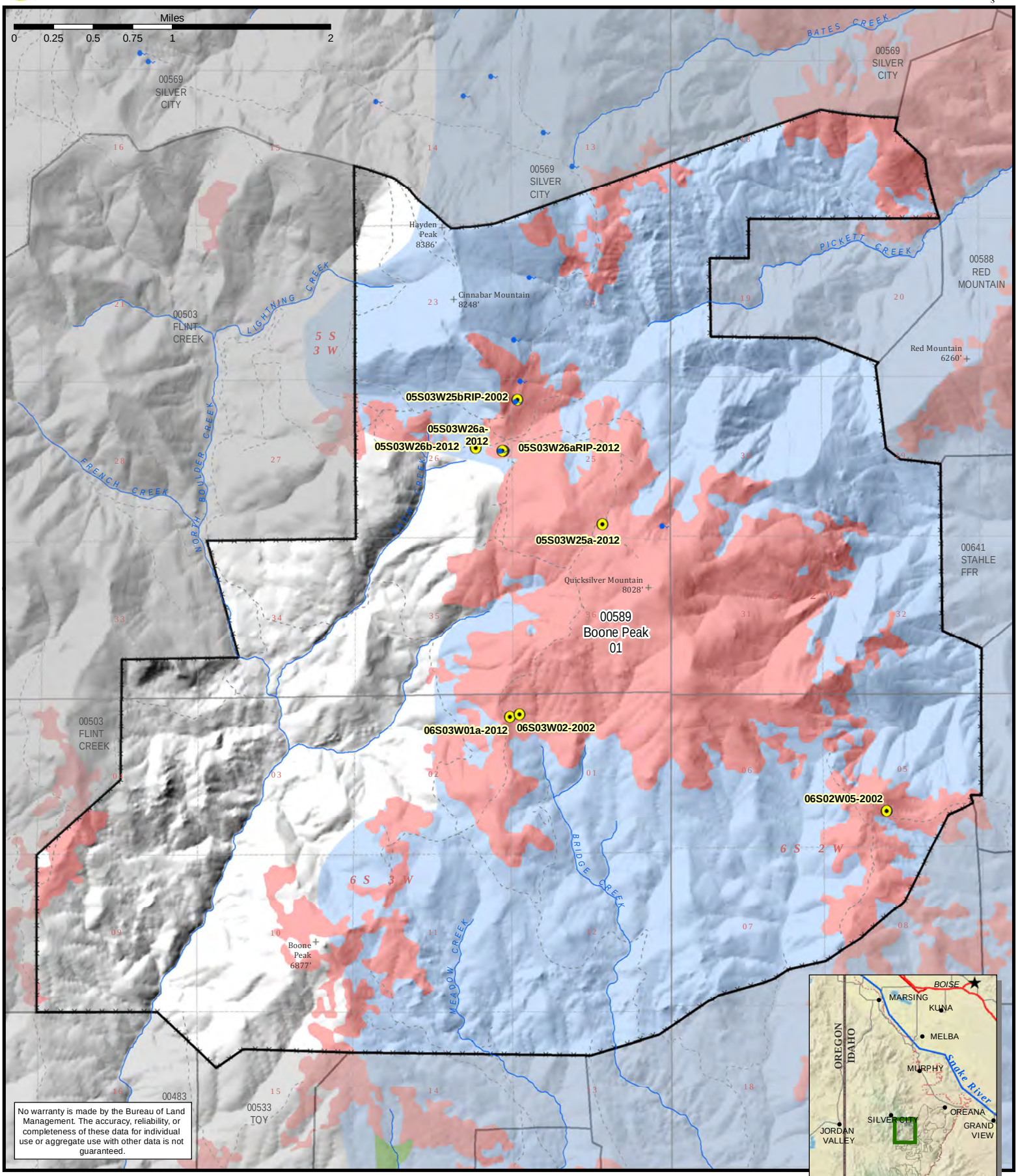
Allotment Boundary
Perennial Stream
Lake/Reservoir
Highway
Improved Road

2012 Sage Grouse Habitat

(K1) Key Habitat
(R1) Perennial Grasslands
(R2) Annual Grasslands Dominate
(R3) Conifer Encroachment
Area of Recent Burn

1:205,000

WDLF-5A: Boone Peak (00589), Key Sage-grouse Habitat and Assessment Sites



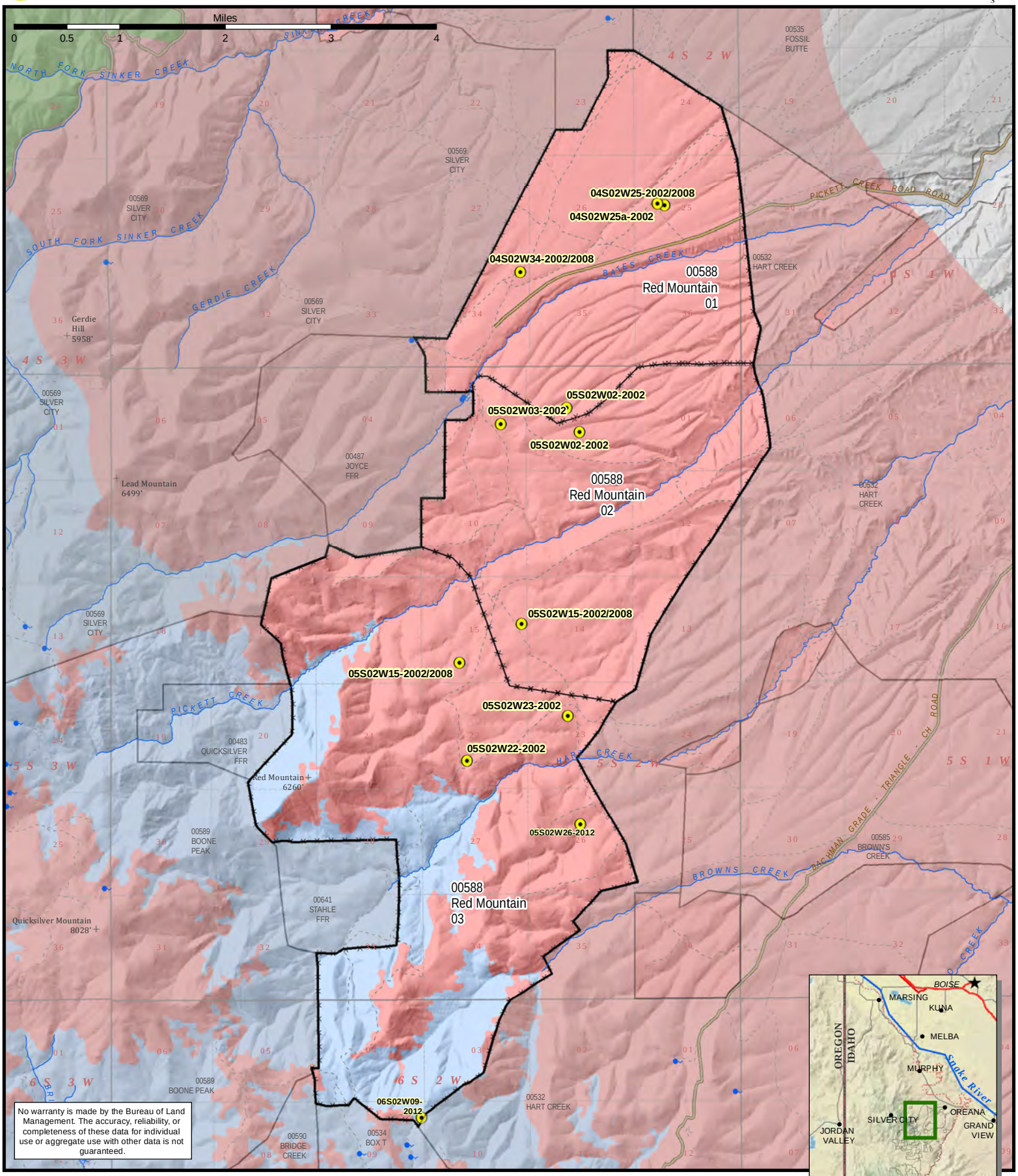
Allotment of Interest Boundary
Pasture Boundary
Other Allotment Boundary
Improved Road
4WD Road

2012 Sage Grouse Habitat
(K) Key Habitat
(R1) Perennial Grasslands
(R2) Annual Grasslands Dominate
(R3) Conifer Encroachment
Area of Recent Burn

Habitat Assessment Site
Perennial Stream
Spring
Lake/Reservoir

1:50,000

WDLF-5A: Red Mountain (00588), Key Sage-grouse Habitat and Assessment Sites



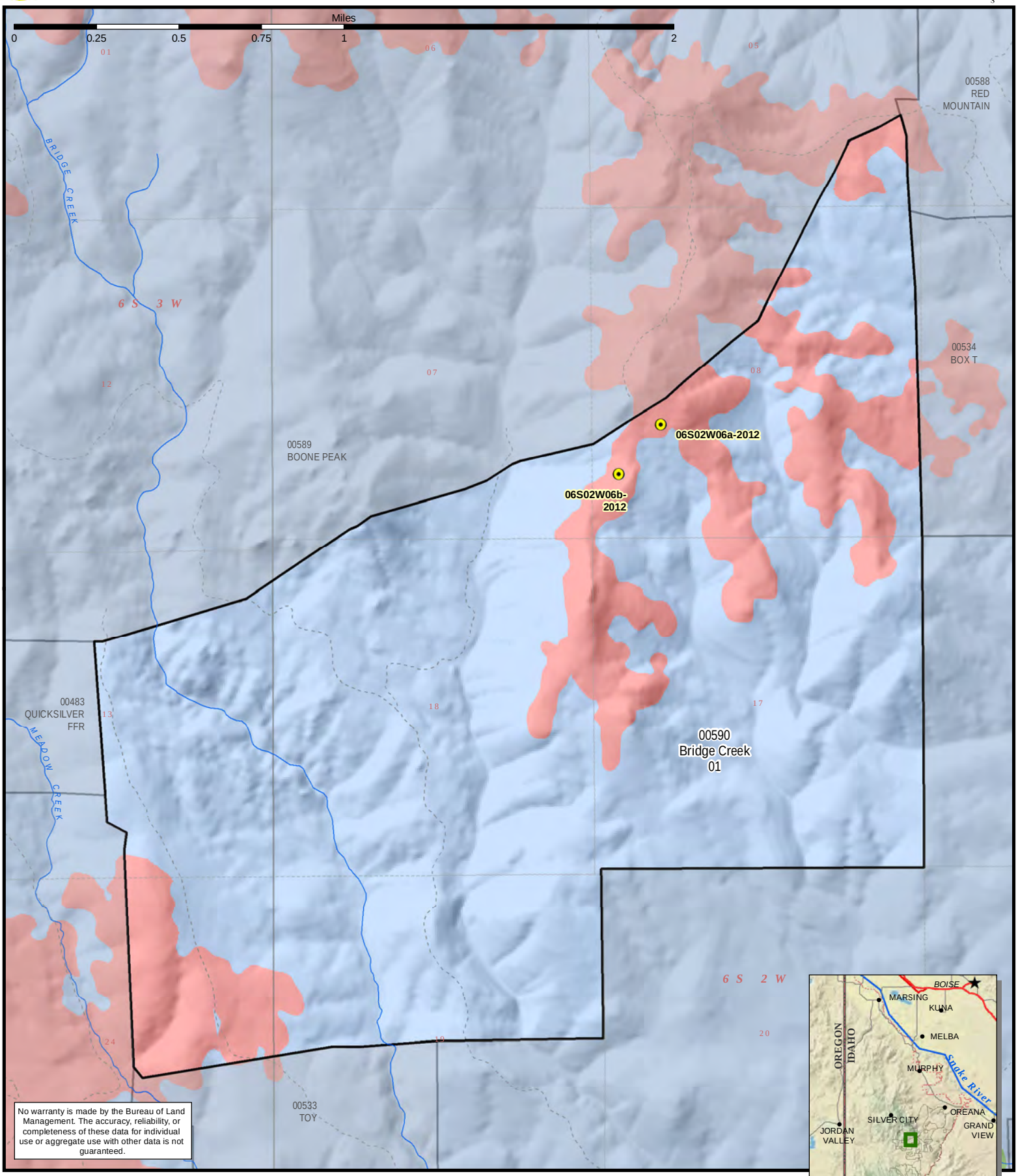
Allotment of Interest Boundary
Pasture Boundary
Other Allotment Boundary
Improved Road
4WD Road

2012 Sage Grouse Habitat
(K) Key Habitat
(R1) Perennial Grasslands
(R2) Annual Grasslands Dominate
(R3) Conifer Encroachment
Area of Recent Burn

Habitat Assessment Site
Perennial Stream
Spring
Lake/Reservoir

1:75,000

WDLF-5C: Bridge Creek (00590), Key Sage-grouse Habitat and Assessment Sites



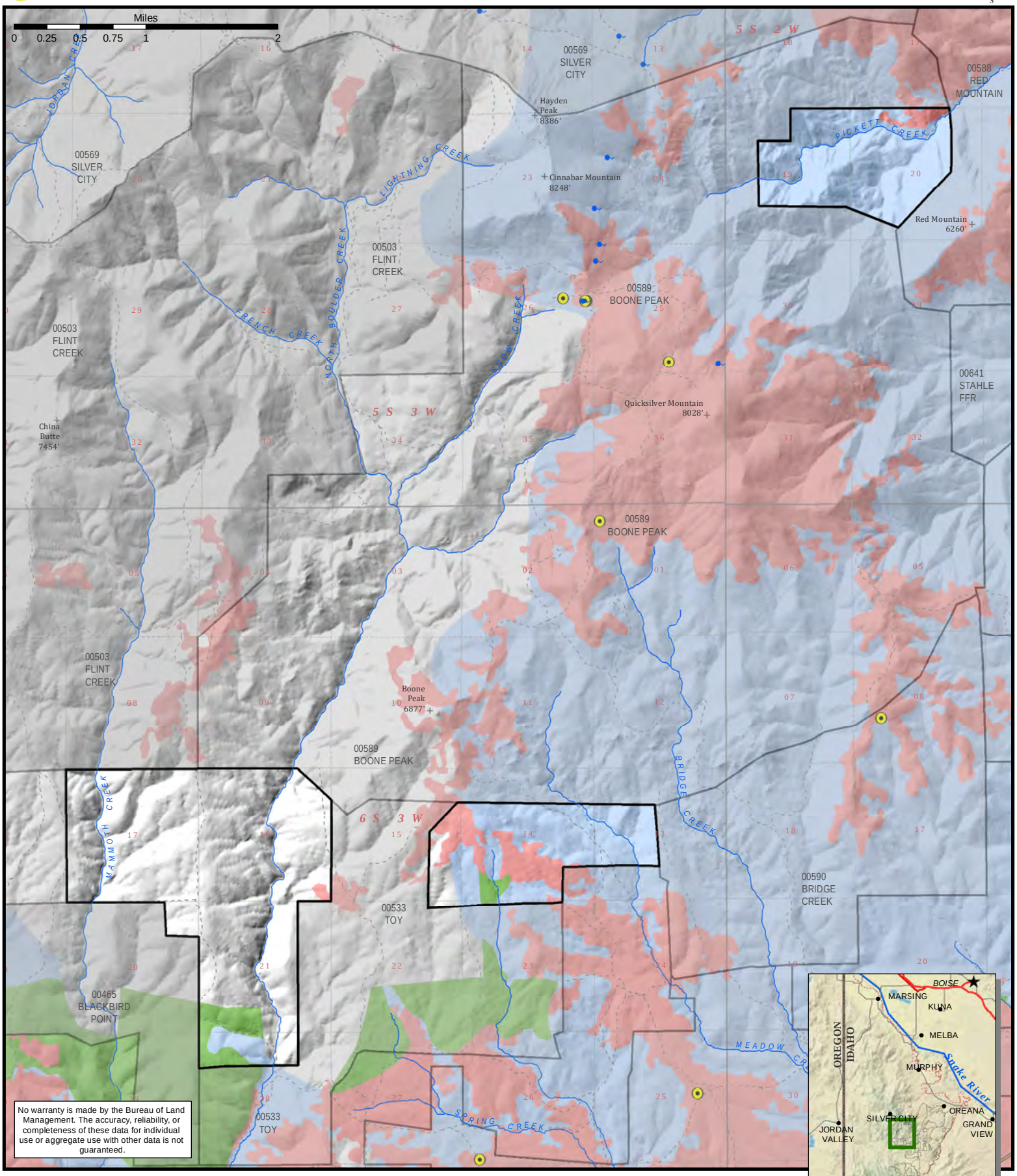
Allotment of Interest Boundary
Pasture Boundary
Other Allotment Boundary
Improved Road
4WD Road

2012 Sage Grouse Habitat
(K) Key Habitat
(R1) Perennial Grasslands
(R2) Annual Grasslands Dominate
(R3) Conifer Encroachment
Area of Recent Burn

Habitat Assessment Site
Perennial Stream
Spring
Lake/Reservoir

1:24,000

WDLF-5D: Quicksilver FFR (00483), Key Sage-grouse Habitat and Assessment Sites



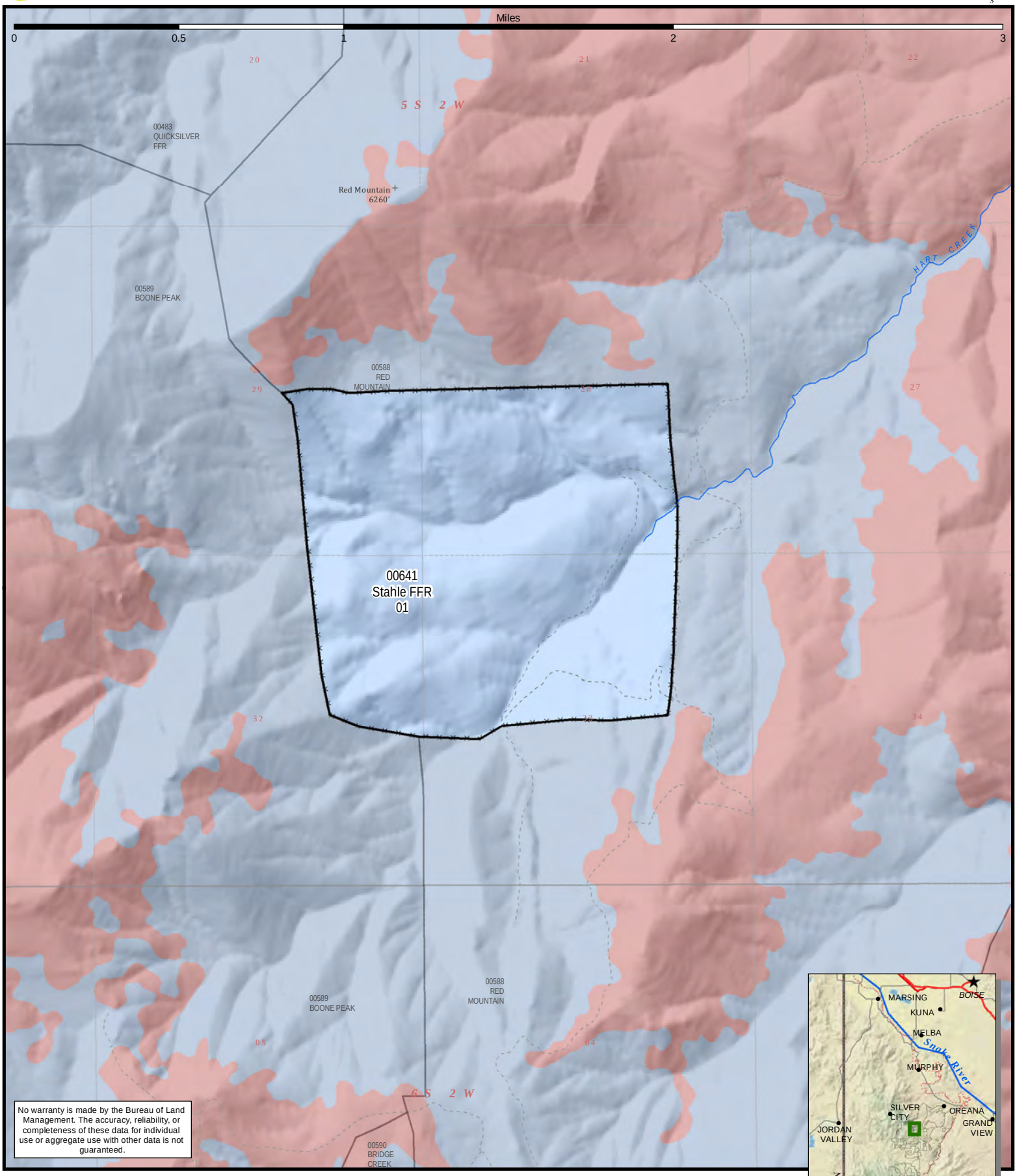
Allotment of Interest Boundary
Pasture Boundary
Other Allotment Boundary
Improved Road
4WD Road

2012 Sage Grouse Habitat
(K) Key Habitat
(R1) Perennial Grasslands
(R2) Annual Grasslands Dominate
(R3) Conifer Encroachment
Area of Recent Burn

Habitat Assessment Site
Perennial Stream
Spring
Lake/Reservoir

1:60,000

WDLF-5E: Stahle FFR (00641), Key Sage-grouse Habitat and Assessment Sites



Allotment of Interest Boundary
Pasture Boundary
Other Allotment Boundary
Improved Road
4WD Road

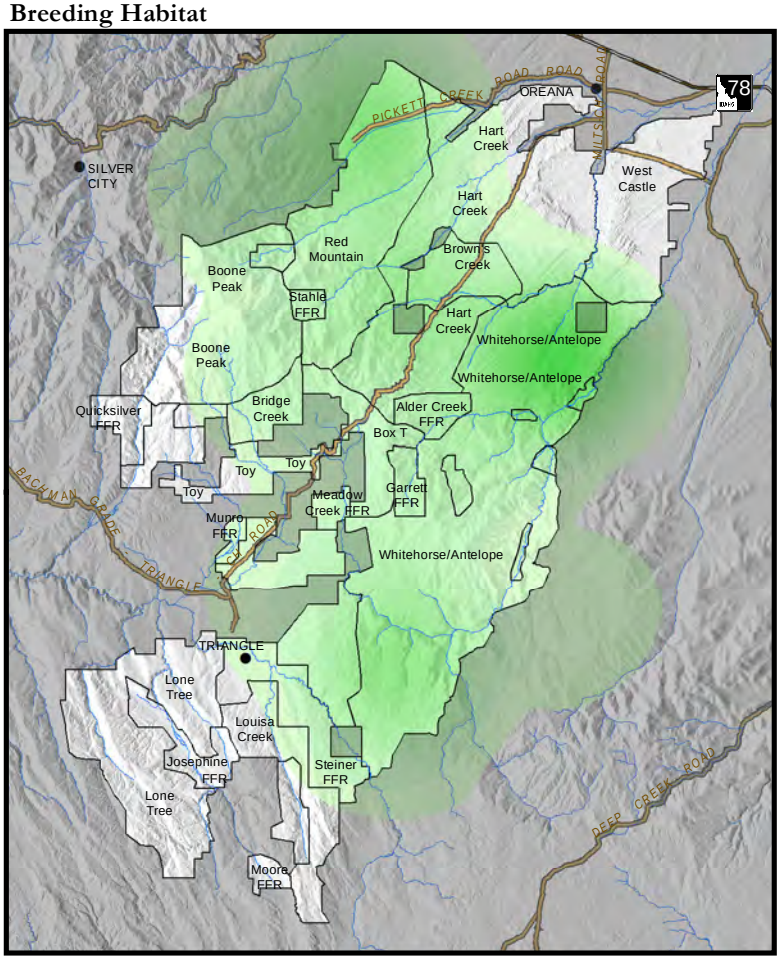
2012 Sage Grouse Habitat
(K) Key Habitat
(R1) Perennial Grasslands
(R2) Annual Grasslands Dominate
(R3) Conifer Encroachment
Area of Recent Burn

Habitat Assessment Site
Perennial Stream
Spring
Lake/Reservoir

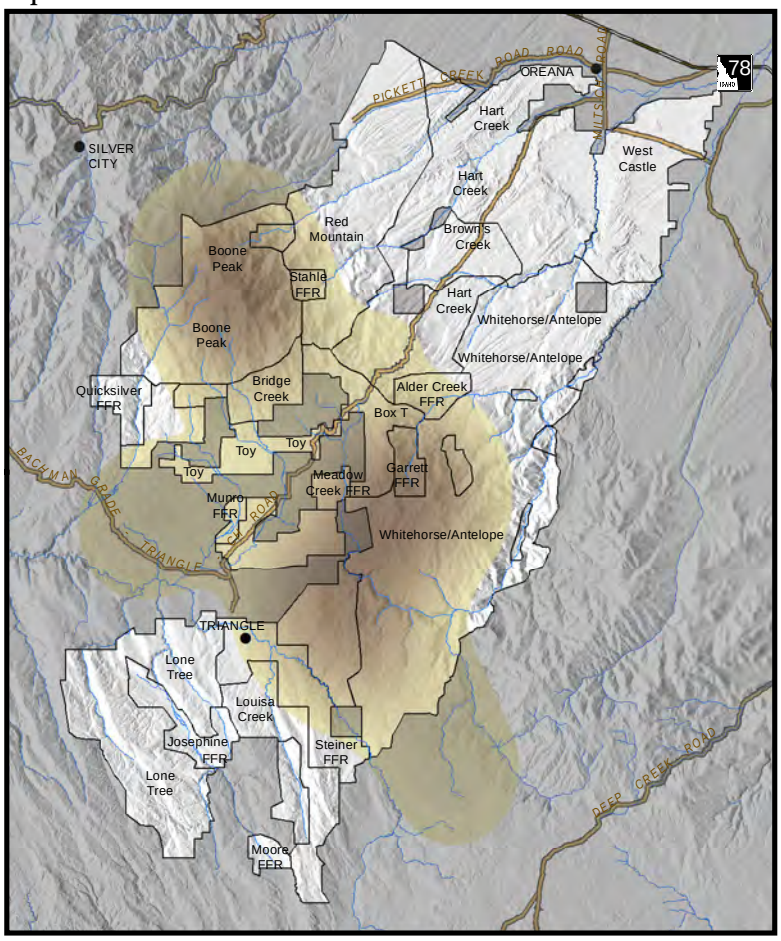
1:24,000

WDLF-6: Seasonal Sage-grouse Habitat, Toy Mountain Allotments

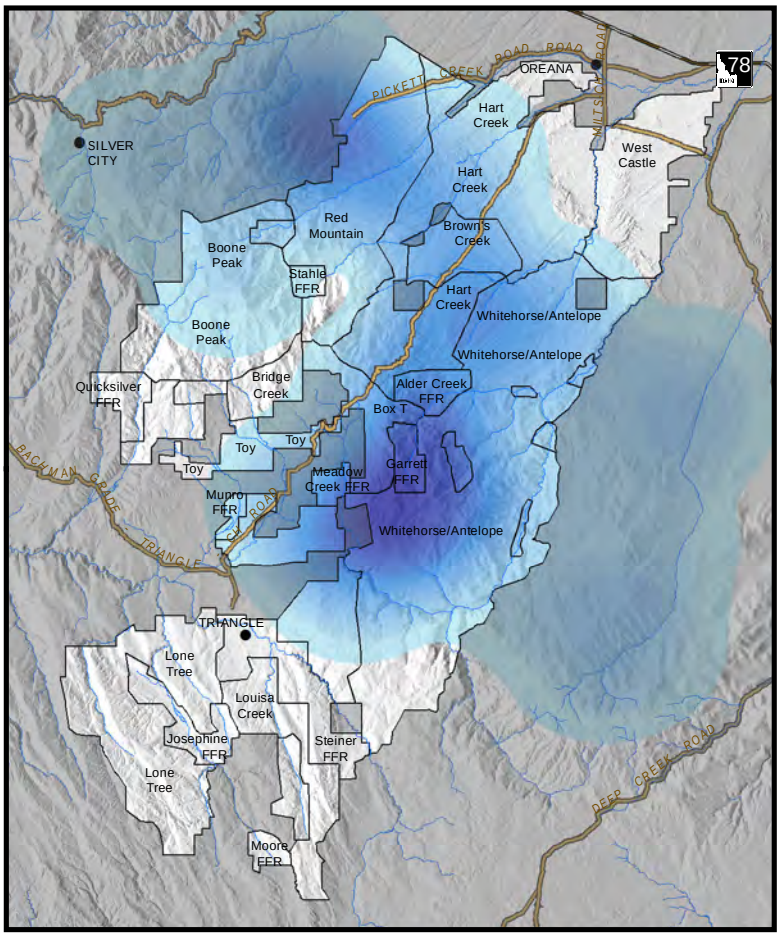
Breeding Habitat



Upland Summer Habitat



Winter Habitat



Miles

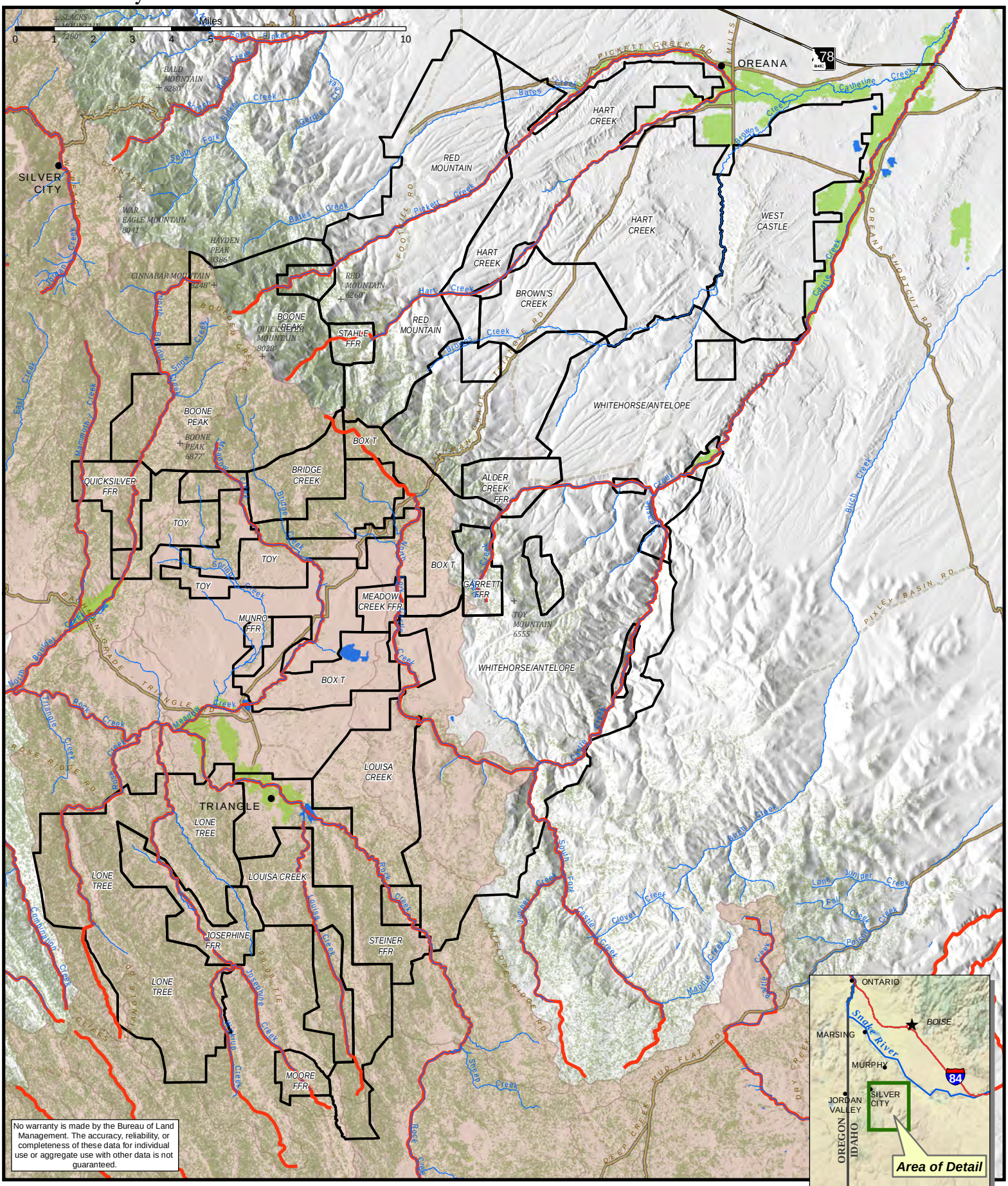
0 1 2 3 4 5 10 15 20 25

- Allotment Boundary
- Highway
- Improved Road
- Perennial Stream

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.

1:400,000

WDLF-7, Columbia Spotted Frog and Redband Trout Overview, Toy Mountain Allotments

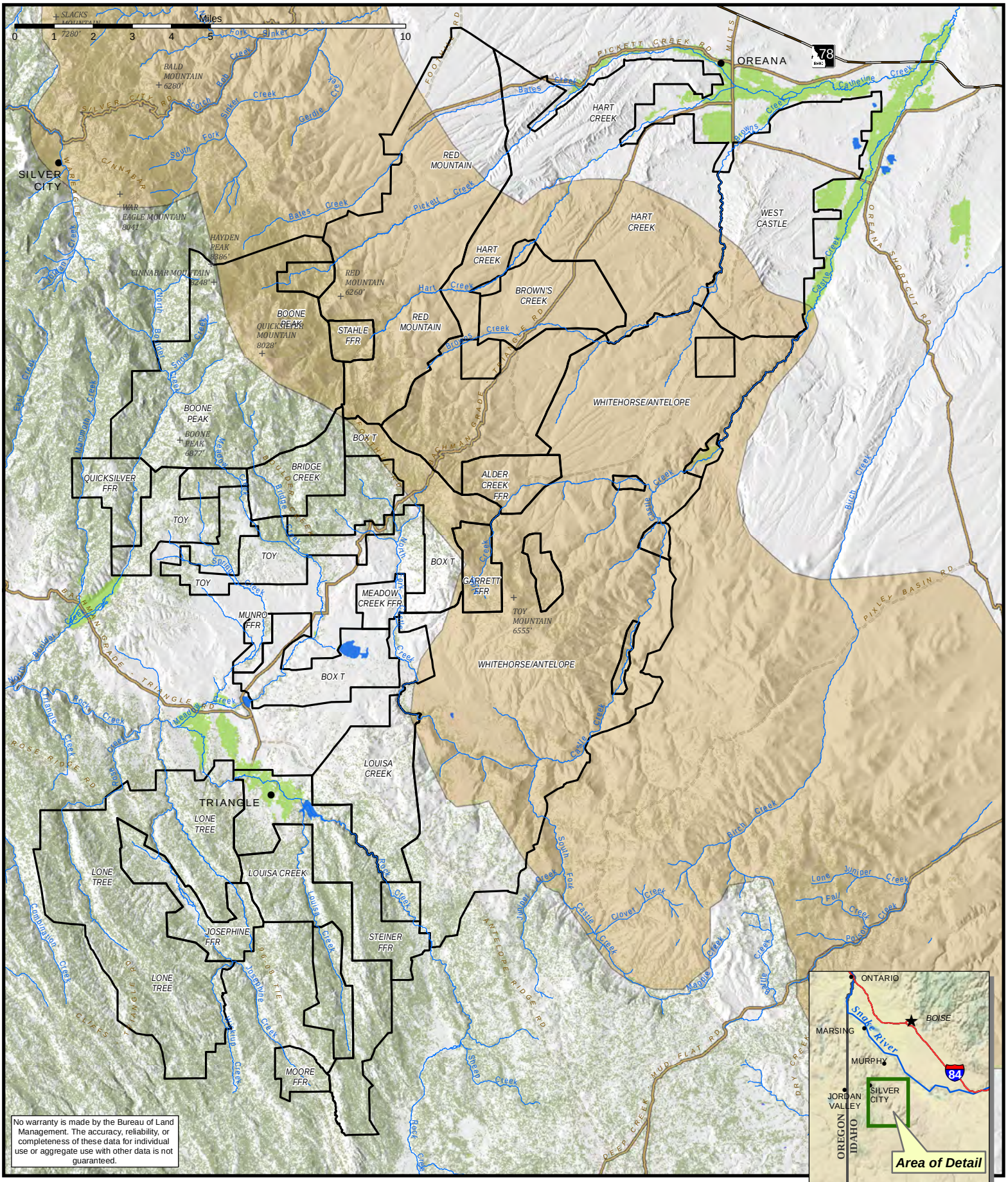


Allotment Boundary
Highway
Improved Road
Unimproved Road
Perennial Stream
Lake/Reservoir
Town/City
Columbia Spotted Frog Occupied Watershed
Columbia River Redband Trout Presence

Vegetation Cover
Agriculture
Wooded

1:200,000

Map 8, Bighorn Sheep Overview, Toy Mountain Allotments



Allotment Boundary
Highway
Improved Road
Unimproved Road
Perennial Stream
Lake/Reservoir
Town/City
IDFG Bighorn Population Management Area

Vegetation Cover

Agriculture
Wooded

1:200,000