

Standards for Rangeland Health
and
Guidelines for Livestock Grazing Management
for
Public Lands in Oregon and Washington

UPDATE

for

Shale Rock Allotment #00435 and
South Rabbit Hills Allotment #00529

December 2015

Shale Rock Allotment #00435

The Shale Rock Allotment is located 55 miles north of Lakeview, Oregon. It encompasses approximately 13,177 acres of Bureau of Land Management (BLM) administered lands and 54 other acres. The allotment is divided into two pastures: East and West. The original Shale Rock Allotment Rangeland Health Assessment (RHA) was conducted in 2003 and the entire allotment met all applicable standards. This assessment is an update to the original RHA. A summary of the 2003 RHA and recent assessment update are presented in the table below.

Table 1. Summary of Rangeland Health Assessments for the Shale Rock Allotment #00435

Standard	2015 Assessment	Comments 2015	2005 Assessment	Comments 2005
<p>1. Watershed Function – Uplands</p> <p>Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform</p>	Met	<p>This standard is being met for the Shale Rock Allotment. Available trend data shows plants are vigorous and are able to complete their reproductive cycle following grazing use each fall and winter. Roots of perennial plants occupy the soil profile, and are stabilizing the soil preventing erosion. Organic matter in the form of plant litter is accumulating and being incorporated into the soil, intercepting raindrop impact and retaining moisture. Percent cover and percent bare ground is stable within the allotment, and is within the range of variability expected for the site.</p> <p>(For a more detail, please refer to the discussion under standard one below.)</p>	Met	This standard was met in 2005 for the allotment.
<p>2. Watershed Function Riparian/ Wetland Areas</p> <p>Wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.</p>	Not Applicable	There are no major intermittent or perennial streams and no jurisdictional wetlands in these allotments.	Not Applicable	There are no major intermittent or perennial streams and no jurisdictional wetlands in these allotments.
<p>3. Ecological Processes</p> <p>Healthy, productive, and diverse plant and animal populations and communities appropriate to soil, climate, and</p>	Met	This standard is being met for the Shale Rock Allotment. The Long-term trend data plots within the allotment shows adequate diversity of community structure including grasses, forbs, and shrubs appropriate for the site. This diversity ensures that the capture and storage of energy occurs throughout most of the season. Nutrient cycling is evident by litter accumulation and	Met	This standard was met in 2005 for the allotment.

Standard	2015 Assessment	Comments 2015	2005 Assessment	Comments 2005
landform are supported by ecological processes of nutrient cycling, energy flow, and hydrologic cycle.		overall plant productivity. Noxious Weeds infestations are still low in the allotment. The current documented infestations are of Cheatgrass and Russian thistle, both of which are widespread across the Lakeview Resource Area. (For a more detail, please refer to the discussion under standard three below.)		
4. Water Quality Surface water and groundwater quality, influenced by agency actions, complies with State water quality standards.	Not Applicable	No perennial water occurs on the allotments.	Met	Neither surface water nor groundwater within these allotments has been listed for exceeding State water quality standards.
5. Native, T/E, and Locally Important Species Habitats support healthy, productive and diverse populations and communities of native plants and animals (including special status species and species of local importance) appropriate to soil, climate and landform.	Met	This standard is met in 2015. Wildlife species within the area is described below under Standard 5.	Met	This standard was met in 2005 for the allotment.

South Rabbit Hills Allotment # 00529

The South Rabbit Hills Allotment is located approximately 45 miles north of Lakeview, Oregon. It encompasses approximately 9,127 acres of Bureau of Land Management (BLM) administered lands. The allotment is divided into two pastures, North and South. The original South Rabbit Hills Allotment Rangeland Health Assessment (RHA) was conducted in 2005 and the entire allotment met all applicable standards. This assessment is an update to the original RHA. A summary of the 2005 RHA and recent assessment update are presented in the table below.

Table 2. Summary of Rangeland Health Assessments for the South Rabbit Hills Allotment #00529

Standard	2015 Assessment	Comments 2015	2005 Assessment	Comments 2005
<p>1. Watershed Function – Uplands</p> <p>Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform</p>	Met	<p>This standard is being met for the South Rabbit Hills Allotment. Available trend data shows plants are stable and are provided the opportunity to regrow and complete their reproductive cycle following grazing use each spring. Roots of perennial plants occupy the soil profile, and are stabilizing the soil preventing erosion. Organic matter in the form of plant litter is accumulating and being incorporated into the soil, intercepting raindrop impactation and retaining moisture. Percent cover and percent bare ground is stable within the allotment, and is within the range of variability expected for the site.</p> <p>(For a more detail, please refer to the discussion under standard one below.)</p>	Met	This standard was met in 2005 for the allotment.
<p>2. Watershed Function Riparian/ Wetland Areas</p> <p>Wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.</p>	Not Applicable	There are no major intermittent or perennial streams and no jurisdictional wetland s in these allotments.	Not Applicable	There are no major intermittent or perennial streams and no jurisdictional wetland s in these allotments.
<p>3. Ecological Processes</p> <p>Healthy, productive, and diverse plant and animal populations and communities appropriate to soil, climate, and landform are supported by ecological processes of nutrient cycling, energy flow, and hydrologic</p>	Met	<p>This standard is being met for the South Rabbit Hills Allotment. The Long-term trend data plots within the allotment shows adequate diversity of community structure including grasses, forbs, and shrubs appropriate for the site. This diversity ensures that the capture and storage of energy occurs throughout most of the season. Nutrient cycling is evident by litter accumulation and overall plant</p>	Met	This standard was met in 2005 for the allotment.

Standard	2015 Assessment	Comments 2015	2005 Assessment	Comments 2005
cycle.		productivity. Noxious Weeds infestations are still low in the allotment. The current documented infestations are of Cheatgrass and Russian thistle, both of which are widespread across the Lakeview Resource Area. (For a more detail, please refer to the discussion under standard three below.)		
4. Water Quality Surface water and groundwater quality, influenced by agency actions, complies with State water quality standards.	Not Applicable	No perennial water occurs on the allotments.	Met	Neither surface water nor groundwater within these allotments has been listed for exceeding State water quality standards.
5. Native, T/E, and Locally Important Species Habitats support healthy, productive and diverse populations and communities of native plants and animals (including special status species and species of local importance) appropriate to soil, climate and landform.	Met	This standard is met in 2015. Wildlife species within the area is described below under Standard 5.	Met	This standard was met in 2005 for the allotment.

STANDARD 1 – Watershed Function Uplands - Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform.

Met

The Shale Rock and South Rabbit Hills Allotments have stable trends, and are meeting this standard. This is evident by a combination of pace 180° transects and photo trend monitoring. Observed apparent trend (OAT) data was also collected at the trend sites. The monitoring methods that are quantitative in nature are OAT and the 180° pace transects. These two studies all measure attributes that would affect permeability and soil stability or erosion potential. This includes perennial plant

cover, amount of bare ground, biological crust cover, seedling establishment, litter, and plant community composition. Based on this quantitative data and supplemented with qualitative data (photo monitoring), were found to have stable trend. Please refer to the attached monitoring summary in Appendix A, for a detailed discussion at each trend site.

The allotments have been grazed under fall/winter and winter/spring grazing systems. Growing season rest in the Shale Rock Allotment enables grass species to complete life cycles. Winter/early spring grazing within the South Rabbit Hills Allotment has provided the opportunity for herbaceous plants to regrow on years with adequate soil moisture, allowing plants to complete their life cycle. Roots of perennial plants occupy the soil profile, and are stabilizing the soil preventing erosion. Plant cover is adequate to capture, store, and safely release moisture associated with normal precipitation events. Percent bare ground has remained stable or decreased in the trend plots read within the allotments. Litter has adequately intercepted raindrop impaction, and retained moisture. (The monitoring summary is attached in appendix A below, and provides data and a more detailed discussion at each trend site

Summary:

Based on the reasons stated above, this standard is being met for the allotments. Plant cover, as recorded from trend studies, is adequate to capture and store water. Plant roots are occupying and stabilizing the soil profile preventing erosion. Litter amounts are adequate for intercepting raindrop impaction and moisture retention.

STANDARD 2 – Watershed Function Riparian/Wetland Areas – Riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.

Not Applicable

There are no major intermittent or perennial streams and no jurisdictional wetlands in these allotments.

STANDARD 3 -Ecological Processes - Healthy, productive, and diverse plant and animal populations and communities appropriate to soil, climate, and landform are supported by ecological processes of nutrient cycling, energy flow, and hydrologic cycle.

Met:

Utilization data has been collected in these allotments for over 10 years. Tables 4 and 5 in the monitoring summary section below shows the Actual Use and Utilization data that has been collected for each pasture since. The target utilization of 50% in the South Rabbit Hills Allotment, and 65% in the Shale Rock Allotment were exceeded once in the last 10 years. AUMs within the allotments have been within the authorized AUMs for each allotment over the last 10 years.

Vegetation: Each allotment has long-term monitoring studies. These trend studies include photo trend, and Observed Apparent Trend studies (OAT), and pace 180°. Analysis was conducted for each of the plots, and all were determined to be in a stable trend (see Appendix A).

The Long-term trend data from the allotments show adequate diversity of community structure including grasses, forbs, and shrubs appropriate for the site. This diversity ensures that the capture and storage of energy occurs throughout most of the season. Nutrient cycling is evident by litter accumulation and overall plant productivity.

Weeds: The noxious weed infestations are still similar as described in the 2005 Range Land Health Assessment. Surveys were completed in 2014. Cheatgrass and Russian thistle are still abundant with small isolated patches of hoary cress recorded along the roadsides in both allotments.

Summary:

Based on the reasons stated above, this standard is being met for the Shale Rock and South Rabbit Hills Allotments. Long-term monitoring data shows adequate diversity of community structure including grasses, forbs, and shrubs appropriate for the site. This diversity ensures that the capture and storage of energy occurs throughout most of the season. Nutrient cycling is evident by litter accumulation and overall plant productivity.

STANDARD 4: Water Quality – Surface water and groundwater quality, influenced by agency actions, complies with State water quality standards.

Not Applicable

No perennial water occurs on the allotments.

STANDARD 5: Native, T&E, and Locally Important Species – Habitats support healthy, productive and diverse populations and communities of native plants and animals (including special status species and species of local importance appropriate to soil, climate and landform.

Met:

Special Status Plants:

There are no known populations of BLM special status plants present within these two allotments.

Wildlife:

Special status wildlife species or their habitats that are present within the Shale Rock and South Rabbit Hills Allotments include bald eagle (*Haliaeetus leucocephalus*), ferruginous hawk (*Buteo regalis*), peregrine falcon (*Falco peregrinus*), burrowing owl (*Speotyto cunicularia*), kit fox (*Vulpes macrotis*), sage-grouse (*Centrocercus urophasianus*), and pygmy rabbit (*Brachylagus idadoensis*). Other wildlife species and habitat with high public interest also occur within the allotments. These are mule deer (*Odocoileus hemionus*), California bighorn sheep (*Ovis Canadensis*) and pronghorn antelope (*Antilocapra americana*).

Potential habitat is present for kit fox and pygmy rabbit; however, no known locations exist within the allotments for these species. There are no resource conflicts for these species.

Some marginal habitat exists within the allotments for bighorn sheep; however, there is little overlap in range between cattle. No conflicts exist between bighorn sheep and livestock grazing within the pastures.

Pronghorn antelope are common within the allotments. Habitat use is concentrated in the portions of the allotments that have been burned and reseeded, and areas without tall shrubs. The areas are areas that have been reseeded with crested wheatgrass following wildfire. No major conflicts exist between pronghorn antelope and livestock grazing within in the allotments.

Mule deer inhabit much of the area, but are widely spread and in low numbers. No high concentrations of wintering mule deer exist in these allotments in part due to the lack of abundant bitterbrush. The sagebrush that occurs appears to be stable at this time. No conflicts exist between mule deer and livestock grazing within the Allotments.

Approximately 2,058 acres within the Shale Rock Allotment is designated as Sage-grouse General Habitat Management Area (GHMA). Habitat Assessment Framework (HAF) habitat indicators were collected for the Shale Rock Allotment whereby approximately 9,186 acres is capable of supporting breeding habitat, 178 acres summer-brood rearing, and the remaining 3,822 acres does not support sage-grouse seasonal habitat due to plant structure characteristics or because of edaphic conditions, and steep slopes. Approximately 1,336 acres within the South Rabbit Hills Allotment is considered GHMA. Within South Rabbit Hills Allotment the majority of the habitat does not support sage-grouse seasonal habitat due to plant structure characteristics or because of edaphic conditions, and steep slopes. No substantial conflicts exist between livestock grazing and sage-grouse within the allotments.

Summary:

Overall, the allotments provide an appropriate mix and diversity of wildlife habitats and assemblages of wildlife species, typical of the sagebrush steppe of the Northern Great Basin. Therefore, this standard is being met for wildlife species within the allotments.

Table 3. 2015 ID Team Members

Name	Title
Jayna Ferrell	Rangeland Management Specialist
Theresa Romasko	Assistant Field Manager
Grace Haskins	Weed Management Specialist
Jimmy Leal	Fisheries Biologist
Jami Ludwig	Assistant Field Manager
John Owens	Wildlife Biologist
Ian Grinter	Botanist
Paul Whitman	Planning and Environmental Coordinator

Guidelines for Livestock Management

Existing grazing management practices and levels of grazing use on the Shale Rock and South Rabbit Hills Allotments are consistent with the Guidelines for Livestock Grazing Management (August 12, 1997).

The allotments continue to be grazed under fall/winter and winter/spring grazing systems. Growing season rest in the Shale Rock Allotment enables grass species to complete life cycles while provide adequate cover for infiltration, moisture storage and maintains diverse plants communities. Winter/early spring grazing within the South Rabbit Hills Allotment enables regrowth to occur on years with adequate soil moisture. Plants will then be able to complete their life cycle.

2015 Determination

(X) Existing grazing management practices on Shale Rock Allotment and South Rabbit Hills Allotments promote achievement of, or significant progress towards, meeting the Oregon Standards for Rangeland Health and conform with the applicable Guidelines for Livestock Grazing Management.

() Existing grazing management practices on Shale Rock Allotment and South Rabbit Hills Allotments will require modification or change prior to the next grazing season to promote achievement or, significant progress towards, of the Oregon Standards for Rangeland Health and conform with the applicable Guidelines for Livestock Grazing Management.



J. Todd Forbes
Field Manager
Lakeview Resource Area



Date

Shale Rock #00435 Monitoring Summary

Table 4. East and West Pastures (Shale Rock Allotment #0435) Actual Use and Utilization Data by Year

Year	West Pasture AUMS	% Utilization (West)	East Pasture AUMS	% Utilization (East)	Total AUMs (East + West)	TNR Totals
(14)2015	970	37	842	42	1812	592
(13)2014	1054	67	709	28	1763	543
(12)2013	781	13	696	19	1477	257
(11)2012	1136	9	504	32	1640	420
(10)2011	905	34	554	-	1459	239
(09)2010	973	40	711	36	1684	464
(08)2009	1018	47	722	30	1740	520
(07)2008	1304	41	491	50	1795	575
(06)2007	949	27	198	13	1147	0
(05)2006	1341	30	212	30	1553	333
(04)2005	994	31	562	36	1556	336
(03)2004	1042	44	1003		2045	825
(02)2003	1378	-	631	-	2009	789
(01)2002	1125	-	769	-	1894	674
(00)2001	1150	-	888	-	2038	818
(99)2000	1095	-	848	-	1943	723
(98)1999	1588	42	335	-	1923	703
(97)1998	364	8	1300	50	1664	444
(96)1997	1046	30	573	33	1619	399
(95)1996	1025	-	165	-	1190	0
(94)1995	2297	78	use together	78	2297	1097
1994	-	-	-	-	-	
1993	-	-	-	-	-	
1992	-	-	-	-	-	
1991	-	-	-	-	-	394
Avg 10 yrs	1043	35	564	31	1607	438
Overall Average	1099	33	620	37	1720	566

The Shale Rock Allotment is grazed during the winter each year. The total permitted AUMs for Shale Rock is 1,220. The total average actual use over the last 10 years is 564 AUMs for East Pasture and 1043 AUMs for West Pasture, with 1,610 AUMs as a ten year average for the allotment.

Temporary Non-Renewable (TNR) has been used in this allotment 19 out of the last 21 years. In 2007, a decision was written to authorize 575 AUMs of TNR within the Allotment. Since 2007, TNR has continued to be used and monitoring data collected within the allotment. The average TNR for the last 10 years is 438 (excluding 06-07 with zero TNR); total average TNR used (excluding 06/07 and 95/96 years with zero TNR) is 566.

Of the years that utilization data has been collected, the target utilization of 65% (associated with winter use) has been exceeded once in the last ten years (Table 1).

East Pasture Trend Plots

SR-4 (Photo and Pace 180) – *Stable*

Observed Apparent Trend SR-04

	2009	2012	2014
Vigor	7	8	8
Seedlings	6	10	9
Surface Litter	5	5	5
Pedestals	5	4	5
Gullies	5	5	5
Total	28	32	32
Rating	<i>Upward</i>	<i>Upward</i>	<i>Upward</i>

%Cover SR-04

	2006	2009	2012	2014
Bare Ground	47	11	16	10
Litter	19	30	22	34
Rock	17	23	14	22
Gravel	0	0	0	0
Vegetation	17	36	50	35
Crust/Moss	0	0	1	0

% Composition SR-04

	2006	2009	2012	2014
Crested Wheatgrass	96	100	97	100
Cheatgrass	4	-	-	1
Sandberg Bluegrass	-	-	3	-

Years in which photos were taken: 2014, 2012, 2009, and 2006.

This trend plot was established in 2006 to increase the amount of monitoring data collected on the allotment, and to assess the carrying capacity of the pasture. The observed apparent trend was upward from 2006 through 2014.

Percent bare ground has decreased significantly since 2006. Conversely, percent cover litter has increased over the years. Percent cover vegetation has fluctuated, and the percent composition is comprised mainly of crested wheatgrass.

The 2006 photos show more litter accumulation as compared to the 2009 photos. The crested wheatgrass plants in the 2012 photos appear taller and more vegetative as compared to the 2009

photos. The crested wheatgrass plants within the 2014 photos are shorter and less vegetative than that of the 2012 photos. The number of plants and the amount of bare ground has not changed when comparing the photos. Photo analysis indicates a stable trend at this site.

Overall, trend at this site (SR-4) is stable.

West Pasture Trend Plots

SR-1 (Photo and Pace 180) - *Stable*

Observed Apparent Trend at SR-01

	2012	2014
Vigor	8	6
Seedlings	10	9
Surface Litter	3	4
Pedestals	3	5
Gullies	5	5
Total	29	29
Rating	<i>Upward</i>	<i>Upward</i>

%Cover at SR-01

	2012	2014
Bare Ground	62	21
Litter	23	29
Rock	0	0
Gravel	2	0
Vegetation	13	50
Crust/Moss	0	0

% Composition SR-01

	2012	2014
Crested Wheatgrass	93	96
Thurber's Needlegrass	4	-
Green Rabbitbrush	2	1
Greasewood	1	2
Needle and Thread	-	1

Years in which photos were taken: 2014 and 2012.

This trend plot was established in 2012 to increase the amount of monitoring data collected on the allotment, and to aid in assessing the carrying capacity of the pasture. The observed apparent trend was upward both years.

Data analysis indicates an upward trend with significant decrease of percent cover bare ground, and increase of percent cover vegetation. Photos analysis indicates a static trend, with no significant change in percent bare ground or vegetation.

Overall, trend at this site (SR-1) is stable.

NA-6 (Photo) - Stable

Observed Apparent Trend at NA-06

	2005	2006	2009	2012	2014
Vigor	6	2	3	6	4
Seedlings	6	2	3	5	3
Surface Litter	5	4	5	4	5
Pedestals	5	5	4	4	5
Gullies	3	5	5	5	5
Total	25	18	20	24	21
Rating	<i>Stable</i>	<i>Stable</i>	<i>Stable</i>	<i>Stable</i>	<i>Stable</i>

Years in which photos were taken: 2014, 2012, 2009, 2006, 2005, 1990, 1984, 1978, 1962.

This plot is located .2 miles north of Button Waterhole in native vegetation. The 1962 photo was of the waterhole itself. The 1978 photos were taken at the trend plot, with vegetation comprised of sagebrush and rabbit brush with an understory primarily of cheatgrass. Some of the brush in the 1978-1990 photos look decadent/dead, and appear as litter in the photos through 2014. Photo analysis indicates trend at this site is stable.

Overall, trend at this site (NA-6) is stable.

NA-7 (Photo and Pace 180) – Stable

Observed Apparent Trend at NA-07

	2005	2006	2009	2012	2014
Vigor	10	8	8	7	7
Seedlings	10	9	5	8	8
Surface Litter	5	5	5	4	5
Pedestals	5	4	5	4	5
Gullies	5	5	5	5	5
Total	35	31	28	28	30
Rating	<i>Upward</i>	<i>Upward</i>	<i>Upward</i>	<i>Upward</i>	<i>Upward</i>

%Cover at NA-07

	2006	2009	2012	2014
Bare Ground	17	22	27	24
Litter	32	30	25	10
Rock	12	10	14	29
Gravel	0	0	3	0
Vegetation	39	37	31	37
Crust/Moss	0	1	0	0

% Composition at NA-07

	2006	2009	2012	2014
Crested Wheatgrass	100	98	54	9
Squirreltail	-	2	33	84
Sandberg Bluegrass	-	-	4	-
Thurber's Needlegrass	-	-	4	-
Idaho Fescue	-	-	3	-
UGI	-	-	1	-
Indian Ricegrass	-	-	-	4
Tumble Mustard	-	-	-	1
Green Rabbitbrush	-	-	-	1

Years in which photos were taken: 2014, 2012, 2009, 2006, 2005, and 1990.

This trend plot was established in 1990 for general interest, and is near the edge of the Old West Fire perimeter. A pace 180° was added in 2006 to collect data to help assess trend and carrying capacity within the pasture.

Percent cover bare ground has increased since 2006, but has been within a ten percent variation, as has percent cover vegetation. The percent composition in 2014 varies from the other years. Reviewing the notes from 2014, this transect was read in a slightly different location than previous years. Overall, the data indicates a stable trend at this site.

The exact location or direction the photos were taken varies between years. Brush has increased in recent years as compared to 1990. Photo analysis indicates a stable trend throughout the years.

Overall, trend at this site (NA-7) is stable.

South Rabbit Hills #00529 Monitoring Summary

Table 5. North and South Pastures (South Rabbit Hills Allotment #0529) Actual Use and Utilization Data by Year

Year	North Pasture AUMs	% Utilization (North)	South Pasture AUMS	% Utilization (South)	Total AUMs (North + South)
2015	258	50	386	35	644
2014	345	40	496	17.1	841
2013	492	33	532	18	1024
2012	452	42	479	41	931
2011	381	34	571	32	952
2010	342	31	557	33	899
2009	232	38	391	41	623
2008	193	52	322	37	515
2007*	303	-	303	-	606
2006	414	30	434	34	848
2005	510	29	618	27	1128
2004	529	-	392	-	921
2003	631	45	521	-	1152
2002	467	-	690	-	1157
2001	911	-	545	-	1456
2000	1386	55	311	-	1697
1999	902	-	998	-	1900
1998	797	47	561	-	1358
Avg 10 yrs	341	39	447	32	788
Average	530	40	495	32	1036

*2007 both pastures were used together, so for the analysis 606 total AUMs were divided between two pastures.

The permit dates for the South Rabbit Hills Allotment are 11/1-3/31; however, for the last ten years, this allotment has generally been used from the first part of February through the end of March. Use has, in the past, extended into April, but cattle have been moved off of the allotment by the end of March in recent years. The total permitted AUMs for South Rabbit Hills Allotment is 1,266. The total average actual use over the last 10 years is 341 AUMs for North Pasture and 447 AUMs for South Pasture, with 788 AUMs as a ten year average for the allotment. The target utilization of 50% has been exceeded once over the last 10 years.

North Pasture

SR-01 (Photo and Pace 180) – Stable

Observed Apparent Trend at SR-01

	2012	2014
Vigor	6	8
Seedlings	3	9
Surface Litter	5	4
Pedestals	4	5
Gullies	5	5
Total	23	31
Rating	<i>Stable</i>	<i>Upward</i>

%Cover at SR-01

	2012	2014
Bare Ground	9	13
Litter	34	20
Rock	0	0
Gravel	9	0
Vegetation	48	67
Crust/Moss	0	0

% Composition at SR-01

	2012	2014
Crested Wheatgrass	99	96
Cheatgrass	34	59
Green Rabbitbrush	1	1

Years in which photos were taken: 2014 and 2012.

This trend plot was established in 2012 in the North Pasture, previously lacking a trend plot. This plot will help to assess trend within the pasture.

This pasture is generally used from February to the end of March each year. Therefore, the majority of the data and photos were collected after grazing has occurred. Regrowth is highly dependent on the amount of spring precipitation received. Percent cover vegetation varies significantly between years. However, there is no significant change in the number of crested wheatgrass plants when comparing the two years. The photos indicate less utilization at this site in the 2012 photos as compared to the 2014 photos. Bare ground has not changed significantly between years when analyzing the photos. Overall, trend is stable at this site.

Overall, trend at this site (SR-01) is stable.

South Pasture

RB-06 (Photo and Pace 180) - *Stable*

Observed Apparent Trend at RB-06

	2005	2008	2011	2012	2014
Vigor	6	6	6	3	6
Seedlings	2	5	3	2	5
Surface Litter	5	5	5	4	4
Pedestals	5	5	4	3	5
Gullies	5	5	5	5	5
Total	23	26	23	17	25
Rating	<i>Stable</i>	<i>Upward</i>	<i>Stable</i>	<i>Stable</i>	<i>Stable</i>

%Cover at RB-06

	2008	2011	2012	2014
Bare Ground	22	10	10	11
Litter	67	65	30	53
Rock	0	0	0	0
Gravel	0	0	0	0
Vegetation	11	25	60	36
Crust/Moss	0	0	0	0

% Composition at RB-06

	2008	2011	2012	2014
Crested Wheatgrass	100	100	100	99
Cheatgrass	-	-	81	89
Tumble Mustard	-	-	3	-

Years in which photos were taken: 2014, 2012, 2011, 2008, 2005, 1998, 1997, 1993, 1987, and 1985.

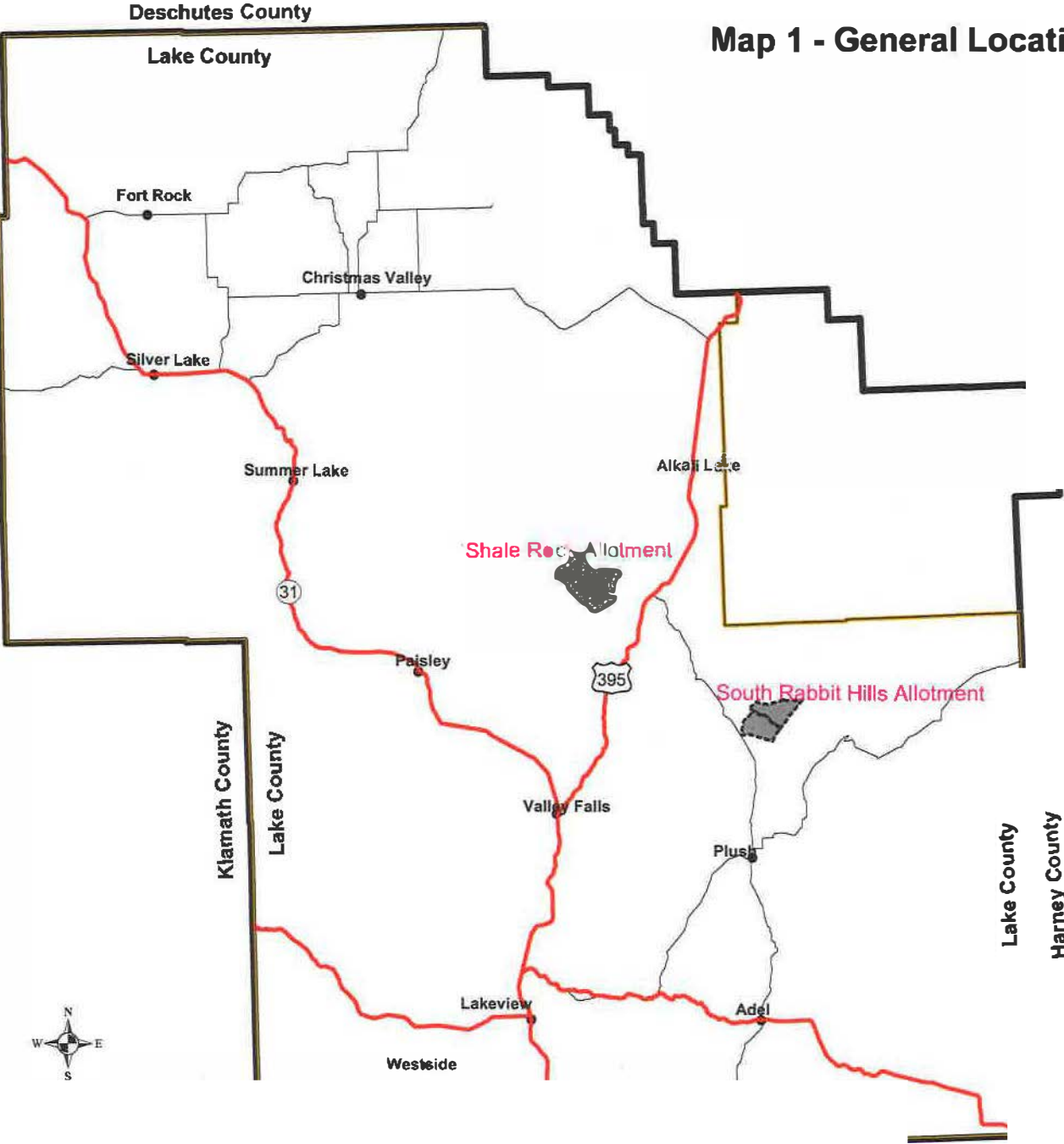
This plot was established in 1985 to monitor the Rabbit Rehabilitation Seeding.

Percent cover bare ground has decreased since 2008, with litter and vegetation varying. Crested wheatgrass was recorded as litter in 2011 and 2008, and were not added within the vegetation total.

The 1985 photos show drill rows with the majority of the grasses being rye and some crested wheatgrass seedlings. The 1987 photos show primarily crested wheatgrass plants along with cheatgrass. There is an increase of cheatgrass plants in the 1993 photos as compared to the 1987 photos; however, number of crested wheatgrass plants has remained stable between years. The crested wheatgrass in the 1997 photos appear the same with less cheatgrass. The numbers of perennial plants remain the same 1998 as 1997, but were taller and more vegetative; as was cheatgrass. Crested wheatgrass plants decreased between 1998 and 2005. Cheatgrass and mustard are abundant within the 2005 photos. After the downward trend between 1998 and 2005, this site has remained stable between 2005 and 2014.

Overall, trend at this site (RB-06) is stable.

Map 1 - General Location of Allotments



- Legend**
- Highways
 - County Boundary
 - Lakeview Resource Area
 - Cities
 - Mo or Roads
 - Pastures

