

SCAD VALLEY - TREND STUDY NO. 16R-5-09

Vegetation Type: Wet Meadow

Range Type: Crucial Deer Summer, Substantial Elk Summer

NRCS Ecological Site Description: Not Available

Land Ownership: USFS

Elevation: 8,700 ft (2,652 m)

Aspect: East

Slope: 3%

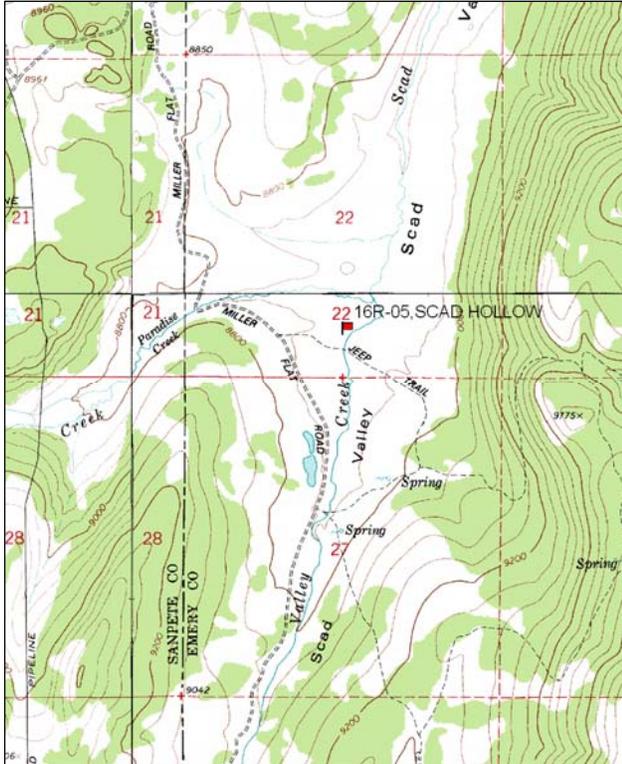
Transect bearing: 190 degrees magnetic

Belt placement: line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft)

Directions:

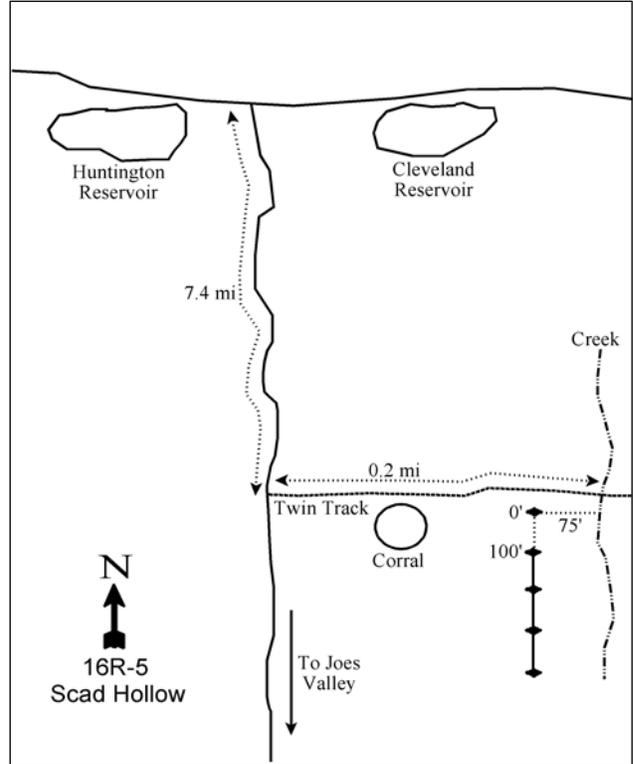
On State Route 31 turn south between Huntington Reservoir and Cleveland Reservoir. Travel 7.4 miles toward Joe's Valley. There will be a twin track on the left hand side. Turn onto this and drive 0.2 miles to the creek. Walk 75 feet west of the creek to the beginning of the frequency baseline. The 0-foot stake is marked with browse tag #455.

Map Name: Rilda Canyon



Township: 15S, Range: 6E, Section: 22

Diagrammatic Sketch:



GPS: NAD 83, UTM 12S 4795508 E 4372085 N

## SCAD VALLEY - TREND STUDY NO. 16R-5

### Site Information

Site Description: The study was established to monitor sheep use where old sheep corrals were removed by the Forest Service and new corrals were built away from the riparian area. This area is part of the Horse Creek grazing allotment managed by the Forest Service. The study samples a meadow community approximately 75 feet from Scad Valley Creek. Pellet group data estimated light use by sheep in 1998 and 2009, with more moderate use in 2004. Sheep were located on the site during the 2004 data collection. Light use by elk, deer and horses was also sampled in 2009 (Table - Pellet Group Data).

Browse: Browse species are not particularly abundant on this riparian site. Silver sagebrush (*Artemisia cana*) is the key browse on this site and represents almost all of the browse cover (Table - Browse Trends). The silver sagebrush population has had a steady increase in density since 1998. The sagebrush plants in the population are mostly mature with low decadence and good vigor. Recruitment of young sagebrush plants has steadily decreased since 1998 as the population has matured. Utilization of the sagebrush has been mostly light since 1998. A few mountain big sagebrush (*Artemisia tridentata* ssp. *tridentata*) and stickyleaf low rabbitbrush (*Chrysothamnus viscidiflorus* ssp. *viscidiflorus*) are on the site, although in very low numbers (Table - Browse Characteristics).

Herbaceous Understory: The herbaceous understory account for the majority of the vegetation cover. Perennial grasses have provided an average of 27% cover since 1998, and perennial forbs have provided an average of 41% cover over the same period. Kentucky bluegrass (*Poa pratensis*) is the dominant grass providing over half of the grass cover since 1998. Other common perennial grasses and grass-like plants include sedge (*Carex* spp.), tufted hair-grass (*Deschampsia caespitosa*), and Baltic rush (*Juncus balticus*). Forbs are diverse with some of the common species being cinquefoil (*Potentilla* spp.), common dandelion (*Taraxacum officinale*), aster (*Aster* sp.), a thistle (*Cirsium* sp.), orange sneezeweed (*Helenium hoopesii*), yarrow (*Achillea millefolium*), and false dandelion (*Agoseris* sp.) (Table - Herbaceous Trends).

Soil: The soil texture is a loam with a slightly acidic pH. Phosphorus and potassium have limited availability for plant growth and development at 5.9 ppm and 3.2 ppm, respectively (Tiedemann and Lopez 2004). Organic matter is fairly high at 5.1% (Table - Soil Analysis Data). The ground is covered with a high amount vegetation cover with little bare ground cover exposed (Table - Basic Cover). Bare ground that is exposed is mostly due to gopher activity. The soil erosion condition was classified as stable in 2004 and 2009.

### Trend Assessments

#### Browse:

- **1998 to 2004 - up (+2):** Density of silver sagebrush increased by 44% from 2,980 plants/acre to 4,300 plants/acre, though cover decreased slightly. The population is maturing with a decrease in the recruitment of young plants from 44% of the population to 10%.
- **2004 to 2009 - up (+2):** Silver sagebrush density increased by 33% to 5,720 plants/acre and cover increased from 3% to 6%. Recruitment of young plants continued to decrease to just 2% of the population.

#### Grass:

- **1998 to 2004 - slightly down (-1):** The sum of nested frequency of perennial grasses decreased by 11%, but cover increased from 24% to 28%.
- **2004 to 2009 - up (+2):** Perennial grass sum of nested frequency increased by 24% and cover increased to 29%.

Forb:

- **1998 to 2004 - stable (0):** Perennial forb sum of nested frequency and cover changed little.
- **2004 to 2009 - stable (0):** There was little change in the sum of nested frequency or cover of perennial forbs.

**Trend Summary**

HERBACEOUS TRENDS--

Management unit 16R, Study no: 5

T y P e	Species	Nested Frequency			Average Cover %		
		'98	'04	'09	'98	'04	'09
G	Agropyron trachycaulum	a11	a13	b42	.08	.18	.42
G	Bromus tectorum (a)	-	-	2	-	-	.00
G	Carex sp.	b140	a77	b179	3.26	3.29	6.65
G	Deschampsia caespitosa	b114	a80	ab83	.93	2.69	2.05
G	Festuca ovina	ab19	a3	b33	1.97	.03	.48
G	Hordeum brachyantherum	-	5	6	-	.15	.01
G	Juncus balticus	109	105	135	1.20	2.87	2.65
G	Koeleria cristata	-	-	3	-	-	.00
G	Muhlenbergia sp.	8	-	9	.30	-	.09
G	Phleum alpinum	-	6	-	-	.06	-
G	Phleum pratense	b16	a3	a-	.06	.03	-
G	Poa pratensis	389	425	370	16.33	17.96	15.46
G	Stipa columbiana	a10	a7	b38	.10	.24	.68
Total for Annual Grasses		0	0	2	0	0	0.00
Total for Perennial Grasses		816	724	898	24.27	27.53	28.53
Total for Grasses		816	724	900	24.27	27.53	28.53
F	Achillea millefolium	254	225	235	3.13	3.57	3.51
F	Agoseris sp.	a-	b94	b108	-	2.62	6.04
F	Antennaria rosea	11	11	14	.56	.33	.20
F	Arabis sp.	-	3	-	-	.00	-
F	Aster sp.	b181	b196	a84	3.42	5.24	1.40
F	Cirsium sp.	b159	a110	b169	6.72	5.94	7.77
F	Erigeron pumilus	-	1	11	-	.00	.16
F	Erigeron sp.	-	-	26	-	-	.72
F	Fragaria virginiana	a-	a5	b87	-	.06	3.02
F	Helenium hoopesii	90	73	90	5.19	2.82	2.11
F	Polygonum douglasii (a)	-	4	5	-	.00	.01
F	Potentilla gracilis	a-	b52	a-	-	1.66	-
F	Potentilla sp.	210	200	197	11.37	11.27	10.14
F	Taraxacum officinale	307	236	225	7.90	6.70	5.84
F	Trifolium sp.	b97	a91	a95	1.12	.75	.39
F	Viola sp.	-	-	2	-	-	.03
Total for Annual Forbs		0	4	5	0	0.00	0.00
Total for Perennial Forbs		1309	1297	1343	39.44	40.99	41.38
Total for Forbs		1309	1301	1348	39.44	41.00	41.38

Values with different subscript letters are significantly different at alpha = 0.10

BROWSE TRENDS--

Management unit 16R, Study no: 5

Type	Species	Strip Frequency			Average Cover %		
		'98	'04	'09	'98	'04	'09
B	Artemisia cana	29	36	37	3.74	2.54	6.32
B	Artemisia tridentata vaseyana	0	0	1	-	-	.03
B	Chrysothamnus viscidiflorus viscidiflorus	0	1	3	-	.00	.03
Total for Browse		29	37	41	3.74	2.54	6.38

CANOPY COVER, LINE INTERCEPT--

Management unit 16R, Study no: 5

Species	Percent Cover	
	'04	'09
Artemisia cana	6.05	9.36
Artemisia tridentata vaseyana	-	.23

BASIC COVER--

Management unit 16R, Study no: 5

Cover Type	Average Cover %		
	'98	'04	'09
Vegetation	81.47	72.86	68.49
Rock	0	.01	.00
Pavement	.03	.00	.02
Litter	2.58	7.30	14.51
Cryptogams	6.65	4.98	.41
Bare Ground	7.73	21.65	21.63

SOIL ANALYSIS DATA --

Management unit 16R, Study no: 5, Study Name: Scad Valley

Effective rooting depth (in)	pH	loam			%OM	PPM P	PPM K	ds/m
		%sand	%silt	%clay				
33.5	6.3	44.7	28.7	26.6	5.1	5.9	3.2	0.5

PELLET GROUP DATA--

Management unit 16R, Study no: 5

Type	Quadrat Frequency			Days use per acre (ha)		
	'98	'04	'09	'98	'04	'09
Sheep	6	10	2	11 (28)	33 (81)	16 (40)
Horse	-	-	2	-	-	4 (10)
Deer	-	-	1	-	-	3 (7)
Cattle	-	1	-	-	-	-

BROWSE CHARACTERISTICS--  
Management unit 16R, Study no: 5

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<i>Artemisia cana</i>										
98	<b>2980</b>	44	56	0	820	0	0	0	14/16	
04	<b>4300</b>	10	87	3	-	3	0	0	13/20	
09	<b>5720</b>	2	84	14	20	5	0	2	14/19	
<i>Artemisia tridentata vaseyana</i>										
98	<b>0</b>	0	0	-	-	0	0	0	-/-	
04	<b>0</b>	0	0	-	-	0	0	0	16/34	
09	<b>20</b>	0	100	-	-	0	0	0	15/23	
<i>Chrysothamnus viscidiflorus viscidiflorus</i>										
98	<b>0</b>	0	0	-	-	0	0	0	-/-	
04	<b>20</b>	0	100	-	-	0	0	0	-/-	
09	<b>60</b>	0	100	-	-	0	0	0	10/14	
<i>Potentilla fruticosa</i>										
98	<b>0</b>	0	0	-	-	0	0	0	-/-	
04	<b>0</b>	0	0	-	-	0	0	0	12/41	
09	<b>0</b>	0	0	-	-	0	0	0	11/27	