

BAR-A - TREND STUDY NO. 13A-17-09

Vegetation Type: Aspen Meadow

Range Type: Crucial Deer Summer (Fawning), Crucial Elk Summer (Calving)

NRCS Ecological Site Description: High Mountain Loam (Aspen), R048AY506UT

Land Ownership: SITLA

Elevation: 9,050 ft (2,758 m)

Aspect: North

Slope: 5%-8%

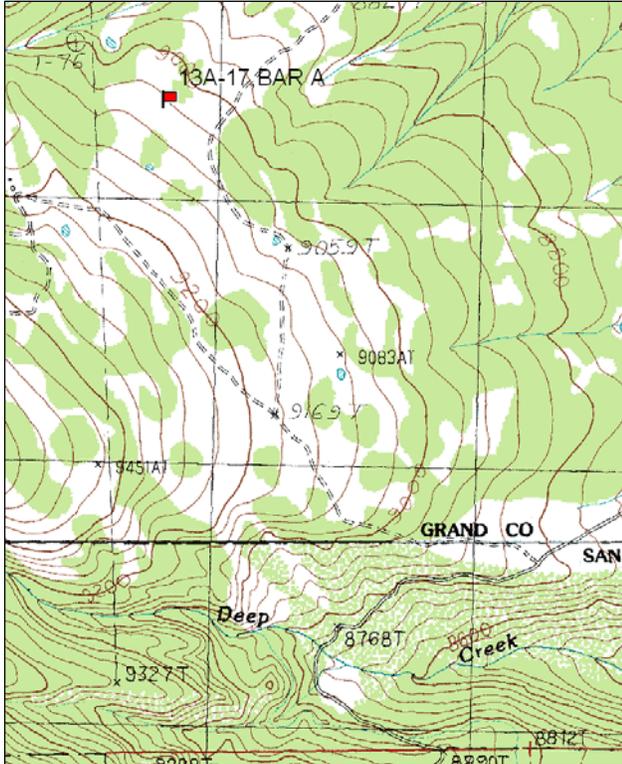
Transect bearing: 345 degrees magnetic

Belt placement: line 1 (11ft), line 2 (34ft), line 3 (59ft), line 4 (71ft), line 5(95 ft)

Directions:

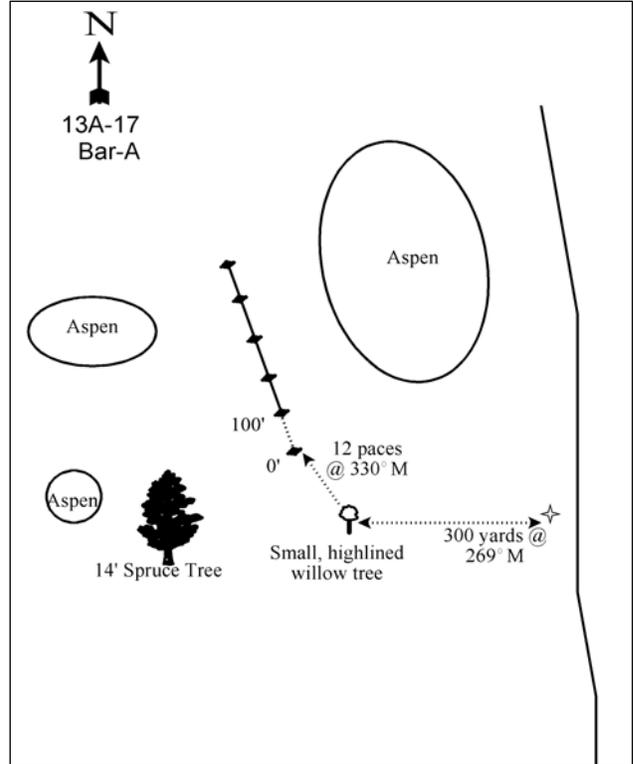
From the intersection of State Road 128 and the La Sal Mountain Loop Road drive 10.9 miles to Gateway Road. From the intersection of the La Sal Mountain Loop Road and the Gateway Road at the upper end of Castle Valley, travel 12.7 miles towards Gateway, Colorado to the Sally Hollow turnoff. Turn right and stay on the main road for 6.7 miles. Take another right and drive 0.7 miles to a fork. Bear right and drive 0.8 miles to a witness post on the left side of the road. From the witness post walk 300 yards at 269°M to a small highlined willow tree. From the willow tree walk 12 paces at 330°M to the beginning of the frequency baseline. The 0-foot stake is marked with a browse tag # 144.

Map Name: Mount Waas



Township: 26S, Range: 25E, Section: unsurveyed

Diagrammatic Sketch:



GPS: NAD 83, UTM 12S 660729 E 4264552 N

BAR-A - TREND STUDY NO. 13A-17

Site Information

Site Description: The study is located on state land just northeast of Mount Tomasaki. This site is used heavily by elk and livestock in the spring/summer. The area samples a meadow surrounded by aspen (*Populus tremuloides*) trees. Pellet group data estimated moderate elk use and light deer use since 2004. Estimated cattle use has been moderate to moderately heavy since 2004 (Table - Pellet Group Data).

Browse: Browse species are minimal on this summer range and are not critical to this site. Silver sagebrush (*Artemisia cana*) is found in patches on the site and has shown light to moderate use since 2004. Other browse species scattered over the site in small numbers include bush cinquefoil (*Potentilla fruticosa*), Wood's rose (*Rosa woodsii*), snowberry (*Symphoricarpos oreophilus*), and aspen, which surrounds the meadow.

Herbaceous Understory: Herbaceous vegetation forms a diverse and dense understory. Grasses and forbs are abundant with them providing almost all of the vegetation cover. Kentucky bluegrass (*Poa pratensis*), an increaser under moderate to heavy grazing, is the dominant species on the site and provides the majority of the vegetation cover. Other common grass species include smooth brome (*Bromus inermis*), a *Carex sp.*, and Letterman needlegrass (*Stipa lettermani*).

Forbs are more abundant than grasses in frequency and cover on this site. The most common forb species include Rocky Mountain iris (*Iris missouriensis*), western yarrow (*Achillea millefolium*), an *Aster sp.*, thickleaf peavine (*Lathyrus lanszwertii*) and orange sneezeweed (*Helenium hoopesii*). Rocky Mountain iris and orange sneezeweed are both increasers with grazing. They are also poor in forage value for wildlife and livestock, with orange sneezeweed also being poisonous for livestock. Many of the herbaceous species on this site are increasers with heavy grazing.

Soil: The soil is a loam with a deep effective rooting depth and a slightly acidic pH. Phosphorous has a low availability for plant growth and development at 4.9 ppm (Tiedemann and Lopez 2004) (Table - Soil Analysis Data). The site has good vegetation and litter cover that comes from herbaceous species, with minimal exposed bare ground cover (Table - Basic Cover). The soil erosion condition was classified as stable in 2004 and 2009.

Trend Assessments

Browse:

- **2004 to 2009 - stable (0):** There is minimal browse on this site.

Grass:

- **2004 to 2009 - stable (0):** The sum of nested frequency of perennial grasses increased slightly and cover increased from 31% to 42%.

Forb:

- **2004 to 2009 - stable (0):** The sum of nested frequency of perennial forbs increased slightly and cover increased from 46% to 64%. There was a significant increase in the nested frequency of the increaser species Rocky Mountain Iris, and a significant decrease in the nested frequency of the increaser species orange sneezeweed.

Trend Summary

HERBACEOUS TRENDS--

Management unit 13A, Study no: 17

T y P e	Species	Nested Frequency		Average Cover %	
		'04	'09	'04	'09
G	Agropyron trachycaulum	_b 90	_a 11	1.20	.36
G	Bromus anomalus	18	26	.16	.72
G	Bromus carinatus	_a -	_b 15	-	.89
G	Bromus inermis	_a 15	_b 112	.15	4.95
G	Carex sp.	_a 21	_b 81	.38	2.17
G	Festuca ovina	1	-	.03	-
G	Festuca thurberi	_b 35	_a -	2.58	-
G	Koeleria cristata	8	7	.06	.06
G	Muhlenbergia sp.	3	-	.06	-
G	Poa bulbosa	5	-	.15	-
G	Poa pratensis	412	389	23.08	27.53
G	Stipa columbiana	_b 38	_a 2	1.57	.03
G	Stipa comata	14	30	.18	.87
G	Stipa lettermani	40	66	1.11	4.02
Total for Annual Grasses		0	0	0	0
Total for Perennial Grasses		700	739	30.73	41.63
Total for Grasses		700	739	30.73	41.63
F	Achillea millefolium	_a 284	_b 354	9.53	17.17
F	Agoseris glauca	27	36	.29	.97
F	Androsace septentrionalis (a)	_b 25	_a -	.13	-
F	Antennaria rosea	25	27	.97	.54
F	Arabis sp.	2	1	.01	.00
F	Arenaria sp.	49	58	.85	1.16
F	Aster sp.	_b 226	_a 92	4.76	2.43
F	Calochortus gunnisoni	4	17	.01	.09
F	Carduus nutans (a)	2	-	.03	-
F	Cirsium sp.	30	31	1.26	.57
F	Collomia linearis (a)	8	-	.01	-
F	Crepis acuminata	-	2	-	.03
F	Cymopterus sp.	14	10	.10	.07
F	Erigeron flagellaris	_a 9	_b 42	.16	.97
F	Erigeron sp.	_a -	_b 22	-	.51
F	Eriogonum ovalifolium	4	12	.00	.10
F	Geranium richardsonii	_a 5	_b 30	.33	.38
F	Helenium hoopesii	_b 74	_a 21	4.26	.28
F	Iris missouriensis	_a 209	_b 271	13.61	21.02
F	Lathyrus lanszwertii	_a 144	_b 236	2.91	10.02
F	Lupinus argenteus	15	21	.34	.83
F	Lupinus sp.	_a -	_b 18	-	.66
F	Mentha sp.	-	6	-	.09
F	Orthocarpus sp. (a)	-	2	-	.00
F	Phlox sp.	_b 217	_a 93	3.34	1.56

Type	Species	Nested Frequency		Average Cover %	
		'04	'09	'04	'09
F	Polygonum douglasii (a)	_b 35	_a -	.18	-
F	Potentilla gracilis	28	26	.53	.49
F	Senecio integerrimus	_b 36	_a 2	.64	.03
F	Stellaria jamesiana	_a 11	_b 55	.10	1.54
F	Taraxacum officinale	119	118	1.88	2.26
F	Thlaspi sp.	-	5	-	.00
F	Tragopogon dubius	5	12	.03	.13
Total for Annual Forbs		70	2	0.35	0.00
Total for Perennial Forbs		1537	1618	46.01	64.00
Total for Forbs		1607	1620	46.36	64.00

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

BROWSE TRENDS--

Management unit 13A, Study no: 17

Type	Species	Strip Frequency		Average Cover %	
		'04	'09	'04	'09
B	Artemisia cana	3	10	.18	.73
B	Potentilla fruticosa	1	0	.15	-
Total for Browse		4	10	0.32	0.73

CANOPY COVER, LINE INTERCEPT--

Management unit 13A, Study no: 17

Species	Percent Cover	
	'04	'09
Artemisia cana	.20	.48
Potentilla fruticosa	.20	-

BASIC COVER--

Management unit 13A, Study no: 17

Cover Type	Average Cover %	
	'04	'09
Vegetation	71.99	81.12
Rock	.87	.09
Pavement	.97	0
Litter	30.81	56.09
Bare Ground	12.83	2.61

SOIL ANALYSIS DATA --

Management unit 13A, Study no: 17, Study Name: Bar-A

Effective rooting depth (in)	pH	loam			%OM	PPM P	PPM K	ds/m
		%sand	%silt	%clay				
18.4	6.1	49	33.5	17.5	6	4.9	192	0.6

PELLET GROUP DATA--

Management unit 13A, Study no: 17

Type	Quadrat Frequency		Days use per acre (ha)	
	'04	'09	'04	'09
Rabbit	1	-	-	-
Elk	5	1	21 (51)	21 (53)
Deer	-	-	7 (17)	1 (2)
Cattle	14	2	44 (109)	20 (50)

BROWSE CHARACTERISTICS--

Management unit 13A, Study no: 17

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<i>Artemisia cana</i>									
04	100	0	100	-	-	80	0	0	19/27
09	320	31	69	-	-	0	0	25	18/21
<i>Potentilla fruticosa</i>									
04	20	0	100	-	-	0	0	0	17/33
09	0	0	0	-	-	0	0	0	16/35
<i>Rosa woodsii</i>									
04	0	0	0	-	-	0	0	0	-/-
09	0	0	0	-	-	0	0	0	18/18
<i>Symphoricarpos oreophilus</i>									
04	0	0	0	-	-	0	0	0	-/-
09	0	0	0	-	-	0	0	0	31/27