

BEAVER CREEK - TREND STUDY NO. 13A-16-09

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: 9,000 ft (2,743 m)

Aspect: South

Slope: 10%-12%

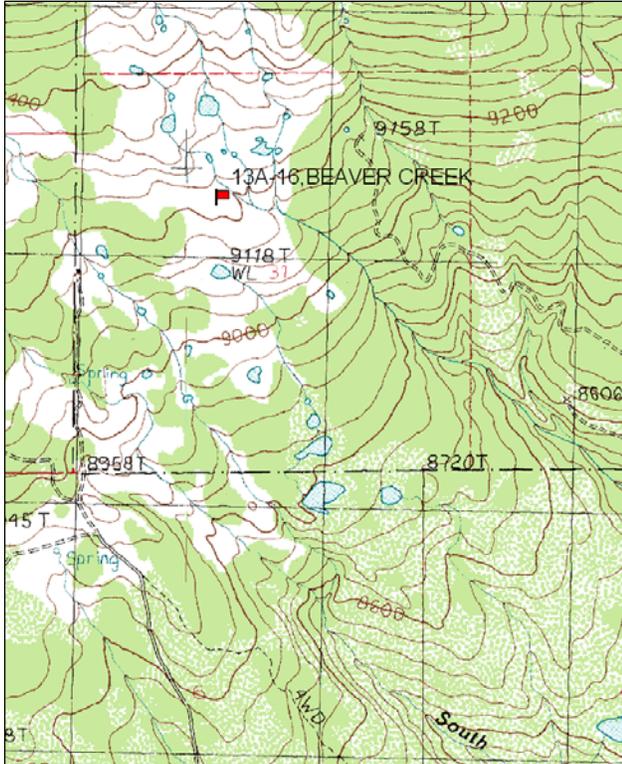
Transect bearing: 122 degrees magnetic

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

Directions:

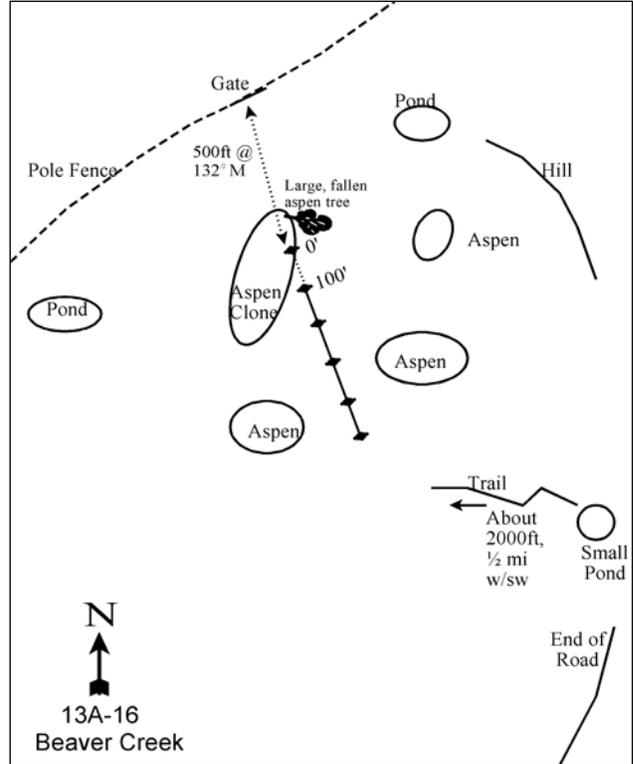
On SR 46, travel northeast past La Sal to mile marker 12. Continue 0.75 miles to the La Sal Pass road. Turn left and go 1.9 miles to a fork just beyond the Forest Service boundary cattleguard. Bear left and go 0.05 miles to a canal. Continue 0.7 miles to a fork by the canal. Stay right, go 0.1 miles to a fork. Stay left and proceed 0.4 miles to another fork. Stay right on main road and continue 0.8 miles to the La Sal Creek crossing. Continue 1.0 mile to a cattleguard. Continue 0.8 miles to a fork. Stay right and continue 0.11 more miles to another fork. Go right and drive to the end of the road. Then follow the trail to an open area and walk west up the hill to the site. Use a GPS unit to navigate. The 0-foot stake is marked by browse tag #161.

Map Name: Mount Peale



Township: 27S, Range: 25E, Section: 31

Diagrammatic Sketch:



GPS: NAD 83, UTM 12S 656489 E 4253417 N

## BEAVER CREEK - TREND STUDY NO. 13A-16

### Site Information

Site Description: The study is located just southeast of Mount Peale on state land. It samples an aspen meadow that receives high elk and livestock use in the spring/summer. Pellet group data estimated elk use to be moderately heavy with elk observed near the site in 2004, but there was minimal elk sign noted in 2009. Estimated deer use has been minimal. Cattle use has been heavy to very heavy on the site (Table - Pellet Group Data).

Browse: Due to the elevation of this site, it is considered to be summer range and browse is therefore not a critical component for wildlife. Snowberry (*Symphoricarpos oreophilus*) is the dominant shrub on this open site and provides the only notable browse cover (Table - Browse Trends). The snowberry plants are vigorous and healthy with mostly light use. Other browse species found on the site include: aspen (*Populus tremuloides*), gambel oak (*Quercus gambelii*), gooseberry currant (*Ribes montigenum*), and Wood's rose (*Rosa woodsii*) (Table - Browse Characteristics). Most of the aspen are large and old, with very little recruitment of young trees.

Herbaceous Understory: Herbaceous vegetation forms a diverse and dense understory. Kentucky bluegrass (*Poa pratensis*), an increaser with moderate to heavy grazing, is the dominant species on the site and provides most of the vegetation cover. Other common grass species include mountain brome (*Bromus carinatus*), slender wheatgrass (*Agropyron trachycaulum*), and subalpine needlegrass (*Stipa columbiana*). Forbs are also abundant on the site. The most common forb species include: Pacific aster (*Aster chilensis*), western yarrow (*Achillea millefolium*), Silky lupine (*Lupinus argenteus*), and common dandelion (*Taraxacum officinale*). These species provide valuable summer forage for wildlife. The majority of the herbaceous species, especially the forbs, on this site are increasers with heavy grazing.

Soil: The soil is a loam with a moderately deep rooting depth a moderately acidic pH (Table - Soil Analysis Data). The site has good vegetation and litter cover with minimal bare ground cover (Table - Basic Cover). The soil erosion condition was classified as stable in 2004 and 2009.

### Trend Assessments

#### Browse:

- **2004 to 2009 - slightly up (+1):** There was an increase in density and cover of the dominant browse species, snowberry, as well as gooseberry currant and Wood's rose. Because this is summer range, increases in browse species is not necessarily desirable.

#### Grass:

- **2004 to 2009 - slightly up (+1):** The sum of nested frequency of perennial grasses increased by 19% and cover increased from 23% to 55%. There was a significant increase in the nested frequency of mountain brome and a significant decrease in the nested frequency of slender wheatgrass. The large increase in cover of grasses is attributed to a substantial increase in the cover of Kentucky bluegrass.

#### Forb:

- **2004 to 2009 - slightly down (-1):** The sum of nested frequency of perennial forbs decreased by 14% and cover decreased from 22% to 16%.

## Trend Summary

### HERBACEOUS TRENDS--

Management unit 13A, Study no: 16

Type	Species	Nested Frequency		Average Cover %	
		'04	'09	'04	'09
G	Agropyron trachycaulum	<sub>b</sub> 70	<sub>a</sub> 49	1.64	1.42
G	Bouteloua gracilis	-	1	-	.15
G	Bromus anomalus	13	7	.36	.78
G	Bromus carinatus	<sub>a</sub> 64	<sub>b</sub> 128	1.17	8.07
G	Carex sp.	21	17	.53	.83
G	Dactylis glomerata	6	4	.03	.00
G	Poa pratensis	320	388	17.14	40.12
G	Stipa columbiana	59	69	2.28	3.13
G	Stipa lettermani	5	2	.06	.00
Total for Annual Grasses		0	0	0	0
Total for Perennial Grasses		558	665	23.26	54.53
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F	Achillea millefolium	167	147	4.25	3.29
F	Agoseris glauca	2	-	.00	-
F	Androsace septentrionalis (a)	3	3	.01	.03
F	Arabis sp.	-	1	-	.00
F	Aster chilensis	184	165	6.17	5.15
F	Chenopodium fremontii (a)	<sub>b</sub> 53	<sub>a</sub> 12	.44	.05
F	Cirsium sp.	17	12	.64	.13
F	Crepis acuminata	5	1	.01	.03
F	Cymopterus sp.	13	21	1.49	.36
F	Descurainia pinnata (a)	<sub>b</sub> 58	<sub>a</sub> -	1.50	-
F	Draba sp. (a)	<sub>b</sub> 15	<sub>a</sub> -	.10	-
F	Erigeron flagellaris	1	-	.00	-
F	Geranium sp.	12	18	.10	.08
F	Helenium hoopesii	-	15	-	.51
F	Labiatae	3	-	.04	-
F	Lappula occidentalis (a)	7	-	.16	-
F	Lathyrus brachycalyx	53	48	1.30	1.60
F	Lepidium sp. (a)	10	-	.07	-
F	Lupinus argenteus	48	29	4.59	2.00
F	Phacelia hastata	-	10	-	.07
F	Polygonum douglasii (a)	<sub>a</sub> -	<sub>b</sub> 13	-	.34
F	Potentilla sp.	25	13	.71	.37
F	Stellaria jamesiana	<sub>b</sub> 23	<sub>a</sub> 10	.28	.05
F	Swertia perennis	2	2	.63	.38
F	Taraxacum officinale	143	108	2.11	1.47
F	Tragopogon dubius	5	4	.03	.01
Total for Annual Forbs		146	28	2.29	0.42
Total for Perennial Forbs		703	604	22.40	15.55
Total for Forbs		849	632	24.70	15.97

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

BROWSE TRENDS--

Management unit 13A, Study no: 16

Type	Species	Strip Frequency		Average Cover %	
		'04	'09	'04	'09
B	Juniperus osteosperma	0	0	1.99	-
B	Populus tremuloides	8	9	.53	.39
B	Quercus gambelii	1	1	.41	.53
B	Ribes montigenum	1	4	.30	.45
B	Rosa woodsii	7	6	.36	.60
B	Symphoricarpos oreophilus	48	53	11.50	15.38
Total for Browse		65	73	15.10	17.35

CANOPY COVER, LINE INTERCEPT--

Management unit 13A, Study no: 16

Species	Percent Cover	
	'04	'09
Populus tremuloides	24.23	20.66
Quercus gambelii	.60	.91
Ribes montigenum	1.45	1.51
Rosa woodsii	.58	.10
Symphoricarpos oreophilus	24.36	22.04

BASIC COVER--

Management unit 13A, Study no: 16

Cover Type	Average Cover %	
	'04	'09
Vegetation	60.12	79.40
Rock	.33	.10
Pavement	0	.01
Litter	46.62	47.34
Bare Ground	7.81	4.36

SOIL ANALYSIS DATA --

Management unit 13A, Study no: 16, Study Name: Beaver Creek

Effective rooting depth (in)	pH	loam			%OM	PPM P	PPM K	ds/m
		%sand	%silt	%clay				
15.6	5.6	46.3	34.4	19.3	6.3	28.1	515.2	0.6

PELLET GROUP DATA--

Management unit 13A, Study no: 16

Type	Quadrat Frequency		Days use per acre (ha)	
	'04	'09	'04	'09
Rabbit	-	1	-	-
Elk	2	1	42 (104)	8 (20)
Deer	-	-	5 (13)	-
Cattle	18	39	66 (163)	102 (251)

BROWSE CHARACTERISTICS--  
 Management unit 13A, Study no: 16

		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>Populus tremuloides</i>									
04	<b>200</b>	70	30	-	-	10	30	0	-/-
09	<b>200</b>	70	30	-	40	30	20	0	-/-
<i>Quercus gambelii</i>									
04	<b>480</b>	100	0	-	-	0	0	0	13/7
09	<b>240</b>	0	100	-	-	0	100	0	-/-
<i>Ribes montigenum</i>									
04	<b>20</b>	0	100	-	-	0	0	0	34/86
09	<b>260</b>	0	100	-	-	0	0	0	21/32
<i>Rosa woodsii</i>									
04	<b>800</b>	0	100	-	-	0	0	0	13/10
09	<b>880</b>	0	100	-	-	0	0	0	12/9
<i>Symphoricarpos oreophilus</i>									
04	<b>2080</b>	7	92	1	40	0	0	0	30/47
09	<b>3060</b>	5	94	1	20	14	13	0	27/42