



SWAP MESA - TREND STUDY NO. 15-17

**Site Information**

Site Description: The study is located in a remote area to the west of Mt. Pennell on Swap Mesa. The transect samples an open meadow on Swap Mesa. It appears that the area had burned sometime in the distant past. The study was established to monitor bison use in this remote region. Pellet group data estimated bison use to be moderately heavy on the site (Table - Pellet Group Data).

Browse: Most of the browse cover is provided by the less desirable species broom snake weed (*Gutierrezia sarothrae*) (Table - Browse Trends). The preferred browse species fourwing saltbush (*Atriplex canescens*) is also found scattered over the site in low densities with only about 1% cover. Saltbush has mostly heavy to moderate use on the site (Table - Browse Characteristics).

Herbaceous Understory: The grasses on this site are quite diverse and mostly made up of warm season species. The dominant grass is the native species galleta (*Hilaria jamesii*). Forbs are not very diverse and provide little cover on the site. The dominant forb on the site is gooseberryleaf globemallow (*Sphaeralcea grossulariifolia*).

Soil: The soil is a sandy loam with a neutral pH (7.26) (Table - Soil Analysis Data). Bare ground cover is very high on the site with very little protective soil cover (Table - Basic Cover). The soil erosion condition was classified as stable in 2009.

**Trend Assessments**

DEER DESIRABLE COMPONENTS INDEX - LOW POTENTIAL SCALE --  
Management unit 15, study no: 17

Year	Preferred Browse Cover	Preferred Browse Decadence	Preferred Browse Young	Perennial Grass Cover	Annual Grass Cover	Perennial Forb Cover	Noxious Weeds	Total Score	Ranking
09	1.2	0.0	0.0	21.5	-0.2	3.6	0.0	<b>26.1</b>	Poor-Fair

**Trend Summary**

HERBACEOUS TRENDS--  
Management unit 15, Study no: 17

Type	Species	Nested Frequency '09	Average Cover % '09
G	Aristida purpurea	10	.07
G	Bouteloua gracilis	7	.16
G	Bromus tectorum (a)	76	.24
G	Hilaria jamesii	153	8.73
G	Oryzopsis hymenoides	27	.37
G	Sporobolus cryptandrus	69	1.38
G	Sporobolus giganteus	1	.00
G	Vulpia octoflora (a)	4	.01
Total for Annual Grasses		80	0.25
Total for Perennial Grasses		267	10.73
Total for Grasses		347	10.99
F	Astragalus sp.	4	.03

Type	Species	Nested	Average
		Frequency	Cover %
		'09	'09
F	Astragalus sp.	5	.01
F	Chenopodium fremontii (a)	30	.08
F	Eriogonum cernuum (a)	3	.00
F	Lepidium sp. (a)	2	.00
F	Navarretia intertexta (a)	68	.27
F	Salsola iberica (a)	89	.41
F	Sphaeralcea coccinea	1	.00
F	Sphaeralcea grossulariifolia	91	1.77
Total for Annual Forbs		192	0.77
Total for Perennial Forbs		101	1.81
Total for Forbs		293	2.59

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

#### BROWSE TRENDS--

Management unit 15, Study no: 17

Type	Species	Strip	Average
		Frequency	Cover %
		'09	'09
B	Atriplex canescens	7	.98
B	Ceratoides lanata	1	.00
B	Gutierrezia sarothrae	74	6.01
B	Opuntia sp.	7	.07
Total for Browse		89	7.07

#### CANOPY COVER, LINE INTERCEPT--

Management unit 15, Study no: 17

Species	Percent
	Cover
	'09
Atriplex canescens	1.31
Gutierrezia sarothrae	5.00
Opuntia sp.	.28

#### BASIC COVER--

Management unit 15, Study no: 17

Cover Type	Average
	Cover %
	'09
Vegetation	20.22
Rock	.02
Pavement	.21
Litter	15.19
Cryptogams	.12
Bare Ground	73.30

SOIL ANALYSIS DATA --

Management unit 15, Study no: 17, Study Name: Swap Mesa

Effective rooting depth (in)	pH	sandy loam			%OM	PPM P	PPM K	ds/m
		%sand	%silt	%clay				
	7.26	68.36	17.08	14.56	1.33	7.22	160	0.6

PELLET GROUP DATA--

Management unit 15, Study no: 17

Type	Quadrat Frequency '09	Days use per acre (ha) '09
Rabbit	64	-
Deer	1	-
Bison	14	34 (84)

BROWSE CHARACTERISTICS--

Management unit 15, Study no: 17

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization			Average Height Crown (in)	
		% Young	% Mature	% Decadent		% moderate	% heavy	% poor vigor		
<i>Atriplex canescens</i>										
09	<b>140</b>	14	86	-	-	43	57	0	40/59	
<i>Ceratoides lanata</i>										
09	<b>20</b>	0	100	-	-	0	100	0	7/9	
<i>Ephedra viridis</i>										
09	<b>0</b>	0	0	-	-	0	0	0	19/41	
<i>Gutierrezia sarothrae</i>										
09	<b>4720</b>	3	91	7	-	0	0	4	9/11	
<i>Opuntia sp.</i>										
09	<b>260</b>	15	85	-	-	0	0	0	5/14	