

Trend Study 21A-18-07

Study site name: Furner Valley.

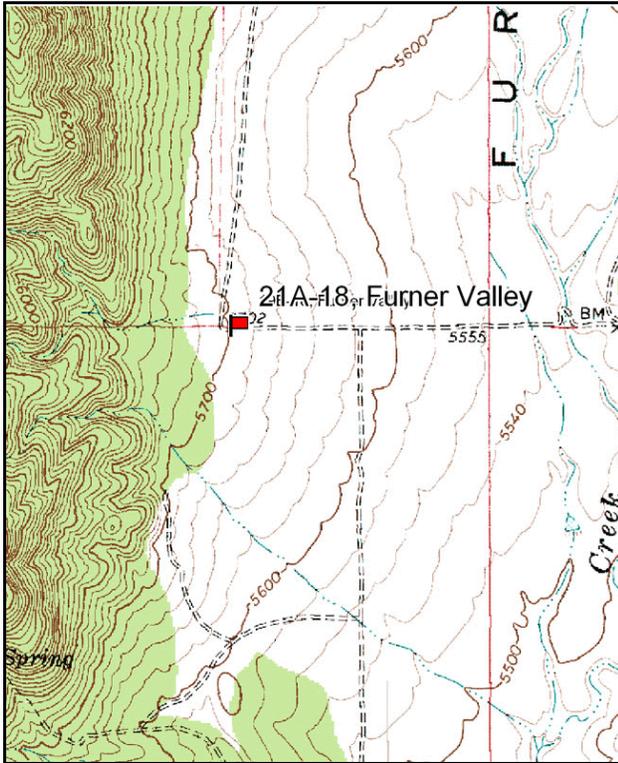
Vegetation type: Big Sagebrush-Grass.

Compass bearing: frequency baseline 188 degrees magnetic.

Frequency belt placement: line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft). Rebar: belt 1 on 1ft and belt 4 on 1ft.

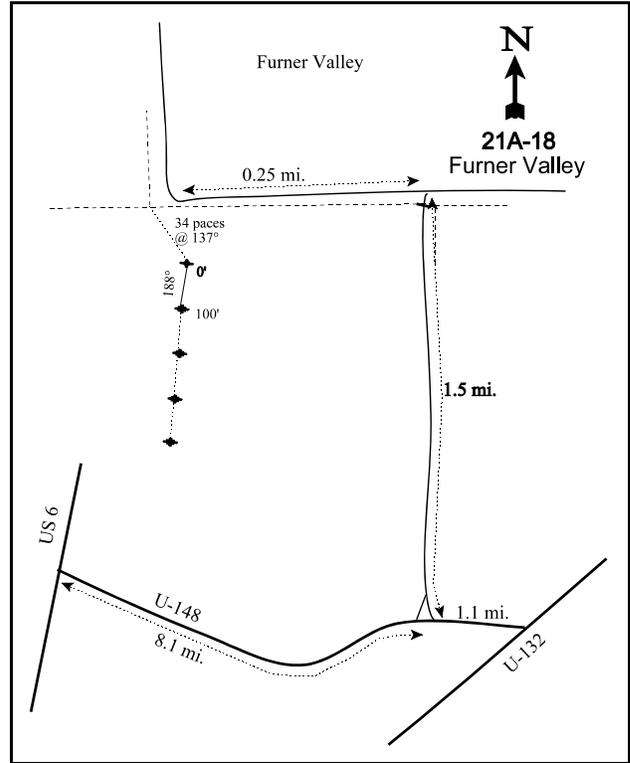
LOCATION DESCRIPTION

From a point on Highway U-148, located 8.1 miles east of the junction of Highway U-148 and U.S. 6, proceed north on the dirt road to Furner Valley for 1.50 miles. At this point, there is a "T" intersection with cropland immediately to the north. Turn left (west) for 0.25 miles, to where the road turns north again at a right angle. Stop! From the corner of the fence, walk 34 paces at an azimuth of 137 degrees M to the 0-foot marker of the frequency baseline, a green steel fencepost 15 inches high with a red browse tag, number 3936, attached.



Map Name: Furner Ridge

Township 13S, Range 2W, Section 18



Diagrammatic Sketch

GPS: NAD 83, UTM 12S 406477 E 4393624 N

## DISCUSSION

### Furner Valley - Trend Study No. 21A-18

#### Study Information

This study samples deer winter range on the west side of Furner Valley. The vegetation type is mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*) and grass, with antelope bitterbrush (*Purshia tridentata*) as a sub-dominant shrub [elevation: 5,700 feet (1,737 m), slope: 8%, aspect: east]. Immediately west of the study is a mature stand of pinyon-juniper, which provides escape and thermal cover. The study was mowed or aerated between the 2002 and 2007 readings, thinning the browse cover substantially. Deer use has been moderate-heavy in the past, and there has also been evidence of cattle and sheep use. In 1989, when conditions were dry, it was observed that cattle had made considerable use of the annual bitterbrush growth by 20 July. The area is in close proximity to a large dryland farm, which may attract deer in the spring. A pellet group transect estimated 36 deer days use/acre (89 ddu/ha) in 2002 and only 1 day use/acre (3 ddu/ha) in 2007. Cattle use was estimated at 6 days use/acre (14 cdu/ha) in 2002 and 10 days use/acre (25 cdu/ha) in 2007. Horse use was estimated at 5 days use/acre (13 hdu/ha) in 2002 and 20 days use/acre (50 hdu/ha) in 2007. Sheep use was estimated at 4 days use/acre (10 sdu/ha) in 2002.

#### Soil

The soil is classified within the Borvant series (USDA-NRCS 2007). The soils within this series are shallow above a petrocalcic horizon, and are well-drained. They formed in alluvium or colluvium derived from limestone and sandstone. The soil is light in color with rock scattered across the soil surface and throughout the profile. The texture is a sandy clay loam with a neutral reaction (pH 7.1). Relative bare ground cover has steadily decreased from 21% in 1997 to 14% in 2007, while relative pavement cover has ranged from 6% to 9%. Combined relative vegetation and litter cover has ranged from 66% to 75% between 1997 and 2007. The erosion condition class was determined as stable in 2002 and slight in 2007, due to apparent soil and surface rock movement, pedestalling, flow patterns.

#### Browse

Mountain big sagebrush and antelope bitterbrush are the preferred browse species. Together they comprised approximately 50% of the total vegetative cover in 1997 and 2002, and only 27% in 2007 after being mowed. Sagebrush density declined from 2,799 plants/acre (6,916 plants/ha) in 1983 to 1,980 plants/acre (4,893 plants/ha) in 2002, then 940 plants/acre (2,323 plants/ha) in 2007 after the treatment. Average cover decreased from 11% in 1997 to only 1% in 2007. Sagebrush decadence was moderate-high at approximately 25% in 1997 and 2002, 50% in 1983 and 2007, and 75% in 1989. Young recruitment was low at 4% of the population in 1983 and 1989, but has improved to 11%-24% since 1997. The density of dead plants increased from 380 plants/acre (939 plants/ha) in 1997 to 780 plants/acre (1,927 plants/ha) in 2002 and 1,760 plants/acre (4,349 plants/ha) in 2007 following the treatment. Plants displaying poor vigor decreased from 52% of the population in 1989 to 10% in 2002, then increased after the treatment to 55% in 2007. Many of the plants with poor vigor in 2007 had been mowed. Use was moderate-heavy in 1983, but has been mostly light in subsequent samples, with some heavy hedging in 2002 and 2007. Annual leader growth averaged 2.6 inches (6.6 cm) in 2002 and 2.5 inches (6.4 cm) in 2007.

Bitterbrush density decreased from 399 plants/acre (986 plants/ha) in 1983 to 299 plants/acre (739 plants/ha) in 1989, increased to 580 plants/acre (1,433 plants/ha) in 1997, then decreased after the treatment to 460 plants/acre (1,137 plants/ha) in 2007. Its average cover increased from 5% in 1997 to 9% in 2002, then declined to 4% in 2007 following the treatment. The population has been mostly mature in all sampling years, with low recruitment. Decadence has decreased significantly from 33% of the population in 1989 to only 4% in 2007. Vigor was excellent until 2007, when 30% of the sampled plants showed poor vigor because they had been mowed. Use was light-moderate in 1983, moderate in 1989-2002, and light in 2007. Annual leader growth averaged 1.4 inches (3.6 cm) in 2002 and 3 inches (7.6 cm) in 2007.

Utah juniper (*Juniperus osteosperma*) trees are also scattered throughout the study. Point-centered quarter data estimated a relatively stable juniper density of 29 trees/acre (72 trees/ha) in 1997, 35 trees/acre (86 trees/ha) in 2002, and 36 trees/acre (89 trees/ha) in 2007. Average trunk diameter was 4.3 inches (10.9 cm) in 1997, 3.3 inches (8.4 cm) in 2002 and 5 inches (12.7 cm) in 2007. The majority of the trees sampled in 2007 were either in the 1-4 foot (0.3-1.2 m) or 8-12 foot (2.4-3.7 m) height class.

#### Herbaceous Understory

Perennial grasses are common in the understory, and have provided 53%-85% of the total grass cover since 1997. Needle-and-thread (*Stipa comata*) is the most abundant perennial grass, and bottlebrush squirreltail (*Sitanion hystrix*), Sandberg bluegrass (*Poa secunda*), and Indian ricegrass (*Oryzopsis hymenoides*) are also relatively common. In 2007, it was noted that the perennial grasses were very heavily grazed by 28 August. Average cheatgrass (*Bromus tectorum*) cover decreased from 5% in 1997 to 2% in 2002, then increased dramatically to 10% in 2007. Cheatgrass comprised 15% of the total grass cover in 2002 and almost 50% in 2007.

Forbs are relatively diverse and have increased in average cover from 4% in 1997 to 8% in 2007. However, the majority of the forb cover has been provided by annual species since 1997. The most abundant forb is pale alyssum (*Alyssum alyssoides*), which comprised 87% of the total forb cover in 2002 and 93% in 2007. Musk thistle (*Carduus nutans*), a noxious annual, was sampled in one quadrat in 1997. The most abundant perennials have included Torrey milkvetch (*Astragalus calycosus*), Lewis flax (*Linum lewisii*), longleaf phlox (*Phlox longifolia*), and lobeleaf groundsel (*Senecio multilobatus*).

#### 1989 TREND ASSESSMENT

The trend for browse is down. Sagebrush density decreased slightly, from 2,799 plants/acre (6,916 plants/ha) to 2,566 plants/acre (6,340 plants/ha), however, decadence increased from 48% of the population to 75%. Young recruitment remained low at 4% of the population. Plants displaying poor vigor increased from 6% of the population to 52% and use decreased to mostly light. Bitterbrush density decreased 25%, from 399 plants/acre (986 plants/ha) to 299 plants/acre (739 plants/ha), and decadence increased to one-third of the population. Recruitment slightly increased, with 11% of the population consisting of young plants. Vigor remained excellent, and use increased to moderate. The trend for grass is slightly up. The sum of nested frequency for perennial grasses increased 19%. Needle-and-thread increased significantly in nested frequency, while squirreltail decreased significantly in nested frequency. The trend for forbs is up. The sum of nested frequency for perennial forbs increased 64%. Both longleaf and desert phlox (*Phlox austromontana*) increased significantly in nested frequency.

browse - down (-2)

grass - slightly up (+1)

forb - up (+2)

#### 1997 TREND ASSESSMENT

The trend for browse is slightly down, however, many of the changes in browse may be attributed to the increase in sampling area. Sagebrush density continued to decrease from 2,566 plants/acre (6,340 plants/ha) to 2,100 plants/acre (5,189 plants/ha). Young recruitment increased from 4% of the population to 16%, and decadence decreased from 75% of the population to 27%. However, plants classified as dying increased from 12% to 16% of the population. Dead plants were sampled for the first time at a density of 380 plants/acre (939 plants/ha). Vigor improved from 52% of the population showing poor vigor to 24%, and use remained light. Bitterbrush density increased from 299 plants/acre (739 plants/ha) to 580 plants/acre (1,433 plants/ha). Decadence decreased from 33% of the population to 10%, and recruitment also decreased from 11% of the population to 3%. Vigor remained good on most plants, and use remained moderate. The trend for grass is stable. The sum of nested frequency for perennial grasses changed little. Sandberg bluegrass increased significantly in nested frequency, while Indian ricegrass decreased significantly in nested frequency. The trend for forbs is stable. The sum of nested frequency for perennial forbs decreased 7%. Lobeleaf groundsel and Torrey milkvetch increased significantly in nested frequency, and desert phlox decreased significantly in

nested frequency. Musk thistle was sampled for the first time. The Desirable Components Index (DCI) was rated as poor-fair due to good browse and perennial grass cover, but low browse recruitment and the presence of a noxious weed.

winter range condition (DCI) - poor-fair (52) Mid-level potential scale  
browse - slightly down (-1)      grass - stable (0)      forb - stable (0)

#### 2002 TREND ASSESSMENT

The trend for browse is stable. Sagebrush density declined slightly from 2,100 plants/acre (5,189 plants/ha) to 1,980 plants/acre (4,893 plants/ha). Young recruitment continued to increase from 16% of the population to 24%, while decadence remained relatively stable at 25% of the population. Plants classified as dying decreased from 16% of the population to 8%. Vigor continued to improve, and use remained mostly light. Bitterbrush density also decreased slightly from 580 plants/acre (1,433 plants/ha) to 520 plants/acre (1,285 plants/ha). However, average cover increased from 5% to 9%. No young plants were sampled and decadence decreased slightly from 10% of the population to 8%. Vigor remained good and use remained moderate. The trend for grass is stable. The sum of nested frequency for perennial grasses changed little, however, average perennial cover increased from 9% to 14%. Squirreltail decreased significantly in nested frequency. Cheatgrass did not change significantly in nested frequency, but its quadrat frequency increased from 69% to 81%. Average cheatgrass cover decreased from 5% to 2%. The trend for forbs is down. The sum of nested frequency for perennial forbs decreased almost 60%. Lobeleaf groundsel and Lewis flax decreased significantly in nested frequency, while pale alyssum increased significantly. Musk thistle was not sampled. The DCI rating improved to good due to increases in browse and perennial grass cover, a decrease in annual grass cover, and the absence of noxious weeds.

winter range condition (DCI) - good (69) Mid-level potential scale  
browse - stable (0)      grass - stable (0)      forb - down (-2)

#### 2007 TREND ASSESSMENT

The trend for browse is down. Due to the mowing treatment, sagebrush density decreased from 1,980 plants/acre (4,893 plants/ha) to 940 plants/acre (2,323 plants/ha). Decadence doubled to 51% of the population and the density of dead plants increased to 1,760 plants/acre (4,349 plants/ha). Recruitment declined, with 11% of the population consisting of young plants. Plants displaying poor vigor increased from 10% to 55% of the population and use remained mostly light. Bitterbrush density decreased from 520 plants/acre (1,285 plants/ha) to 460 plants/acre (1,137 plants/ha), and decadence continued to decline to 4% of the population. Young recruitment did not increase. Plants displaying poor vigor increased from 4% of the population to 30% and use decreased to mostly light. The trend for grass is stable. The sum of nested frequency for perennial grasses increased 18%, mostly due to a significant increase in squirreltail. However, cheatgrass also increased significantly in nested frequency and its quadrat frequency increased from 81% to 94%. Average cheatgrass cover increased from 2% to 10%. Perennial grass cover decreased from 14% to 12%. The trend for forbs is slightly down. The sum of nested frequency for perennial forbs continued to decrease 44%. Annual forb cover increased from 6% to 8%. The DCI rating declined to very poor-poor due to decreases in browse cover and recruitment, and an increase in annual grass cover.

winter range condition (DCI) - very poor-poor (35) Mid-level potential scale  
browse - down (-2)      grass - stable (0)      forb - slightly down (-1)

HERBACEOUS TRENDS --  
Management unit 21A, Study no: 18

T y p e	Species	Nested Frequency					Average Cover %		
		'83	'89	'97	'02	'07	'97	'02	'07
G	<i>Agropyron cristatum</i>	-	-	a2	a1	-	.15	.03	-
G	<i>Agropyron smithii</i>	-	-	-	a8	a7	-	.04	.07
G	<i>Agropyron spicatum</i>	a10	a12	a4	a19	a10	.06	1.00	.54
G	<i>Bromus japonicus</i> (a)	-	-	-	4	-	-	.01	-
G	<i>Bromus tectorum</i> (a)	-	-	a219	a241	b303	5.28	2.36	10.33
G	<i>Oryzopsis hymenoides</i>	ab40	b58	a20	ab38	a23	.82	1.77	.73
G	<i>Poa fendleriana</i>	-	2	-	-	-	-	-	-
G	<i>Poa pratensis</i>	a3	a4	-	-	-	-	-	-
G	<i>Poa secunda</i>	a7	a6	b37	b41	b60	.47	1.11	1.58
G	<i>Sitanion hystrix</i>	c107	b70	bc82	a25	bc76	1.28	.49	2.21
G	<i>Sporobolus cryptandrus</i>	-	-	a4	a2	a3	.15	.00	.03
G	<i>Stipa comata</i>	a111	bc178	ab172	bc180	c192	5.96	9.34	6.40
G	Unknown grass - perennial	-	-	3	-	-	.15	-	-
<b>Total for Annual Grasses</b>		<b>0</b>	<b>0</b>	<b>219</b>	<b>245</b>	<b>303</b>	<b>5.28</b>	<b>2.37</b>	<b>10.33</b>
<b>Total for Perennial Grasses</b>		<b>278</b>	<b>330</b>	<b>324</b>	<b>314</b>	<b>371</b>	<b>9.06</b>	<b>13.80</b>	<b>11.58</b>
<b>Total for Grasses</b>		<b>278</b>	<b>330</b>	<b>543</b>	<b>559</b>	<b>674</b>	<b>14.34</b>	<b>16.18</b>	<b>21.92</b>
F	<i>Alyssum alyssoides</i> (a)	-	-	a305	b333	b351	2.28	5.83	7.39
F	<i>Antennaria rosea</i>	-	-	2	-	-	.00	-	-
F	<i>Arabis</i> sp.	5	-	-	-	-	-	-	-
F	<i>Astragalus calycosus</i>	a5	ab13	c30	bc23	abc14	.40	.30	.09
F	<i>Astragalus</i> sp.	-	-	a7	a4	-	.09	.03	-
F	<i>Astragalus utahensis</i>	-	-	-	-	-	-	-	.00
F	<i>Caulanthus crassicaulis</i>	a34	a20	-	-	-	-	-	-
F	<i>Carduus nutans</i> (a)	-	-	2	-	-	.00	-	-
F	<i>Calochortus nuttallii</i>	a6	-	a3	a3	-	.04	.00	-
F	<i>Castilleja</i> sp.	-	-	b9	a1	-	.17	.03	-
F	<i>Chaenactis douglasii</i>	a2	a4	a10	-	-	.04	-	-
F	<i>Crepis acuminata</i>	-	-	2	-	-	.03	-	-
F	<i>Erodium cicutarium</i> (a)	-	-	-	-	11	-	-	.24
F	<i>Ipomopsis aggregata</i>	2	-	-	-	-	-	-	-
F	<i>Lithospermum incisum</i>	a11	a8	a1	a2	-	.01	.00	-
F	<i>Linum lewisii</i>	c33	c52	bc31	a3	ab11	.16	.04	.08
F	<i>Lygodesmia grandiflora</i>	a5	a8	-	a8	a2	-	.04	.00
F	<i>Machaeranthera canescens</i>	-	1	-	-	-	-	-	-

T y p e	Species	Nested Frequency					Average Cover %		
		'83	'89	'97	'02	'07	'97	'02	'07
F	<i>Microsteris gracilis</i> (a)	-	-	-	-	3	-	-	.00
F	<i>Oenothera</i> sp.	<sub>a</sub> 1	<sub>a</sub> 5	<sub>a</sub> 6	<sub>a</sub> 3	-	.01	.03	-
F	<i>Phlox austromontana</i>	<sub>a</sub> 3	<sub>b</sub> 19	<sub>a</sub> 6	<sub>a</sub> 6	<sub>a</sub> 3	.19	.18	.00
F	<i>Phlox longifolia</i>	<sub>a</sub> 10	<sub>b</sub> 36	<sub>ab</sub> 36	<sub>ab</sub> 25	<sub>a</sub> 7	.13	.10	.01
F	<i>Ranunculus testiculatus</i> (a)	-	-	-	-	3	-	-	.03
F	<i>Senecio multilobatus</i>	<sub>a</sub> 4	<sub>a</sub> 16	<sub>b</sub> 44	<sub>a</sub> 1	<sub>a</sub> 2	.39	.00	.03
F	<i>Sphaeralcea coccinea</i>	-	-	-	<sub>a</sub> 3	<sub>a</sub> 6	-	.00	.01
F	<i>Streptanthus cordatus</i>	-	<sub>a</sub> 13	<sub>a</sub> 14	<sub>a</sub> 1	<sub>a</sub> 1	.11	.00	.00
F	<i>Tragopogon dubius</i>	<sub>a</sub> 17	<sub>a</sub> 7	<sub>a</sub> 7	<sub>a</sub> 6	<sub>a</sub> 4	.09	.05	.01
F	Unknown forb-perennial	-	3	-	-	-	-	-	-
F	<i>Zigadenus paniculatus</i>	-	<sub>b</sub> 21	<sub>a</sub> 3	<sub>a</sub> 2	<sub>a</sub> 1	.00	.01	.00
Total for Annual Forbs		0	0	307	333	368	2.29	5.83	7.67
Total for Perennial Forbs		138	226	211	91	51	1.89	0.85	0.27
Total for Forbs		138	226	518	424	419	4.18	6.69	7.94

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

BROWSE TRENDS --

Management unit 21A, Study no: 18

T y p e	Species	Strip Frequency			Average Cover %		
		'97	'02	'07	'97	'02	'07
B	<i>Artemisia tridentata vaseyana</i>	66	60	32	11.05	9.38	1.44
B	<i>Chrysothamnus viscidiflorus viscidiflorus</i>	1	2	1	-	-	-
B	<i>Gutierrezia sarothrae</i>	59	55	45	1.29	.96	.96
B	<i>Juniperus osteosperma</i>	4	5	4	2.74	4.59	4.90
B	<i>Leptodactylon pungens</i>	0	1	1	-	.00	.03
B	<i>Opuntia</i> sp.	1	1	1	.00	.03	-
B	<i>Purshia tridentata</i>	25	23	19	4.83	8.89	3.70
Total for Browse		156	147	103	19.93	23.88	11.04

CANOPY COVER, LINE INTERCEPT --

Management unit 21A, Study no: 18

Species	Percent Cover	
	'02	'07
Artemisia tridentata vaseyana	-	2.58
Gutierrezia sarothrae	-	.85
Juniperus osteosperma	.20	7.55
Purshia tridentata	-	6.43

KEY BROWSE ANNUAL LEADER GROWTH --

Management unit 21A, Study no: 18

Species	Average leader growth (in)	
	'02	'07
Artemisia tridentata vaseyana	2.6	2.5
Purshia tridentata	1.4	3.0

POINT-QUARTER TREE DATA --

Management unit 21A, Study no: 18

Species	Trees per Acre		Average diameter (in)	
	'02	'07	'02	'07
Juniperus osteosperma	35	36	3.4	5

BASIC COVER --

Management unit 21A, Study no: 18

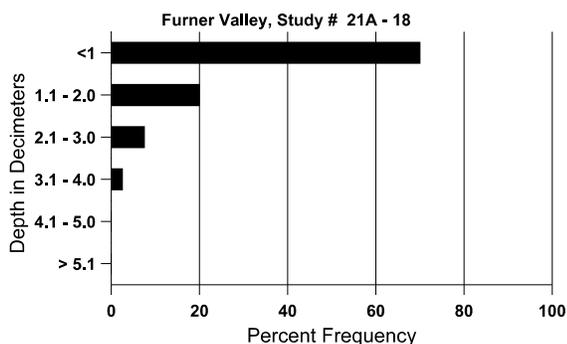
Cover Type	Average Cover %				
	'83	'89	'97	'02	'07
Vegetation	2.00	7.25	34.52	46.75	37.59
Rock	1.75	1.50	1.52	2.01	1.04
Pavement	1.00	20.50	8.73	7.61	9.66
Litter	52.25	41.25	40.31	36.43	44.8
Cryptogams	0	3.75	1.25	11.40	1.11
Bare Ground	43.00	25.75	22.77	20.70	15.25

SOIL ANALYSIS DATA --

Herd Unit 21A, Study no: 18, Furner Valley

Effective rooting depth (in)	Temp °F (depth)	pH	Sandy clay loam			%OM	ppm P	ppm K	dS/m
			%sand	%silt	%clay				
10.7	66.8 (13.8)	7.1	54.4	23.1	22.6	2.4	10.5	160.0	.6

## Stoniness Index



### PELLET GROUP DATA --

Management unit 21A, Study no: 18

Type	Quadrat Frequency		
	'97	'02	'07
Sheep	2	2	-
Rabbit	12	21	85
Horse	-	2	10
Elk	1	-	1
Deer	11	12	1
Cattle	2	2	5

Days use per acre (ha)	
'02	'07
4 (10)	-
-	-
-	20 (50)
-	-
36 (89)	1 (3)
6 (14)	10 (25)

### BROWSE CHARACTERISTICS --

Management unit 21A, Study no: 18

		Age class distribution (plants per acre)					Utilization					
Y	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% dying	% poor vigor	Average Height Crown (in)
<i>Artemisia tridentata vaseyana</i>												
83	<b>2799</b>	-	100	1366	1333	-	38	56	48	-	6	24/31
89	<b>2566</b>	333	100	533	1933	-	21	0	75	12	52	24/28
97	<b>2100</b>	60	340	1200	560	380	10	0	27	15	24	33/48
02	<b>1980</b>	120	480	1000	500	780	14	4	25	8	10	31/43
07	<b>940</b>	100	100	360	480	1760	9	11	51	19	55	19/27
<i>Chrysothamnus viscidiflorus viscidiflorus</i>												
83	<b>0</b>	-	-	-	-	-	0	0	-	-	0	-/-
89	<b>0</b>	-	-	-	-	-	0	0	-	-	0	-/-
97	<b>20</b>	-	-	20	-	-	0	0	-	-	0	16/26
02	<b>40</b>	-	-	40	-	-	0	0	-	-	0	7/14
07	<b>40</b>	-	20	20	-	-	0	0	-	-	0	9/21

		Age class distribution (plants per acre)					Utilization					
Year	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% dying	% poor vigor	Average Height Crown (in)
<i>Gutierrezia sarothrae</i>												
83	<b>699</b>	-	-	633	66	-	10	10	9	-	52	7/6
89	<b>1565</b>	66	166	1266	133	-	0	0	8	-	2	9/8
97	<b>5000</b>	40	1220	3780	-	-	0	0	0	-	0	10/10
02	<b>3820</b>	-	100	3200	520	1420	0	0	14	9	9	7/10
07	<b>2160</b>	400	280	1760	120	60	0	0	6	3	6	8/13
<i>Juniperus osteosperma</i>												
83	<b>33</b>	-	33	-	-	-	0	0	-	-	0	-/-
89	<b>33</b>	-	33	-	-	-	0	0	-	-	0	-/-
97	<b>80</b>	-	20	60	-	-	0	0	-	-	0	-/-
02	<b>100</b>	20	-	100	-	-	0	0	-	-	0	-/-
07	<b>100</b>	-	-	100	-	-	0	0	-	-	0	-/-
<i>Leptodactylon pungens</i>												
83	<b>0</b>	-	-	-	-	-	0	0	-	-	0	-/-
89	<b>0</b>	-	-	-	-	-	0	0	-	-	0	-/-
97	<b>0</b>	-	-	-	-	-	0	0	-	-	0	-/-
02	<b>20</b>	-	-	20	-	-	0	0	-	-	0	9/16
07	<b>60</b>	-	20	40	-	-	0	0	-	-	0	4/12
<i>Opuntia sp.</i>												
83	<b>0</b>	-	-	-	-	-	0	0	-	-	0	-/-
89	<b>0</b>	-	-	-	-	-	0	0	-	-	0	-/-
97	<b>20</b>	-	-	20	-	-	0	0	-	-	0	3/3
02	<b>20</b>	-	-	20	-	-	0	0	-	-	0	5/7
07	<b>20</b>	-	-	20	-	-	0	0	-	-	0	4/10
<i>Purshia tridentata</i>												
83	<b>399</b>	-	33	366	-	-	50	0	0	-	0	29/42
89	<b>299</b>	-	33	166	100	-	67	22	33	-	0	23/37
97	<b>580</b>	-	20	500	60	40	59	17	10	3	3	34/58
02	<b>520</b>	-	-	480	40	80	58	15	8	4	4	46/81
07	<b>460</b>	-	-	440	20	-	13	17	4	-	30	33/63