

Trend Study 16A-18-07

Study site name: Deep Creek .

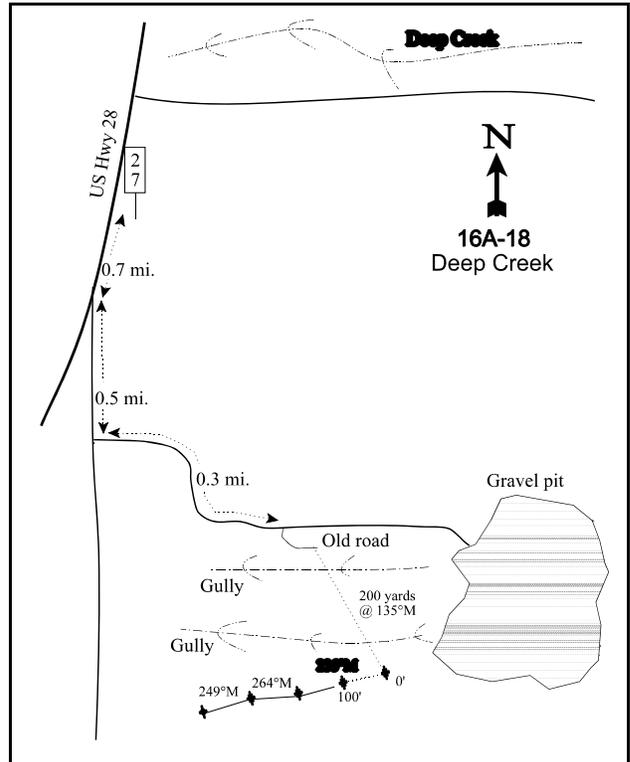
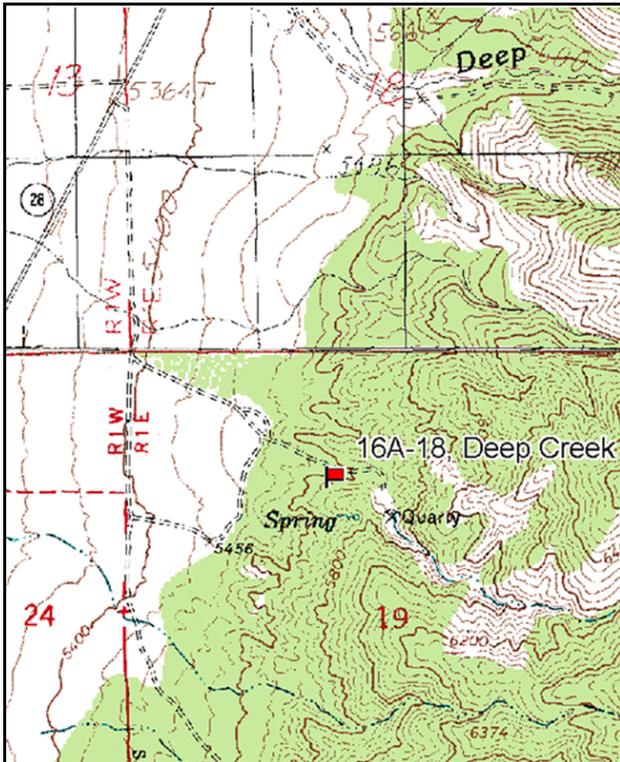
Vegetation type: True Mountain Mahogany .

Compass bearing: frequency baseline 235 degrees magnetic (line 3 @ 264°M, line 4 @ 249°M).

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

LOCATION DESCRIPTION

From the post office in Levan (75 N. Main St.) go south on US-28 for 3.8 miles. Turn left 0.7 miles past mile marker 27 (east then south) and go 0.5 miles to a fork in the road. Take a left (east) and go 0.3 miles to another fork. Take the old road to the right and park when it ends. From here, the 0-foot baseline stake is 200 yards at an azimuth of 135 degrees magnetic. There are some large boulders around the 100-foot baseline stake.



Map Name: Chriss Canyon

Diagrammatic Sketch

Township 15S, Range 1E, Section 19

GPS: NAD 83, UTM 12S 425691 E 4372189 N

## DISCUSSION

### Deep Creek - Trend Study No. 16A-18

#### Study Information

This study monitors critical deer winter range located just south of Deep Creek. It is placed along a narrow ridge running east to west [elevation: 5,670 feet (1,728 m), slope: 15%-20%, aspect: northwest and southeast]. The vegetative composition is typical of the west-facing foothills from Levan south to the unit boundary. It supports a sparse pinyon-juniper stand associated with an understory mixture of browse species. Deer use of the area was reported moderate-heavy in 1983 and 1989, and several deer carcasses were found in 1989. Pellet group quadrat frequency for deer was fairly low at 16% in 1997, and use was estimated at 9 days use/acre (23 ddu/ha) in 2002 and 7 days use/acre (17 ddu/ha) in 2007. Elk pellet quadrat frequency was only 2% in 1997 and 1% in 2002. Sheep use was heavy during the springs of 2002 and 2007, with 56 days use/acre (137 sdu/ha) and 48 days use/acre (117 sdu/ha), respectively.

#### Soil

The soil texture is a clay, and the pH is neutral (7.2). Soil phosphorus is relatively low at only 6.6 ppm (Tiedemann and Lopez 2004). Organic matter is also low at 1.2%. The soil has poor structure, and erosion is apparent. Relative bare ground cover was 23% in 1997, 40% in 2002, and 41% in 2007, with only 26%, 20%, and 23% relative vegetation cover, respectively. The erosion condition was classified as slight in 2002 and 2007, due to soil, litter, and rock movement, as well as pedestalling. The steep slope increases erosion potential on the study.

#### Browse

Mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*), true mountain mahogany (*Cercocarpus montanus*), and green ephedra (*Ephedra viridis*) provide preferred browse. Mahogany density increased from 433 plants/acre (1,070 plants/ha) in 1983 to 1,040 plants/acre (2,570 plants/ha) in 2002, then decreased to 740 plants/acre (1,829 plants/ha) in 2007. Average cover has ranged between 3% and 6% since 1997. Decadence has slowly increased from 0% of the population in 1983 to 68% in 2007, while recruitment has decreased from 31% in 1983 to 0% in 2007. Most of the population was vigorous until 2007, when 59% displayed poor vigor. Use was moderate-heavy in all sample years. Annual leader growth averaged 2.5 inches (6.4 cm) in 2002 and 2.6 inches (6.6 cm) in 2007.

Sagebrush density has steadily declined from 533 plants/acre (1,317 plants/ha) in 1983 to 160 plants/acre (395 plants/ha) in 2007. It provided 1% average cover from 1997 to 2007. Decadence has been high, and has fluctuated between 25% and 60% of the population since 1983. The density of dead plants was higher than the density of live plants in 1997 and 2002 at 340 plants/acre (840 plants/ha) and 360 plants/acre (890 plants/ha), respectively, then decreased to 100 plants/acre (247 plants/ha) in 2007. Recruitment has been nonexistent, except in 1997 when 7% of the population was young. Plants showing poor vigor increased from 0% of the population in 1983 to 33% in 1989, decreased to 8% by 2002, then slightly increased to 13% in 2007. Use was moderate-heavy in 1983, 1989, and 2007, light in 1997, and moderate in 2002.

Ephedra density increased slowly from 299 plants/acre (739 plants/ha) in 1983 to 700 plants/acre (1,730 plants/ha) in 2002, then decreased to 460 plants/acre (1,137 plants/ha) by 2007. Young recruitment was good in 1983 at 11% of the population, but young plants were not sampled again until 2002 and 2007, when 6% and 17% of the population was made up of young plants, respectively. Decadence increased from 22% of the population to 60% between 1983 and 1989, decreased to 14% in 1997, then increased to approximately 30% in 2002 and 2007. The sampled plants have been mostly vigorous, and use has been light-moderate, with some heavy use in 2007.

Some Utah juniper (*Juniperus osteosperma*) and pinyon pine (*Pinus edulis*) trees are also present. Point-centered quarter data estimated juniper density at 63 trees/acre (156 trees/ha) in 2002 and 56 trees/acre (138 trees/ha) in 2007. Average trunk diameter was 11 inches (27.2 cm) in 2002 and 13.9 inches (34.3 cm) in 2007. Most of the juniper trees sampled were between 4 feet (1.2 m) and 12 feet (3.7 m) tall. Pinyon density was 19 trees/acre (47 trees/ha) in 2002 and 21 trees/acre (52 trees/ha) in 2007, with an average trunk diameter of approximately 4 inches (10.2 cm) both years.

#### Herbaceous Understory

The herbaceous understory is sparsely distributed, and most shrub and tree interspaces lack vegetative cover. Total grass cover was 9% in 1997, 4% in 2002, and 11% in 2007. Bluebunch wheatgrass (*Agropyron spicatum*) and Sandberg bluegrass (*Poa secunda*) are the most abundant perennial grasses, and occur most often near the base of shrubs. Cheatgrass has provided 8% to 31% of the total grass cover since 1997, and is found mostly under the crowns of juniper trees. Forbs are diverse, but provide poor forage value. The most abundant forbs have included tapertip hawksbeard (*Crepis acuminata*), Hood's phlox (*Phlox hoodii*), and bur buttercup (*Ranunculus testiculatus*).

#### 1989 TREND ASSESSMENT

The trend for browse is stable. Mahogany density increased slightly from 433 plants/acre (1,070 plants/ha) to 465 plants/acre (1,149 plants/ha), and young recruitment remained high at approximately 30% of the population. Decadence and plants displaying poor vigor increased, however, from 0% of the population to 14%. Sagebrush density slightly decreased from 533 plants/acre (1,317 plants/ha) to 500 plants/acre (1,235 plants/ha). Decadence remained high, and increased from 44% of the population to 60%, while no young plants were sampled. Vigor decreased, with one-third of the sampled sagebrush plants displaying poor vigor. Ephedra density increased from 299 plants/acre (739 plants/ha) to 333 plants/acre (823 plants/ha). Decadence greatly increased, from 22% of the population to 60%, and young recruitment also decreased from 11% of the population to 0%. Vigor remained good on all plants. Use remained moderate-heavy on mahogany and sagebrush, and light on ephedra. The trend for grass is up. The sum of nested frequency for perennial grasses increased 64%, and bluebunch wheatgrass increased significantly in nested frequency. The trend for forbs is stable. The sum of nested frequency for perennial forbs did not change substantially. Hood's phlox increased significantly in nested frequency, while cryptantha (*Cryptantha* sp.) and fleabane (*Erigeron* sp.) decreased significantly in nested frequency.

browse - stable (0)

grass - up (+2)

forb - stable (0)

#### 1997 TREND ASSESSMENT

The trend for browse is stable. The density of mahogany increased from 465 plants/acre (1,149 plants/ha) to 860 plants/acre (2,125 plants/ha), however, some of this increase may be attributed to the increase in sampling area. Decadence remained stable at 14% of the population, while young recruitment continued to decrease from 29% of the population to 14%. Plants displaying poor vigor decreased from 14% of the population to 2%, and use remained moderate-heavy. Sagebrush density decreased from 500 plants/acre (1,235 plants/ha) to 300 plants/acre (741 plants/ha), but decadence also decreased from 60% of the population to 33%. Young recruitment increased to 7% of the population. Vigor improved, with only 13% of the sampled plants displaying poor vigor, and use decreased to mostly light. Ephedra density increased from 333 plants/acre (823 plants/ha) to 440 plants/acre (1,087 plants/ha) and no young plants were sampled, but decadence greatly decreased from 60% of the population to only 14%. Vigor remained good on most plants, and use increased to light-moderate. The trend for grass is stable. The sum of nested frequency for perennial grasses changed little. The trend for forbs is slightly up. The sum of nested frequency for perennial forbs increased 17%. Hawksbeard increased significantly in nested frequency, while Hood's phlox decreased significantly in nested frequency. The Desirable Components Index (DCI) was rated as poor-fair due to low browse recruitment and cover, but also low browse decadence and high perennial forb cover.

winter range condition (DCI) - poor-fair (50) Mid-level potential scale  
browse - stable (0)                      grass - stable (0)                      forb - slightly up (+1)

#### 2002 TREND ASSESSMENT

The trend for browse is slightly up. Mahogany density increased from 860 plants/acre (2,125 plants/ha) to 1,040 plants/acre (2,570 plants/ha). However, decadence increased to 35% of the population, and young recruitment decreased to 4%. Plants displaying poor vigor increased from 2% of the population to 10%, and use remained moderate-heavy. Sagebrush density continued to decrease from 300 plants/acre (741 plants/ha) to 240 plants/acre (593 plants/ha), and decadence increased from one-third to half of the population. Young recruitment decreased to 0% of the population. Plants displaying poor vigor decreased slightly to 8% of the population, and use increased to moderate. Ephedra density increased from 440 plants/acre (1,087 plants/ha) to 700 plants/acre (1,730 plants/ha). Decadence increased to 29% of the population, but young recruitment increased to 6%. Vigor remained good, and use remained light. The trend for grass is stable. The sum of nested frequency for perennial grasses changed little, however, perennial grass cover decreased from 8% to 3%. Cheatgrass decreased significantly in nested frequency. The trend for forbs is down. The sum of nested frequency for perennial forbs decreased 32%, and total forb cover declined from 9% to 4%. Hawksbeard and bur buttercup decreased significantly in nested frequency. The DCI rating declined to very poor-poor due to the increase in preferred browse decadence, and decreases in preferred browse recruitment and perennial herbaceous ground cover.

winter range condition (DCI) - very poor-poor (33) Mid-level potential scale  
browse - slightly up (+1)                      grass - stable (0)                      forb - down (-2)

#### 2007 TREND ASSESSMENT

The trend for browse is down. Mahogany density decreased from 1,040 plants/acre (2,570 plants/ha) to 740 plants/acre (1,829 plants/ha), and decadence almost doubled from 35% of the population to 68%. Forty-six percent of the sampled plants were classified as dying, which increased from 10%. No young plants were sampled, although reproduction increased with a density of 80 seedlings/acre (198 seedlings/ha). Vigor was poor on almost 60% of the sampled plants, and use increased to heavy. Sagebrush density decreased from 240 plants/acre (593 plants/ha) to 160 plants/acre (395 plants/ha). Decadence decreased from 50% to 25% of the population, but no young plants were sampled. Plants displaying poor vigor increased to 13% of the population, and use increased to moderate-heavy. Ephedra density decreased 34%, from 700 plants/acre (1,730 plants/ha) to 460 plants/acre (1,137 plants/ha). Decadence was stable at 30%, while young recruitment increased to 17% of the population. Plants showing poor vigor slightly increased from 6% of the population to 9%, and use was mostly light, with some moderate-heavy hedging. The trend for grass is slightly up. The sum of nested frequency for perennial grasses increased 20%, and perennial grass cover increased from 3% to 8%. However, cheatgrass increased significantly in nested frequency, and its average cover increased from less than 1% to 3%. The trend for forbs is stable. The sum of nested frequency for perennial forbs decreased 7%, while that for annual species increased substantially. Bur buttercup, an allelopathic annual (Buchanan et al. 1978), increased significantly in nested frequency. Total forb cover increased from 4% to 7%, however, perennial forb cover did not change. The DCI rating continued to decline to very poor due to the loss of preferred browse cover, and increases in browse decadence and annual grass cover.

winter range condition (DCI) - very poor (32) Mid-level potential scale  
browse - down (-2)                      grass - slightly up (+1)                      forb - stable (0)

HERBACEOUS TRENDS --  
Management unit 16A, Study no: 18

T y p e	Species	Nested Frequency					Average Cover %		
		'83	'89	'97	'02	'07	'97	'02	'07
G	Agropyron spicatum	a <sup>79</sup>	b <sup>141</sup>	b <sup>127</sup>	b <sup>120</sup>	b <sup>123</sup>	6.26	3.11	6.06
G	Bromus japonicus (a)	-	-	-	-	4	-	-	.03
G	Bromus tectorum (a)	-	-	b <sup>105</sup>	a <sup>33</sup>	c <sup>163</sup>	1.05	.28	3.36
G	Oryzopsis hymenoides	a <sup>2</sup>	-	-	-	a <sup>4</sup>	-	-	.01
G	Poa fendleriana	-	a <sup>2</sup>	-	-	a <sup>4</sup>	-	-	.15
G	Poa secunda	a <sup>25</sup>	ab <sup>31</sup>	bc <sup>62</sup>	c <sup>66</sup>	c <sup>91</sup>	1.37	.33	1.37
G	Sitanion hystrix	-	-	-	-	2	-	-	.00
Total for Annual Grasses		0	0	105	33	167	1.05	0.28	3.40
Total for Perennial Grasses		106	174	189	186	224	7.64	3.44	7.60
Total for Grasses		106	174	294	219	391	8.69	3.72	11.01
F	Agoseris glauca	-	-	-	a <sup>4</sup>	a <sup>3</sup>	-	.01	.04
F	Alyssum alyssoides (a)	-	-	a <sup>5</sup>	-	b <sup>98</sup>	.01	-	.39
F	Arabis sp.	a <sup>1</sup>	-	a <sup>5</sup>	a <sup>6</sup>	a <sup>6</sup>	.01	.02	.07
F	Astragalus sp.	-	-	-	a <sup>1</sup>	a <sup>7</sup>	-	.00	.01
F	Camelina microcarpa (a)	-	-	-	-	1	-	-	.00
F	Calochortus nuttallii	a <sup>9</sup>	a <sup>3</sup>	a <sup>10</sup>	a <sup>7</sup>	a <sup>8</sup>	.02	.02	.02
F	Chaenactis douglasii	a <sup>3</sup>	-	-	a <sup>2</sup>	-	-	.00	-
F	Chorispora tenella (a)	-	-	-	-	27	-	-	.06
F	Collinsia parviflora (a)	-	-	a <sup>4</sup>	a <sup>1</sup>	b <sup>26</sup>	.00	.00	.06
F	Crepis acuminata	a <sup>14</sup>	a <sup>17</sup>	b <sup>53</sup>	a <sup>16</sup>	a <sup>13</sup>	2.03	.08	.06
F	Cruciferae	-	-	43	-	-	.12	-	-
F	Cryptantha sp.	b <sup>78</sup>	a <sup>30</sup>	a <sup>27</sup>	a <sup>11</sup>	a <sup>13</sup>	.12	.02	.09
F	Descurainia pinnata (a)	-	-	ab <sup>18</sup>	a <sup>12</sup>	b <sup>31</sup>	.03	.02	.07
F	Draba sp. (a)	-	-	-	-	3	-	-	.01
F	Eriogonum brevicaule	a <sup>3</sup>	a <sup>7</sup>	a <sup>7</sup>	a <sup>7</sup>	a <sup>2</sup>	.01	.04	.00
F	Erigeron sp.	b <sup>19</sup>	a <sup>3</sup>	a <sup>2</sup>	-	-	.00	-	-
F	Galium aparine (a)	-	-	a <sup>16</sup>	a <sup>5</sup>	a <sup>10</sup>	.20	.01	.05
F	Gilia sp. (a)	-	-	a <sup>12</sup>	a <sup>29</sup>	a <sup>15</sup>	.02	.05	.04
F	Haplopappus acaulis	-	-	a <sup>4</sup>	-	a <sup>3</sup>	.15	-	.15
F	Hackelia patens	a <sup>5</sup>	a <sup>9</sup>	-	a <sup>10</sup>	-	-	.03	-
F	Lactuca serriola	-	-	-	a <sup>2</sup>	a <sup>3</sup>	-	.00	.00
F	Leucelene ericoides	-	-	b <sup>16</sup>	ab <sup>11</sup>	a <sup>7</sup>	.24	.04	.09
F	Machaeranthera canescens	-	1	-	-	-	-	-	-
F	Microsteris gracilis (a)	-	-	-	-	4	-	-	.01
F	Penstemon sp.	-	-	6	-	-	.01	-	-

Type	Species	Nested Frequency					Average Cover %		
		'83	'89	'97	'02	'07	'97	'02	'07
F	<i>Physaria australis</i>	<sub>a</sub> 4	-	-	-	<sub>a</sub> 5	-	-	.01
F	<i>Physalis hederifolia</i>	-	-	1	-	-	.00	-	-
F	<i>Phlox hoodii</i>	<sub>a</sub> 112	<sub>b</sub> 155	<sub>a</sub> 89	<sub>a</sub> 102	<sub>a</sub> 84	1.88	2.34	2.09
F	<i>Phlox longifolia</i>	<sub>a</sub> 26	<sub>ab</sub> 30	<sub>b</sub> 56	<sub>ab</sub> 40	<sub>b</sub> 49	.20	.09	.22
F	<i>Ranunculus testiculatus</i> (a)	-	-	<sub>c</sub> 275	<sub>a</sub> 139	<sub>b</sub> 197	3.50	.85	2.95
F	<i>Stanleya pinnata</i>	<sub>a</sub> 7	<sub>a</sub> 17	-	-	-	-	-	-
F	Unknown forb-annual (a)	-	-	8	-	-	.10	-	-
F	<i>Veronica biloba</i> (a)	-	-	-	-	17	-	-	.06
F	<i>Zigadenus paniculatus</i>	-	<sub>a</sub> 1	<sub>a</sub> 1	-	-	.00	-	-
Total for Annual Forbs		0	0	338	186	429	3.87	0.93	3.71
Total for Perennial Forbs		281	273	320	219	203	4.82	2.73	2.87
Total for Forbs		281	273	658	405	632	8.70	3.67	6.59

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

#### BROWSE TRENDS --

Management unit 16A, Study no: 18

Type	Species	Strip Frequency			Average Cover %		
		'97	'02	'07	'97	'02	'07
B	<i>Artemisia tridentata vaseyana</i>	13	10	8	.74	1.02	1.14
B	<i>Cercocarpus montanus</i>	26	29	24	4.73	5.89	3.26
B	<i>Chrysothamnus viscidiflorus stenophyllus</i>	5	8	6	.36	.21	.21
B	<i>Ephedra viridis</i>	18	20	17	2.62	3.43	2.49
B	<i>Juniperus osteosperma</i>	3	2	2	3.95	2.48	4.56
B	<i>Pinus edulis</i>	0	2	1	-	.66	.03
B	<i>Quercus gambelii</i>	0	0	0	-	.00	.00
Total for Browse		65	71	58	12.42	13.70	11.73

CANOPY COVER, LINE INTERCEPT --  
Management unit 16A, Study no: 18

Species	Percent Cover	
	'02	'07
Artemisia tridentata vaseyana	-	.41
Cercocarpus montanus	-	3.95
Chrysothamnus viscidiflorus stenophyllus	-	.50
Ephedra viridis	-	5.05
Juniperus osteosperma	.21	6.00
Pinus edulis	.03	-

KEY BROWSE ANNUAL LEADER GROWTH --  
Management unit 16A, Study no: 18

Species	Average leader growth (in)	
	'02	'07
Cercocarpus montanus	2.5	2.6

POINT-QUARTER TREE DATA --  
Management unit 16A, Study no: 18

Species	Trees per Acre		Average diameter (in)	
	'02	'07	'02	'07
Juniperus osteosperma	63	56	11.0	13.9
Pinus edulis	-	21	-	4.1

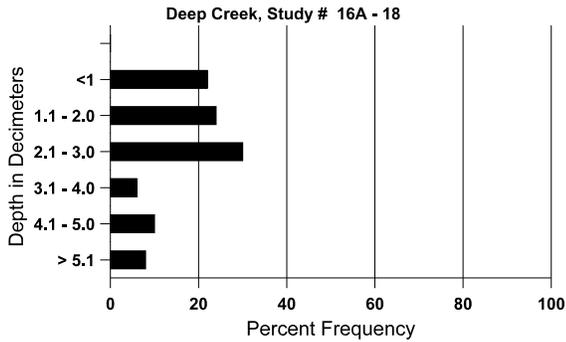
BASIC COVER --  
Management unit 16A, Study no: 18

Cover Type	Average Cover %				
	'83	'89	'97	'02	'07
Vegetation	2.50	9.75	27.87	23.49	26.98
Rock	2.25	5.25	8.19	7.31	7.28
Pavement	6.75	20.50	20.05	10.19	13.63
Litter	46.50	33.75	25.98	27.82	19.12
Cryptogams	2.00	0	.67	.88	1.11
Bare Ground	40.00	30.75	25.02	47.01	47.02

SOIL ANALYSIS DATA --  
Herd Unit 16A, Study no: 18, Deep Creek

Effective rooting depth (in)	Temp °F (depth)	pH	Clay			%OM	ppm P	ppm K	dS/m
			%sand	%silt	%clay				
18.3	49.0 (17.0)	7.2	28.7	19.4	51.8	1.2	6.6	124.8	.4

## Stoniness Index



PELLET GROUP DATA --  
Management unit 16A, Study no: 18

Type	Quadrat Frequency		
	'97	'02	'07
Sheep	-	12	23
Rabbit	9	15	36
Elk	2	1	-
Deer	16	1	10

Days use per acre (ha)	
'02	'07
56 (137)	48 (117)
-	-
-	-
9 (23)	7 (17)

BROWSE CHARACTERISTICS --  
Management unit 16A, Study no: 18

		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)
83	<b>533</b>	-	-	300	233	-	50	38	44	-	0	28/34
89	<b>500</b>	-	-	200	300	-	47	40	60	33	33	21/19
97	<b>300</b>	-	20	180	100	340	13	0	33	13	13	26/30
02	<b>240</b>	-	-	120	120	360	58	0	50	-	8	24/25
07	<b>160</b>	-	-	120	40	100	38	13	25	13	13	24/33
<i>Cercocarpus montanus</i>												
83	<b>433</b>	-	133	300	-	-	77	15	0	-	0	35/36
89	<b>465</b>	-	133	266	66	-	79	21	14	14	14	40/41
97	<b>860</b>	-	120	620	120	-	63	35	14	2	2	39/48
02	<b>1040</b>	-	40	640	360	20	42	27	35	10	10	42/50
07	<b>740</b>	80	-	240	500	100	14	81	68	46	59	48/61

		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)
<b>Chrysothamnus viscidiflorus stenophyllus</b>												
83	100	-	-	100	-	-	0	0	0	-	0	11/14
89	133	-	-	133	-	-	25	0	0	-	0	10/13
97	100	-	-	80	20	-	0	0	20	-	0	10/16
02	200	-	-	140	60	-	20	20	30	-	0	10/20
07	140	-	-	80	60	-	43	57	43	-	0	11/17
<b>Cowania mexicana stansburiana</b>												
83	0	-	-	-	-	-	0	0	-	-	0	-/-
89	66	-	-	66	-	-	100	0	-	-	0	26/35
97	0	-	-	-	-	-	0	0	-	-	0	-/-
02	0	-	-	-	-	-	0	0	-	-	0	18/18
07	0	-	-	-	-	-	0	0	-	-	0	67/47
<b>Ephedra viridis</b>												
83	299	-	33	200	66	-	11	0	22	-	0	40/48
89	333	-	-	133	200	-	0	0	60	-	0	35/24
97	440	-	-	380	60	-	27	0	14	-	5	41/56
02	700	-	40	460	200	120	14	0	29	6	6	42/53
07	460	-	80	240	140	20	13	13	30	9	9	43/66
<b>Juniperus osteosperma</b>												
83	66	-	-	66	-	-	0	0	-	-	0	67/207
89	66	-	-	66	-	-	0	0	-	-	0	165/136
97	60	-	-	60	-	40	0	33	-	-	0	-/-
02	60	-	-	60	-	40	0	0	-	-	0	-/-
07	40	-	-	40	-	20	0	0	-	-	0	-/-
<b>Pinus edulis</b>												
83	0	-	-	-	-	-	0	0	-	-	0	-/-
89	0	-	-	-	-	-	0	0	-	-	0	-/-
97	0	-	-	-	-	-	0	0	-	-	0	-/-
02	40	-	-	40	-	-	0	0	-	-	0	-/-
07	20	-	20	-	-	-	0	0	-	-	0	-/-
<b>Quercus gambelii</b>												
83	0	-	-	-	-	-	0	0	-	-	0	-/-
89	0	-	-	-	-	-	0	0	-	-	0	-/-
97	0	-	-	-	-	-	0	0	-	-	0	-/-
02	0	-	-	-	-	-	0	0	-	-	0	-/-
07	0	20	-	-	-	-	0	0	-	-	0	-/-